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Advanced View Arduino Projects List

List of Projects using arduino with advance view:

1. Interfacing Flame Sensor with Arduino to Build a Fire Alarm System
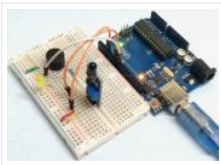
   In this article we interface Flame Sensor with Arduino and learn all the steps to build Fire Alarm System by using Arduino and flame sensor. Flame sensor module has photodiode to detect the light and op-amp to control the sensitivity. It is used to detect fire and provide HIGH signal upon...... Listed under: Sensor – Transducer – Detector Projects

2. DIY Arduino Motor Driver Shield

   In this DIY session, we make an Arduino Motor Driver Shield to drive DC motors, stepper motor and Servo Motor. Compatible with Arduino UNO and Arduino Mega, this motor driver shield can operate 4 DC motors or 1 stepper motor and 2 servo motors at a time. Here two L293D...... Listed under: How To – DIY – Projects

3. Record and Play 3D Printed Robotic Arm using Arduino

   Record and Play 3D Printed Robotic Arm using Arduino Robotic Arms have proved themselves useful and more productive in many applications where speed, accuracy and safety is required. But to me, what's more than that is these things are cool to look at when they...... Listed under: Robotics – Automation Projects

4. Arduino Based Real-Time Oscilloscope

   Arduino Based Real-Time Oscilloscope The Oscilloscope is one of the most important tools you will find on the workbench of any electronics engineer or maker. It is primarily used for viewing waveform and determining voltage levels, frequency, noise and other parameters of signals applied at...... Listed under: Development Board – Kits Projects

5. Controlling Arduino with Raspberry Pi using pyFirmata

   Controlling Arduino with Raspberry Pi using pyFirmata Although Raspberry Pi and Arduino are two different hardware in terms of their applications and structure, but they both are considered as two competing open source hardware platforms. They both have very strong community and support. Today we will slightly change...... Listed under: Development Board – Kits Projects

6. DIY Self Balancing Robot using Arduino

After being inspired by RYNO motors and other self balancing scooters from Segway, I always wanted to build something similar. Thinking for while, I decided to build a Self Balancing Robot using Arduino. This way I would be able to grasp the underlying concept behind all...... Listed under: [Robotics – Automation Projects](#)

7. [Arduino Wattmeter: Measure Voltage, Current and Power Consumption](#)
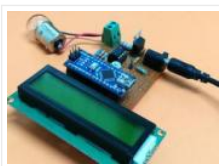
As electronics engineers, we always depend upon meters/instruments to measure and analyse the working of a circuit. Starting with a simple multimeter to a complex power quality analysers or DSOs everything has their own unique applications. Most of these meters are readily available and can...... Listed under: [Metering – Instrument Projects](#)

8. [LC Meter using Arduino: Measuring Inductance and Frequency](#)
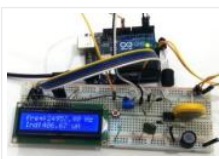
All embedded lovers are familiar with multimeter which a great tool to measure voltage, current, resistance etc. A multimeter can measure them easily. But sometimes we need to measure inductance and capacitance which is not possible with a normal multimeter. There are some special multimeters...... Listed under: [Metering – Instrument Projects](#)

9. [Analog Speedometer Using Arduino and IR Sensor](#)

Measuring the speed/rpm of a Vehicle or a motor has always been a fascinating project to try. In this project, we are going to build a Analog Speedometer using the Arduino. We will use IR Sensor module to measure the speed. There are other ways/sensors for...... Listed under: [Sensor – Transducer – Detector Projects](#)

10. [Arduino Based Guitar Tuner](#)
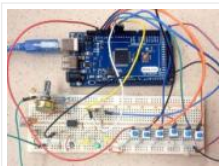
Hi guys, during the last few weeks, I've been working on reconnecting with my love for the guitar. Playing the box guitar was how I relax few years back before the saxophone took over. Going back to the guitar, after 3 years of rarely strumming...... Listed under: [Sound – Audio Projects](#)

11. [IoT Based Patient Monitoring System using ESP8266 and Arduino](#)
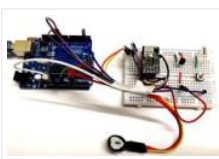
IoT based Patient Monitoring System using ESP8266 and Arduino Health monitoring is the major problem in today's world. Due to lack of proper health monitoring, patient suffer from serious health issues. There are lots of IoT devices now days to monitor the health of patient...... Listed under: [Medical – Health based Projects](#)

12. [Interfacing nRF24L01 with Arduino: Controlling Servo Motor](#)
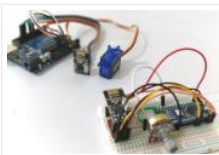
Arduino NRF24L01 Tutorial to Control Servo Motor While Internet of things (IoT), Industry 4.0, Machine to Machine communication etc are getting increasingly popular the need for wireless communication has become incumbent, with more machines/devices to speak with one another on the cloud. Designers use many...... Listed under: [Motor Projects](#)

13. [Smart Phone Controlled Arduino Mood Light with Alarm](#)

Smart Phone Controlled Arduino Mood Light with Alarm I recently purchased the Neo Pixel LED strip and was quite impressed by the way it works. The tiny LED's have an inbuilt driver IC which helps us to control each LED individually and can produce a wide spectrum...... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Phone Projects](#)

14. [DC Motor Control Using MATLAB and Arduino](#)
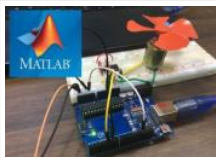
In this tutorial, we will show you how to control DC motor using MATLB and Arduino. If you are new with MATLAB then it is recommend to get started with simple LED blink program with MATLAB. Creating MATLAB Graphical User Interface for controlling DC Motor After finishing…… Listed under: [Motor Projects](#)

15. [Stepper Motor Control using MATLAB and Arduino](#)
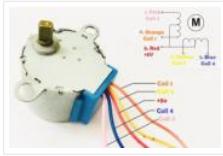
Stepper motors is a brushless DC motor that rotates in discrete steps, and are the best choice for many precision motion control applications. Also, stepper motors are good for positioning, speed control and applications which require high torque at low speed. In previous tutorials of MATLAB,…… Listed under: [Motor Projects](#)

16. [Interfacing LabVIEW With Arduino](#)

Interfacing LabVIEW With Arduino In previous article of Getting Started with LabVIEW, we have seen about LabVIEW and how it can be graphically programmed and executed in computer (software level). Now in this article we learn about How to Interface LabVIEW with Arduino Board. Requirements To interface…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

17. [ARDUINO NANO ANDROID ROBOT PROJECT QIK2S9V1 XBEE BLUETOOTH](#)

Android robot project built on the Arduino Nano sumo the Sumo robot motor control Qik2s9v1 dual serial motor controller module, Xbee for communication via your Android phone with Bluetooth module is being used. The… Electronics Projects, Arduino Nano Android Robot Project Qik2s9v1 Xbee Bluetooth"arduino projects, avr project,…… Listed under: [Robotics – Automation Projects](#)

18. [GUITAR TUNING PROJECT WITH ARDUINO UNO](#)

Arduino Uno kit on the Board at the entrance of the TL082 opamp used Guitar Tuning circuit audio audio input and frequency to detect the "Arduino-Frequency-Detection" software used. According to the LEDs light at… Electronics Projects, Guitar Tuning Project with Arduino Uno "arduino projects, avr project, microcontroller projects, "…… Listed under: [Sound – Audio Projects](#)

19. [ARDUINO UNO ROBOTIC ARM PROJECT](#)

The Robot arm is controlled with the computer 6 servo motor used robotic arm system, built on the Arduino Uno is not more complex, additional links to make the robot arm mechanics portion of… Electronics Projects, Arduino Uno Robotic Arm Project "arduino projects, avr project, microcontroller projects, " The…… Listed under: [Robotics – Automation Projects](#)

20. [ENC28J60 ETHERNET MODULE FOR ARDUINO KIT](#)

Arduino Kits can be merged with the Arduino Ethernet module is based on the materials used in the design of the PCB DIP ENC28j60 SMD No 3 .3V regulator is used for the material,… Electronics Projects, ENC28j60 Ethernet Module For Arduino Kit "analog circuits projects, arduino projects, microcontroller…… Listed under: [Internet – Ethernet – LAN Projects](#)

21. [ARDUINO UNO WITH INTERESTING CLOCK PROJECT](#)

I've shared this with different time interesting projects carried out with the Arduino Uno this time, I think the most interesting thing isn't debatable kullanışlımı project but the idea as a different kind of… Electronics Projects, Arduino Uno With Interesting Clock Project "arduino projects, avr project, microcontroller projects, "…… Listed under: [Clock – Timer Projects](#)

## 22. [SPECTRUM ANALYZER CIRCUIT ARDUINO UNO](#)

the Arduino Uno module held with MAX7219 8×8 LED matrix display module graphic equalizer spectrum analyzer and the filter driver in the project 2 integration of MSGEQ7. In addition, with Arduino MAX7219 for code… Electronics Projects, Spectrum Analyzer Circuit Arduino Uno "arduino projects, microcontroller projects, " the Arduino Uno module held…… Listed under: [LED Projects](#)

23. [USB CNC PROJECT ARDUINO UNO](#)

Arduino uno USB module is controlled via the circuit built on a CNC, which supports the SVG image format in post format, used CNC motor driver L298N motor driver Arduino Uno for the project… Electronics Projects,USB CNC Project Arduino Uno "arduino projects, microcontroller projects, " Arduino uno USB module…… Listed under: [CNC Machines Projects](#)

24. [HANDMADE MEMBRANE KEYPAD, AND THE ARDUINO APPLICATION](#)
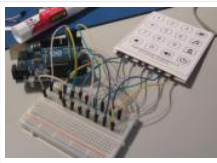
The author has done a beautiful job with handmade membrane is quite an original view is a little tricky, but it works in the prototype experiments, a thin copper foil pieces of the paper… Electronics Projects,Handmade membrane keypad, and the Arduino application "arduino projects, microcontroller projects, " The…… Listed under: [Development Board – Kits Projects](#)

25. [PIANO SOUND CONTROLLED RGB LED AMBILIGHT ARDUINO MEGA](#)

As far as I know the system first began to be used in the image on the computer monitor Ambilight the most intense color, whatever color changes the LEDs accordingly when I find a… Electronics Projects, Piano sound controlled RGB LED ambilight Arduino Mega "arduino projects, microcontroller projects, "…… Listed under: [Sound – Audio Projects](#)

26. [DRAWING ROBOT MATLAB ARDUINO UNO PROJECT](#)

Drawing robot Arduino Uno module is built on a parts kit that was used for the mechanical part of servo motor 3 except that the toy is being used. Generate image data of the… Electronics Projects, Drawing Robot Matlab Arduino Uno Project "arduino projects, microcontroller projects, " Drawing robot Arduino…… Listed under: [Robotics – Automation Projects](#)

27. [SPECTRUM ANALYZER CIRCUIT ARDUINO RGB LED STRIP](#)

the spectrum analyzer circuit a project of Arduino Duemilanove Module 7-band graphic equalizer on board sound on the ground floor MSGEQ7 used to integrate MSGEQ7 is a very talented 8-pin ICS in the frequency… Electronics Projects, Spectrum Analyzer Circuit Arduino RGB Led Strip "arduino projects, microcontroller projects, " the spectrum…… Listed under: [LED Projects](#)

## 28. [ARDUINO UNO FM AM TRANSMITTER CIRCUIT SI4713](#)

The most important part is the construction of a functional sample of a Arduino Uno software-defined one transmitter. After agreement with the supervisor and current options, she was elected concept with SI4713 digital circuit… Electronics Projects, Arduino Uno FM AM Transmitter Circuit SI4713 "arduino projects, microcontroller projects, " The…… Listed under: [Radio Projects](#)

29. [LED POV CLOCK ARDUINO PRO MINI](#)

The Arduino led pov clock circuit has been an interesting project, and the author has made use of the arduino feeding system with the popular wireless energy transmission method, which is an additional circuit…Electronics Projects, Led Pov Clock Arduino Pro Mini "arduino projects, led projects, microcontroller projects, "…… Listed under: [Clock – Timer Projects](#)

30. ARDUINO LIBRARY FILES PROTEUS
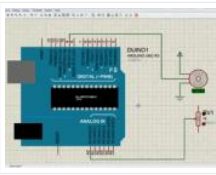
The Proteus simulation program works especially well for testing microcontroller projects, but at least it gives some insight. Proteus libraries for Arduino Arduino Proteus Models Proteus Arduino Mega1280 Proteus Arduino UNO Proteus Arduino Pro... Electronics Projects, Arduino Library Files Proteus "arduino projects, " The Proteus simulation program works especially...... Listed under: Arduino Programmer Projects

31. LoRa gateway and node boards run on Raspberry Pi power

Pi Supply is Kickstartering Iot LoRa Gateway and IoT LoRa Node pHAT add-ons for the Raspberry Pi, as well as a LoRa Node that works with the Micro:bit. An Arduino node is also in the works.Pi Supply, which has produced a variety of Raspberry Pi...... Listed under: Wireless Projects

32. BALANCE ROBOT ARDUINO UNO
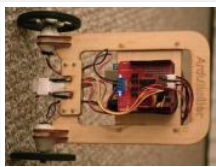
Previously shared " Analog Balance Robot "project using Arduino Uno . Motor drive SparkFun Ardumoto this module is based on the L298 motor drive integration SMD materials are used because the size of the... Electronics Projects, Balance Robot Arduino Uno "arduino projects, " Previously shared " Analog Balance Robot "project using Arduino...... Listed under: Robotics – Automation Projects

33. ARDUINO EXTERNAL CIRCUIT CONNECTION CHARTS
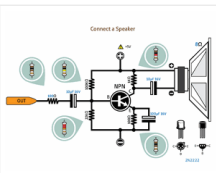
Arduino transistors, LEDs, motors, MOSFETs, various electronic components, circuit connection diagrams that will be of great use for Arduino projects, Arduino circuits or those who are new to Arduino programming ... Circuit diagrams are... Electronics Projects, Arduino External Circuit Connection Charts "arduino projects, " Arduino transistors, LEDs, motors, MOSFETs,...... Listed under: Motor Projects

34. ATMEL ARDUINO COLORED CONNECTION CHART
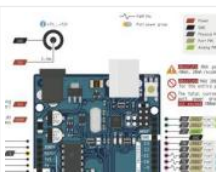
Projects or schematics, drawings that will work when preparing pcb Atmel AVR Microprocessors Information Tags for "Share" drawings directly on Atmel microcontrollers. Colored linking expansions are more comprehensible for those dealing with Atmel Series... Electronics Projects, Atmel Arduino Colored Connection Chart "arduino projects, " Projects or schematics, drawings that...... Listed under: Other Projects

35. esp8266/Arduino NTC library

A thermistor is a type of negative coefficient resistor whose resistance is dependent on temperature, more so than in standard resistors. The resistance of a NTC Negative Temperature Coefficient thermistor (https://en.wikipedia.org/wiki/Thermistor) decreases as temperature rises. The Steinhart-Hart Thermistor Equation or the Beta Model Equation can be used to correlate the thermistor resistance...... Listed under: Temperature Measurement Projects

36. DIY Arduino Relay Driver Shield

In this DIY project we make a 3-Channel Arduino Relay Shield Circuit for relay based applications. We designed an isolated PCB for 3 relays. By using this Arduino Relay Shield, we can operate 3 AC appliances at a time. We have put a two pin screw terminal blocks (Neutral, NO)...... Listed under: Other Projects

37. [IoT Based Electricity Energy Meter using ESP12 and Arduino](#)

We all know about Electricity energy meters which are installed in everyone's house or offices to measure the electricity consumption. At last of every month, many of us get worried about the high electricity bill and we have to look at the energy meter once...... Listed under: [Wifi – WLan Projects](#)

38. [What is Brushless DC Motor (BLDC) and How to Control it with Arduino](#)

Building stuff and getting them work, the way we want, has always been sheer fun. While that being agreed, building stuff that could fly would defiantly pump a bit more anxiety among the hobbyists and hardware tinkerers. Yes! I am talking about Gliders, Helicopters, Planes...... Listed under: [Motor Projects](#)

39. [What is Rotary Encoder and How to Use It with Arduino](#)
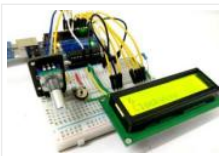
A Rotary encoder is an input device which helps the user to interact with a system. It looks more like a Radio potentiometer but it outputs a train of pulses which makes its application unique. When the knob of the Encoder is rotated it rotates...... Listed under: [LCD Projects](#)

40. [Reed Switch Interfacing with Arduino](#)
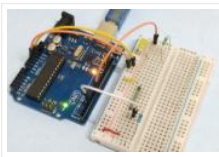
Reed switch is used in many of the real-life applications such as magnetic door switch, laptops, smartphones etc. In this article, we learn about Reed Switch and guide you to Interface a Reed Switch with Arduino. Reed Switch Reed switch is basically an electrical switch which is...... Listed under: [Phone Projects](#)

41. [RFID Based Attendance System – Learn to Build Yourself](#)

 An RFID based Attendance System is a very interesting project which can be used in different places say in Schools to register the attendance of students and teachers, Private organizations to tabulate monthly working hours of employees and automatically calculate salary based on the number...... Listed under: [LCD Projects](#)

42. [Smart LCD Brightness Control using Arduino and LDR](#)
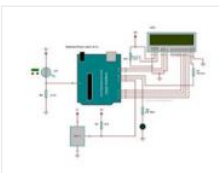
Smart LCD with Automatic Brightness Adjusting Using Arduino and LDR Sensor Here is a simple Arduino project that focuses on adjusting the brightness of an LCD screen whenever there isn't sufficient light in a room. The Arduino reads the surrounding light intensity using an LDR sensor. ...... Listed under: [LCD Projects](#)

43. [Arduino Real Time Clock using DS1307 RTC Module](#)
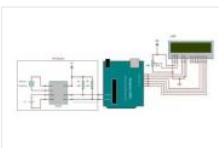
In this article, we are going to build an Arduino Real Time Clock using DS1307 RTC Module and 16×2 LCD module for display. First of all, let's see how to interface RTC Module to Arduino. There are different kinds of RTC modules available in the market....... Listed under: [Clock – Timer Projects](#)

44. [DIY Arduino Weather Station using Nokia Display](#)

Learn to Build Arduino Weather Station using DHT11, Soil Sensor, and Nokia Display In this project tutorial, we are going to make an Arduino weather station using 2 sensors; FC-28 soil moisture sensor to measure the moisture and the DHT22 sensor to measure the temperature, humidity...... Listed under: [Sensor – Transducer – Detector Projects](#)

45. [Nokia 5110 LCD and Arduino – Ultimate Tutorial and Guide](#)

 Interfacing Nokia 5110 LCD Display To Arduino In this article, we are publishing a project tutorial which explains different aspects of interfacing a Graphical LCD (GLCD) Nokia 5110 with Arduino. Nokia 5110 is a 48 x 84 graphic LCD that has an internal controller…… Listed under: [Phone Projects](#)

46. [DC Motor Speed Control using GY 521 Gyro/Accelerometer and Arduino](#)
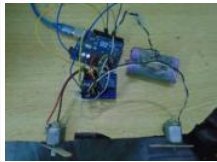
 In this article, we are going to control two motors by using the GY-521 accelerometer module. The speed of the motor will increase or decrease upon moving the GY-521 module up or down. On moving the Gy-521 towards the downside, the speed of the first…… Listed under: [Motor Projects](#)

47. [Automatic Irrigation System using Arduino](#)

 In this project, we are going to build an automatic irrigation system using Arduino which senses the moisture of the soil and opens or closes the valve according to the moisture value. The moisture value and the valve status is shown on the Nokia 5110…… Listed under: [LCD Projects](#)

48. [Spinning or Rotating LED Display using Arduino POV](#)

 Designing a Spinning/Rotating LED Display In this project, we are going to show you how to make a simple "Rotating LED Display" (also popularly known as Spinning LED Display) with Arduino. The motivation to make this project came to my mind when I saw a…… Listed under: [LED Projects](#)

49. [Arduino Solar Tracker Using LDR Sensor & Servo Motor](#)

 Arduino Solar Tracker Solar energy is one of the fastest growing industries in the world; today more than 65 GW energy is produced by solar power. Since solar energy is renewable, it is a good power source, especially for developing countries. In this project, I…… Listed under: [Motor Projects](#)

50. [Rain Sensing Wiper using Arduino and Servo Motor](#)
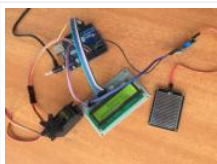
 Automatic Rain Sensing Wiper Using Arduino This project is designed to build a car wiper that automatically detects the rainfall intensity and regulates the frequency of wiper operation. It is built, using Arduino UNO board. A rain sensing module is used for measuring the intensity…… Listed under: [Motor Projects](#)

51. [Ultrasonic Blind Walking Stick Using Arduino](#)

 Ultrasonic Blind Walking Stick According to the WHO, about 30 million people are estimated to be permanently blind worldwide. These people are totally dependent on others. They even cannot walk on their own. We have created designed and built an "Ultrasonic Blind Walking Stick" device…… Listed under: [Sensor – Transducer – Detector Projects](#)

52. [Automatic Railway Gate Control Using Arduino & IR Sensor](#)

About a million people have died over the past 5 years in unmanned railway crossings all over the world. At least 1/3rd of the railway crossings are unmanned due to their remote placement and less traffic. The Automatic Railway Gate Control System using IR Sensor……

Listed under: [Sensor – Transducer – Detector Projects](#)

53. [Interfacing Stepper Motor to Arduino](#)
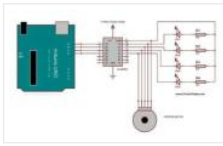
In this article, we are publishing a project which explains different aspects of interfacing a Stepper Motor with Arduino. Stepper motor is a specially designed DC motor which comes with advantages of both a servo motor and a normal dc motor. Compared to a normal...... Listed under: [Motor Projects](#)

54. [Arduino Gear Motor Interface Using IC L293D](#)

In this article, we are publishing a project which explains different aspects of Arduino-Gear motor interface. Gear motor is a specially designed DC motor whose gear assembly helps in increasing the torque and reducing the speed. Compared to a normal DC motor, maximum rpm a...... Listed under: [Motor Projects](#)

55. [DC Motor Speed Control Using Arduino & PWM](#)

Speed control of DC motor with PC Interface is an easy DIY project. In this project DC motor's speed is controlled by sending the command through PC. Arduino is directly connected to PC through the USB cable and command is given to Arduino on serial...... Listed under: [Motor Projects](#)

56. [Project: Car Speed Detector Using Arduino](#)

Car speed Detector Project In this project I am going to show you how to measure the speed of running car (or man) from outside. Police department uses this type of system to prevent over speed of vehicles. Our project is a little different from...... Listed under: [LCD Projects](#)

57. [Project: Gesture Controlled Mouse (Air Mouse) Using Arduino & Accelerometer](#)
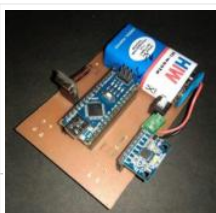
AIR Mouse is also called gesture-controlled mouse and it works based on hand gesture. In this project an accelerometer is used for measuring the tilt of hand in X and Y direction and moves the cursor according the tilt. In the project two types of...... Listed under: [Battery Projects](#)

58. [DIY: Measuring Wheel/Surveyor's Wheel Using Arduino & Rotary Encoder](#)

 DIY: Measuring Wheel/Surveyor's Wheel Using Arduino & Rotary Encoder A surveyor's wheel may also be known by other names like: clickwheel, hodometer, waywiser, trundle wheel, measuring wheel or a perambulator. All these devices serve a single purpose, which is, measuring distance. The origin of surveyor's...... Listed under: [LCD Projects](#)

59. [Project: Auto Intensity Control Of Street Light Using Arduino](#)

Auto Intensity Control Of Street Light Using Arduino In this project, I am going to show you how to control the intensity of LED lights according to the time and the light intensity of outer atmosphere. This is an amazing and very useful project because...... Listed under: [LED Projects](#)

60. [Project: Home Automation Using IR Remote Control](#)
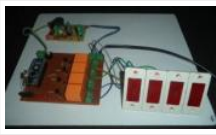
Arduino-Remote Control Home Automation In this project, we are going to show you how to control home appliances using a TV Remote. This same principle can be applicable in offices and industries as well. The project deals with the automation of four home appliances, like...... Listed under: [Wireless Projects](#)

61. [Arduino Mega Tutorial – Pinout & Schematics](#)

 First of all, Why Arduino Mega? When cheaper boards are available, why go with Arduino Mega? The main reason behind this is the additional features that are inbuilt with this board. First feature is the large I/O system design with inbuilt 16 analog transducers and...... Listed under: [Pinouts](#)

62. [Arduino Nano Tutorial – Pinout & Schematics](#)

 Arduino Nano Pinout The Arduino Nano, as the name suggests is a compact, complete and bread-board friendly microcontroller board. The Nano board weighs around 7 grams with dimensions of 4.5 cms to 1.8 cms (L to B). This article discusses about the technical specs most importantly...... Listed under: [Pinouts](#)

63. [Arduino Alcohol Detector Circuit Board](#)

In this project, I am going to Interface an Alcohol Sensor with Arduino. Here I have designed an Arduino Shield PCB using EASYEDA online PCB simulator and designer. Arduino Alcohol Detector will detect the alcohol level in breath and by using some calculations in code...... Listed under: [Sensor – Transducer – Detector Projects](#)

64. [Arduino Temperature Sensor](#)

I previously worked on an enclosure for the Computer Club server rack, and I thought it would be a good idea to put together a standalone temperature sensor system. Preferably it would interface over the internet so that IRC bots and other programs could talk...... Listed under: [Temperature Measurement Projects](#)

65. [DIY Arduino Inclinometer using MPU6050](#)

The MPU6050 is an IC 3-axis accelerometer and a 3-axis gyroscope combined into one unit. It also houses a temperature sensor and a DCM to perform a complex task. The MPU6050 is commonly used in building Drone and other remote robots like a self-balancing robot....... Listed under: [Bluetooth Projects](#)

66. [Automatic Pet Feeder using Arduino](#)
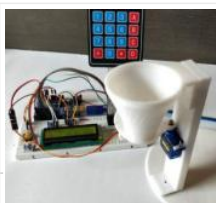
Today we are building an Arduino based Automatic Pet Feeder which can automatically serve food to your pet timely. It has a DS3231 RTC (Real Time Clock) Module, which used to set time and date on which your pet should be given food. So, by...... Listed under: [Clock – Timer Projects](#)

67. [Interfacing Graphical LCD (ST7920) with Arduino](#)
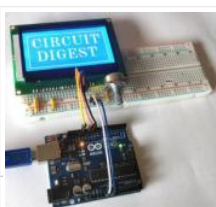
There are many types of LCDs used in Electronic Projects. We have already used 16X2 LCD in many of our projects and also used TFT LCD with Arduino. You can find our entire 16X2 LCD related project by following this link, including interfacing with 8051, AVR, Arduino and many...... Listed under: [LCD Projects](#)

68. [TVOC and CO2 Measurement using Arduino and CCS811 Air Quality Sensor](#)
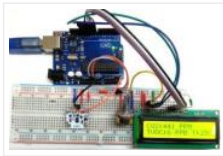
Sadly, in the name of progress, we have polluted the air, water, soil and the food we eat". So monitoring the air quality is very crucial now days because of pollution. For designing an air quality monitoring system we need durable and reliable air quality...... Listed under: [Sensor – Transducer – Detector Projects](#)

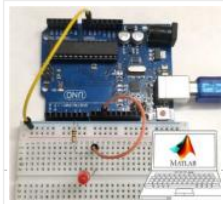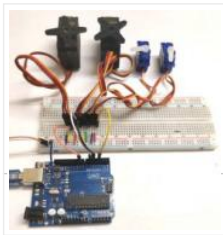69. [Interfacing Arduino with MATLAB – Blinking LED](#)

In this project, we are going to learn, How to set up hardware support for Arduino in MATLAB software. How to control an Arduino using MATLAB code. We normally use Arduino IDE to write and upload codes to Arduino. The advantage of MATLAB is, it...... Listed under: [LED Projects](#)

70. [Controlling Multiple Servo Motors with Arduino](#)

Using one or two Servo with Arduino is Easy but what if we want to use more than one Servo Motors? Here, we are going to show you that how to control Multiple Servo Motors with Arduino. Connecting multiple Servo Motors with Arduino seems to...... Listed under: [Motor Projects](#)

71. [Arduino Uno Rev3](#)

Arduino Uno is a microcontroller board based on the ATmega328P (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and...... Listed under: [Battery Projects](#)

72. [Arduino with ESP8266 – Reading Data from Internet](#)
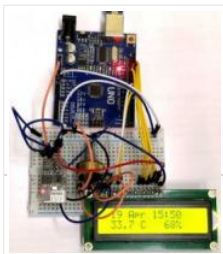
The ESP8266-01 has been a great module to quench all our thirsts for IOT projects. Since its release, it has developed a strong community and evolved into an easy to use, cheap and powerful Wi-Fi module. Another open-source platform which is much more popular is...... Listed under: [Wifi – WLan Projects](#)

73. [Space Race Game using Arduino and Nokia 5110 Graphical Display](#)

Programming has always been fun and it just got a lot better with development platforms like Arduino. Almost every programmer out here would have tried to develop some kind of game using the language that they learning/practising. This helps them to tune their programming skills...... Listed under: [Game – Entertainment Projects](#)

74. [DIY Time Control Machine](#)

This project is about how to make a time machine! This machine looks like a glove, and can "stop" any moving subject. At first, watch a video with some demonstration and experiments, guess how it works, and then read about how to make it =)...... Listed under: [Clock – Timer Projects](#)

75. [Arduino Color Mixing Lamp using RGB LED and LDR](#)

What if we can generate different colors using a single RGB led and make our room's corner more attractive? So, here is a simple Arduino based color mixing lamp which can change color when there is change in light in the room. So this lamp...... Listed under: [LED Projects](#)
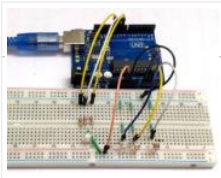
76. [Voice Controlled LEDs using Arduino and Bluetooth](#)

Controlling LEDs with voice command seems to be a difficult task, but it's easy and you can quickly build it. We just need an Arduino UNO to serially communicate with HC-06 Bluetooth module and a smartphone to send voice command to Bluetooth module HC-06. For...... Listed under: [Bluetooth Projects](#)

77. [Arduino Plays Piano Tiles](#)

Ever wondered if your phone can play games by itself. Yes, it is possible. You can build a circuit to play Piano tiles on your smartphone. The video shows the demonstration of the project. Step 1: Components Required And the circuit can be built with...... Listed under: [Sensor – Transducer – Detector Projects](#)
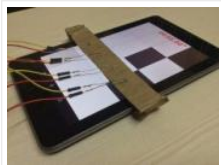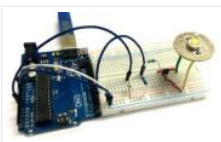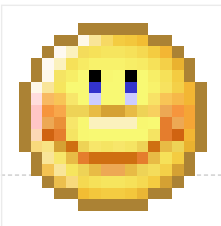
78. [Auto Intensity Control of Power LED using Arduino](#)

Be a bright spark, lights off till it's dark!" sometimes we forget to turn off the lights and waste electricity and you must have also seen street light turned on in the day. We have already built few circuits on Dark detector where lights turn...... Listed under: [LED Projects](#)

79. [Component Designing in Proteus ISIS](#)

Hello friends, hope you all are having fun in your life. Today's tutorial is about the component designing in Proteus ISIS. This tutorial actually deals with the presentation of your project. Usually when students give presentation of their projects, then it is asked that add...... Listed under: [Wireless Projects](#)

80. [Arduino RFID Door Lock](#)
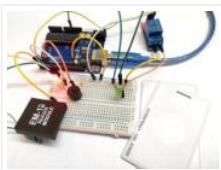
You have seen RFID Door Lock Mechanism in some Hotels and other places, where you don't need a key to unlock the room. You are given a card and you just need to put it in front of a RFID Reader box, and the lock gets unlocked...... Listed under: [Security – Safety Projects](#)

81. [Interfacing of Seven Segment with Arduino in Proteus](#)
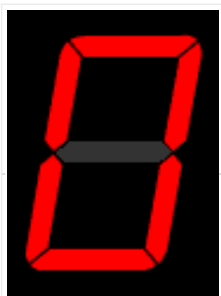
Hello friends, today we are gonna have a look on how to interface Seven Segment with Arduino in Proteus. In my last post, I have posted an Arduino Library for Seven Segment Display, which is designed by our team and is quite basic in functionality....... Listed under: [LED Projects](#)

82. [Bluetooth Controlled 8×8 LED Matrix Sign Board Display using Arduino](#)

Be it the long stretched highways or your doctors front door, we have sign boards placed everywhere to provide us information. But these sign boards are often boring and cannot be configured as per our interest from time to time. So in this project we...... Listed under: [LED Projects](#)

83. [ADC value on LCD using Arduino](#)
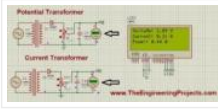
Hello friends, hope you all are fine and having good life. In today's project, we will see how to display ADC value on LCD using Arduino in Proteus ISIS. Its quite a simple project in which we are gonna measure the voltage of ADC pins...... Listed under: [LCD Projects](#)

84. [Arduino Based Piano with Recording and Replay](#)
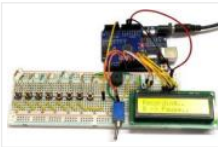
Arduino has been a boon for people who are not from the electronics background to build stuff easily. It has been a great prototyping tool or to try something cool, in this project we are going to build a small yet fun Piano using the...... Listed under: [Sound – Audio Projects](#)

85. [LM317 Voltage Regulator in Proteus](#)

Hello friends, hope you all are fine and having fun. In today's post we are gonna have a look at LM317 Voltage Regulator in Proteus. In the previous post, we have seen how to design a 5V Power Supply in Proteus ISIS, which I have designed...... Listed under: [Motor Projects](#)

86. [RGB LED Colour Control](#)

In this project, we will learn how to control the brightness and colour of an RGB LED via I/O ports with PWM output capability, and a touch display sliders. The 4Duino resistive touch display is used as a means for a graphical interface to control...... Listed under: [LED Projects](#)

87. [Getting Started with Wi-Fi](#)
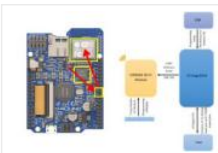
In this project, we will learn how to get started with the ESP8266, an inbuilt 4Duino Wi-Fi module and connect to a local access point. The 4Duino display is used to print the status of the connection for debugging purposes. UNDERSTANDING THE SOFTWARE The ESP8266...... Listed under: [Wifi – WLan Projects](#)

88. [Time Stamp from Web Server](#)

INTRODUCTION In this project, we will learn the basics of Transmission Control Protocol (TCP) and how to communicate to a webserver over TCP. We will request and receive packets from the Google web server using the above communication protocol. The 4Duino display is used to...... Listed under: [Wireless Projects](#)

89. [Auto Leveling Laser Cross using Arduino](#)

So this Lazy Old Geek purchased a Laser Cross. I created a manual leveling Laser Cross to use for aligning stuff on my drill press: http://www.instructables.com/id/ManualLevelingLaserCross/ Well, being a Geek I decided to make an automated platform that adjusts automatically with an Arduino. Well, the...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

90. [DC Motor Control using XBee & Arduino in Proteus](#)

Hello friends, I hope you all are doing great. In today's tutorial, we are gonna design a project named DC Motor Control using XBee & Arduino in Proteus ISIS. I have shared the complete code and have also explained it in detail. You can also...... Listed under: [Motor](#)
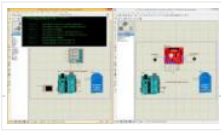
[Projects](#)

91. [Intelligent Buggy featuring 4Duino-24](#)

4Duino Intelligent Buggy project demonstrate how does uCAM-II works. This project also utilized two 4duino communicating using Server-Client architecture over TCP. It also uses a buggy car which carry the 4duino server and uCAM-II. By using built-in ESP8266, 4duino client sends a request to 4duino...... Listed under: [Wireless Projects](#)

92. [Pet Food Dispenser featuring 4Duino-24](#)
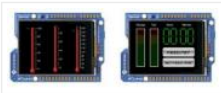
In this project, we will use a 4Duino and several IR sensors to create a simple pet food dispenser. 4Duino checks whether a food tray contains enough food or not. It is programmed to read IR values from each sensor. These values change depending on the...... Listed under: [Sensor – Transducer – Detector Projects](#)

93. [Assistance for Visually Impaired featuring 4Duino-24](#)

Blind Assistance is a project designed to help visually impaired people detecting obstacles in their way. It uses 4Duino, three ultrasonic sensors, one vibration motor and an LED. These components are attached to a walking stick. Blind Assistance alarms the user if there's an obstacle...... Listed under: [Wireless Projects](#)

94. [Voting Machine featuring 4Duino-24](#)

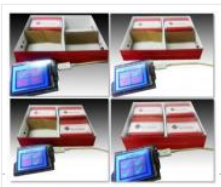The 4Duino Polling Machine is an inquiry project that involves two or more people and has implemented the ability to send and receive data on both ends. The Polling Machine Project works by sending and receiving Questions and Answers (from the Choices) in the form...... Listed under: [Security – Safety Projects](#)

95. [Stock Monitoring featuring 4Duino-24](#)

In this project, we will use several IR sensors to check if an item from an inventory box is present or not. This project makes use of a 4Duino-24 to check whether an item is present or missing from the inventory. The 4Duino uses its...... Listed under: [Sensor – Transducer – Detector Projects](#)

96. [Temperature and Humidity monitoring with DHT22 sensor Arduino Uno R3](#)
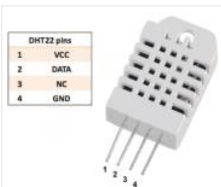
The objective of this tutorial is to learn how to use the DHT22 sensor with Arduino uno. The room temperature and humidity will be printed to serial monitor and also will be displayed to the LCD 4×20 in Proteus ISIS. [caption id="attachment_28379" align="aligncenter" width="300"] DHT22...... Listed under: [Temperature Measurement Projects](#)

97. [Smart Phone Controlled Digital Code Lock using Arduino](#)

There are many types of security systems used all over the world and Digital Code Lock is one of them. We have already covered many digital locks with simple 16×2 LCD using Arduino, Raspberry Pi, 8051 etc. Here we are going to build a Smart Phone...... Listed under: [Security – Safety Projects](#)

98. [Create a Private Chat Room using Arduino, nRF24L01 and Processing](#)

Creating a Local Network to share personnel and confidential data's has become almost impossible for a common man in our modern world. This is mainly because all common chat methods like Whatsapp, Facebook, Hangout and almost everything involves an internet connection. What if, we could...... Listed under: [Wireless Projects](#)
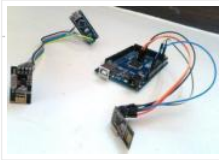
99. [Smart Phone Controlled FM Radio using Arduino and Processing](#)

In this project we will use an existing FM radio which went repair a long time ago, to convert it into a Smart Wireless FM Radio controlled using Phone, with the help of Arduino and Processing. We can convert any manually operated electronic device into...... Listed under: [Wireless Projects](#)

100. [Door Alarm using Arduino and Ultrasonic Sensor](#)

Security has always been a major concern for all of us and there are many Hi tech and IoT based security and surveillance system are available in the market. Intruder or Burglar Alarm is one of the classic and popular project among the Electronics students...... Listed under: [Security – Safety Projects](#)

101. [Real Time Home Automation Using Arduino Uno R3 and DS1307 RTC (Part-1)](#)

Hello every one , welcome back . In this new arduino tutorial series I'm gonna show you how to control every thing in your home on time basis . After doing this project you will be able to control your home appiliences like TV ,...... Listed under: [Home Automation Projects](#)

102. [0-24v 3A Variable Power Supply using LM338](#)

Batteries are generally used to power up the Electronic Circuit and Projects, as they are easily available and can be connected easily. But they drained off quickly and then we need new batteries, also these batteries cannot provide high current to drive a powerful motor....... Listed under: [Motor Projects](#)

103. [Connecting multiple I2C device on Arduino Uno R3](#)

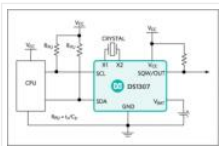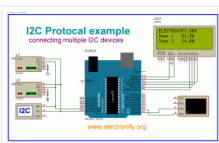Hello every one ! welcome back ! It's nice to show you my new tutorial after long time .Today we will learn how to connect multiple I2C device (typically for demo temperature sensor) to the Arduino Uno .I recommend download datasheet of that I2C...... Listed under: [Arduino Programmer Projects](#)

104. [DIY Speedometer using Arduino and Processing Android App](#)

In this project we make a Cool Speedometer for bikes or any automotives by using Arduino which broadcast the speed using Bluetooth to an Android application that we created using Processing. The complete project is powered by an 18650 Lithium cell and hence highly portable along with your vehicle....... Listed under: [Bluetooth Projects](#)

105. [Virtual Reality using Arduino and Processing](#)

This is a very interesting project in which we are going to learn how to implement virtual reality using Arduino and Processing. For most of us, the movie Iron man by Jon Favreau has always been an inspiration to build new things that will make...... Listed under: [Wireless Projects](#)

106. [Simple Arduino Audio Player and Amplifier with LM386](#)

Adding sounds or music to our project will always make it looks cool and sounds much more attractive. Especially if you are using an Arduino and you have lots of pins free, you can easily add sound effects to your project by just investing in...... Listed under: [Featured](#), [Sound – Audio Projects](#)

107. How to Send Data to Web Server using Arduino and SIM900A GPRS/GSM Module

Today we are here with an interesting project in which we will Send Data to the SparkFun server using Arduino and GPRS. This is an IoT based project in which we will use GPRS, present on the GSM Module SIM900A board, to send some data to…… Listed under: Wireless Projects
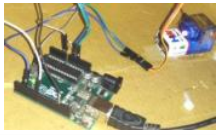
108. Smart Knock Detecting Door Lock using Arduino

Security is a major concern in our day to day life, and digital locks have become an important part of these security systems. There are many types of security systems available to secure our place. Some examples are PIR based Security System, RFID based Security…… Listed under: Security – Safety Projects

109. Fingerprint Based Biometric Voting Machine using Arduino
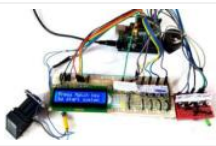
We all are quite familiar with Electronic Voting Machines, where your vote gets registered electronically and you don't need to use ballot paper to vote in election. Today security is a major concern and it also needs to be ensured that someone can't vote twice,…… Listed under: Sensor – Transducer – Detector Projects

110. Arduino based Angry Bird Game Controller using Flex Sensor and Potentiometer
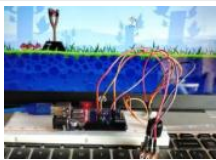
It's all started with a small game from the dark ages called "Mario", right from the time of being a tiny little guy jumping on ducks to save my princess till being a masculine handsome Prince roaming in Persia (Prince of Persia) fighting against darkness…… Listed under: Game – Entertainment Project Ideas, Game – Entertainment Projects

111. Arduino Motion Detector using PIR Sensor

Detecting motions or movements has always been important in most projects. With the help of the PIR Sensor it has become very easy to detect human/animal movements. In this project we will learn how we can interface a PIR Sensor with a microcontroller like Arduino……. Listed under: Sensor – Transducer – Detector Projects

112. DC-DC Buck Converter Circuit – How to Step Down DC Voltage

In this project we are going to make a Buck Converter Circuit using Arduino and N-Channel MOSFET with a maximum current capacity of 6 amps. We are going to step down 12v DC to any value between 0 and 10v DC. We can control the…… Listed under: Motor Projects

113. Arduino Based Digital Ammeter

Ammeter is used to measure current flow through any load or device. Here in this Arduino Ammeter, we will explain about measuring of current by using ohm's law. It will be quite interesting as well as a good application of basic science that we studied…… Listed under: Sensor – Transducer – Detector Projects

114. Arduino DC Motor Speed and Direction Control using Relays and MOSFET

In this project we control direction and speed of a 24v high current motor using Arduino and two relays. No power switches are needed for this circuit, just two push buttons and in Potentiometer to control the direction and speed of DC Motor. One push button…… Listed under: Motor Projects

115. Automatic AC Temperature Controller using Arduino, DHT11 and IR Blaster

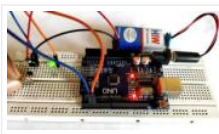An AC (Air Conditioner) which was once considered to be a luxury item and was only to be found in big hotels, movie halls, restaurants etc... But, now almost everyone has a AC in our home to beat out the summer/winter and those who have...... Listed under: [Temperature Measurement Projects](#)

116. [Interfacing Hall Effect Sensor with Arduino](#)

Sensors have always been a vital component in any Project. These are the ones which convert the real real-time environmental data into digital/variable data so that it can be processed by electronics. There are many different types of sensors available in the market and you...... Listed under: [Sensor – Transducer – Detector Projects](#)

117. [Cell Phone Controlled AC using Arduino and Bluetooth](#)

In today's modern world, where ever we go we have lots of electronic devices around us. But, out of all, there is only one device that we personally have in our pockets all the time. Yes, it is our mobile phones. Now Mobile phones have...... Listed under: [Phone Projects](#)

118. [how to measure home ac current 110v / 200v with arduino](#)

The cool thing about an ACS712 is that current is measured is measured in two directions. What this means is that if we sample fast enough and long enough, we sure to find the peak in one direction and the peak in another direction. With...... Listed under: [Metering – Instrument Projects](#)

119. [How To Measure Distance Between Two Ultrasonic Sensors](#)
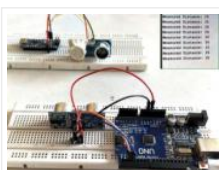
Ultrasonic sensor (HC-SR04) is commonly used to find the distance of an object from one particular point. It has been fairly easy to do this with the Arduino and the code is also pretty simple. But in this article we are going to try something...... Listed under: [Calculator Projects](#), [Metering – Instrument Projects](#)

120. [Arduino Based Fire Fighting Robot](#)

According to National Crime Records Bureau (NCRB), it is estimated that more than 1.2 lakh deaths have been caused because of fire accidents in India from 2010-2014. Even though there are a lot of precautions taken for Fire accidents, these natural/man-made disasters do occur now and...... Listed under: [Robotics – Automation Projects](#)

121. [Temperature Controlled AC Home Appliances using Arduino and Thermistor](#)

Suppose you are sitting in a room and feeling cold and you want your heater to be automatically turned on, and then off after some time when room temperature is increased, then this project help you to control your home appliances automatically according to the...... Listed under: [Battery Projects](#), [LCD Projects](#)

122. [Arduino Relay Control Tutorial](#)

LED Blinking is a very common and almost first program for every embedded learner or beginner. In which we blink an LED with having some delay. So today we are here with the same project but here we will use an AC bulb instead of...... Listed under: [Arduino Programmer Projects](#), [LED Projects](#)

123. [Measure Sound/Noise Level in dB with Microphone and Arduino](#)

Noise pollution has really started to gain importance due to high population density. A normal human ear could hear sound levels from 0dB to 140dB in which sound levels from 120dB to 140dB are considered to be noise. Loudness or sound levels are commonly measured...... Listed under: [Arduino Programmer Projects](#), [Phone Projects](#)

124. [Arduino Metal Detector](#)

Metal Detector is a security device which is used for detecting metals which can be harmful, at various places like Airports, shopping malls, cinemas etc. Previously we have made a very simple Metal detector without a microcontroller, now we are building the Metal Detector using...... Listed under: [Arduino Programmer Projects](#), [Battery Projects](#)

125. [Smart Blind Stick using Arduino](#)
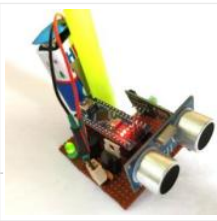
Ever heard of Hugh Herr? He is a famous American rock climber who has shattered the limitations of his disabilities; he is a strong believer that technology could help disabled persons to live a normal life. In one of his TED talk Herr said "Humans...... Listed under: [Arduino Programmer Projects](#), [LCD Projects](#)

126. [Arduino Calculator using 4×4 Keypad](#)

Programming is always fun and Arduino is a wonderful platform if you are just getting started with Embedded programming. In this tutorial we will build our own calculator with Arduino. The values can be sent in through a keypad (4×4 keypad) and result can be...... Listed under: [Battery Projects](#), [Blog](#), [Calculator Projects](#), [LCD Projects](#)

127. [Measuring PPM from MQ Gas Sensors using Arduino (MQ-137 Ammonia)](#)

Right from the time of industrial age, we mankind have been rapidly developing. With every progress we also pollute our environment and eventually degrading it. Now global warming is an alarming threat and even the air that we breathe are getting critical. So air quality...... Listed under: [Other Projects](#)

128. [Temperature and Humidity Data Logger using Arduino](#)
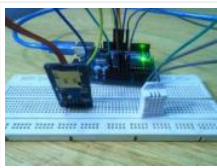
In this project, we are going to make a temperature and relative humidity data logger. Arduino is the brain of this project. DHT22 sensor is used for sensing temperature and relative humidity. Arduino Uno is programmed to read temperature, humidity values from DHT22 sensor and...... Listed under: [Calculator Projects](#)

129. [Digital Thermometer using Arduino and DS18B20 Sensor](#)

In this project, we are going to make a Digital Thermometer using Arduino Uno. We will use DS18B20 temperature sensor to sense the temperature and Nokia 5110 LCD to display it. DS18B20 is a 1-Wire digital temperature sensor manufactured by Maxim Integrated and is capable...... Listed under: [Calculator Projects](#), [LCD Projects](#)

130. [Laura: Emotional Compass Lamp](#)

Story Laura Laura is a "counseling" lamp who is helping me to find myself and to understand where I want to go. For her great help, I wanted to give her a present that represents the work we are doing. The inspiration came from the...... Listed under: [Home Automation Projects](#)

131. Chinese Rings Puzzle With Arduino
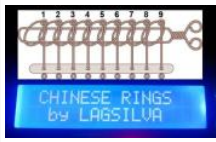
Introduction Hello all, The Chinese Rings Puzzle with Arduino is my version of a centennial Chinese puzzle. It is very simple to play and it is an example of a combinatorial puzzle, and lots of patience and concentration is required to solve it. The objective...... Listed under: Game – Entertainment Projects

132. ATtiny85 EMF Detector

Story This is a simple tutorial to create an EMF detector. You can use Arduino for this job, but is better use a microcontroller called Attiny85. It is possible program it throe the Arduino interface. What is a Magnetic Field [from Wikipedia] An electromagnetic field...... Listed under: Sensor – Transducer – Detector Projects

133. IoT Pet Feeder: Use circuito.io to build a smart food dispenser for your pet

Story This IoT pet feeder is our first IoT project with circuito.io! We are happy to share it with our community to demonstrate how simple it can be to make basic IoT projects with circuito.io. We are also excited to share this project with you...... Listed under: Home Automation Projects

134. Make your own gesture-controlled Wizard's Walking Staff

Story This project uses the Arduino 101, a battery and an LED strip to make a gesture-controlled Wizard's Walking Staff. We'll define three different light-display "spells" you can summon by moving the staff in one of three gestures. Tech: The code uses the Inertial Measurement...... Listed under: Other Projects

135. MorseCard – A Tiny Telegraph Station

Story Behold: the MorseCard! Fulfill your dreams of becoming a telegraph operator (or just make something cool to show your friends) with this weekend project. The MorseCard features a high-contrast OLED screen that will decipher whatever you tap out. I have written a variety of...... Listed under: Other Projects

136. Starry Night Prom: How did I stand out at prom? In a light up dress of course!

About So for my Junior prom, I really wanted a dress I had seen online that was blue with a sequin ombre, but it was out of my price range, and way too voluminous. My mom and I had made my Homecoming dress the year...... Listed under: Other Projects

137. DIY Voltmeter with Arduino and a Nokia 5110 Display

Story In this tutorial I am going to show you how to build a Voltmeter with a big Nokia 5110 LCD display using Arduino. Building a voltmeter is a great learning experience. When you finish building this project, you will have a better understanding of...... Listed under: Metering – Instrument Projects

138. Plant Monitoring System using AWS IoT

Story Picture this you are going on a vacation for a week or so and are worried about your house plant at home.Here is a great project to under take a week before you head out for your vacation. Build yourself a plant monitoring and notification system...... Listed under: [Home Automation Projects](#)

139. [LedMatrix Tweet Visualization](#)

Story Description Display tweets with a certain hashtag on a led-matrix using an Arduino/Genuino Yùn or Yùn-Shield. We will use a Python script to log into twitter and check for updates. Configuring the Yun101/YunShield In order to connect your board to internet you first have...... Listed under: [Other Projects](#)

140. [Purdue ExoMIND Glove](#)

Description The ExoMind Glove is a wearable device equipped with 7 accelerometers that are used to quantify forearm, wrist, and finger angles. Additionally, an EMG with conductive fabric electrodes is secured into the sleeve of the device to monitor muscle activity. The glove houses an...... Listed under: [Medical – Health based Projects](#)

141. [Integrating Wiscore Alexa EVK and Arduino via Serial Port](#)

Story Wiscore: Integrating Arduino with Alexa As part of the series of tutorials for the Wiscore Alexa AVS EVK, we will see how to integrate Arduino boards (Uno, Leonardo, Due etc) directly with Alexa Voice Service. The Wiscore board provides the means to communicate with...... Listed under: [Other Projects](#)

142. [Arduino101 / tinyTILE BLE: Match-Making Sunglasses](#)

Story Instead of using an app, what if you could send a signal to eye-contact someone you are interested in talking to, in a social setting, even from afar? I'm not proposing a different way to start a date. I'm exploring a new usage of...... Listed under: [Game – Entertainment Projects](#)

143. [Paint Your Dimmer Switch on the Wall](#)

Motivation What to do you do when you have some Bare Conductive paint and some Philips Hue lightbulbs laying around? You paint a dimmer switch on your wall using conductive paint! Getting Started Some things you'll need to get started: Arduino Due (or Zero) AnduinoWiFi...... Listed under: [Home Automation Projects](#)

144. [Using Nokia 3310 84×48 LCD with Arduino](#)

Story The Nokia 5110 is a basic graphic LCD screen for lots of applications. It was originally intended to be used as a cell phone screen. This one is mounted on an easy to solder PCB. It uses the PCD8544 controller, which is the same...... Listed under: [Phone Projects](#)

145. [Fidget Spinner RPM Counter](#)

Hi everyone! This is my next project, Fidget Spinner RPM Counter or Arduino Tachometer with Hall-Effect Sensor. 1: Requirements Parts Required: Fidget Spinner neodyimium magnet Arduino Uno LED + resistor 220 Ohm Hall-Effect Sensor – a3144 resistor 10 k Wires Breadboard LCD 1602 2: Hall-Effect...... Listed under: [Sensor – Transducer – Detector Projects](#)

146. [An Urban Plant Watering Solution](#)

This device improves plant irrigation in urban environments. Powered by an Arduino 101, it uses on-board tools along with a few external sensors to calculate optimum conditions for watering plants in its own environment, and then waters the plant itself at the calculated time. It…… Listed under: [Home Automation Projects](#)

147. [Cycflix: Exercise Powered Entertainment](#)

Now that the cheesy title has pulled you (Fitflix was taken and I didn't want to be sued) I'll tell you about the project, it uses a stationary exercise bike connected to an Arduino Nano to control the streaming of Netflix on a PC, I…… Listed under: [Game – Entertainment Projects](#)

148. [Controlling Robot Over Bluetooth Using Xbox Steering Wheel](#)

So I'm guessing that I'm like a large amount of people on this site that are low key hoarders, keeping anything they could turn into a project or salvage for parts and this is an example of that. I have this old Mad Catz Steering…… Listed under: [Robotics – Automation Projects](#)

149. [Can I Use an Arduino Uno for This?](#)

So back when I first started working with micro controllers, Arduinos mainly the most annoying this ever was when i would follow someones tutorial for a project and they would use the Arduino uno, I would be using the Arduino micro or something, i would…… Listed under: [Other Projects](#)

150. [Distance Measurement Vehicle via Websocket](#)

Story When you measure distance between two point general way is to use a ruler. But you can use a lot of other ways: by laser, map, foot or walking meter. The walking meter is very useful when you are measuring curved (not straight) distance……. Listed under: [Metering – Instrument Projects](#)

151. [Reducing Arduino Power Consumption](#)
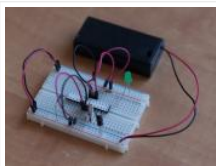
Story When it comes to portable electronics, one of the most important features is how to maximize the battery life. The ATmega328P, used on popular boards like the SparkFun RedBoard, Arduino Uno, and Pro Mini are actually quite power hungry. The RedBoard and Arduino Uno,…… Listed under: [Other Projects](#)

152. [Arduino on Internal Oscillator Crystal as Clock Source](#)

Story I have been working out ways to make a minimal Arduino to fit in the smallest space possible, and limit the power consumption of the microcontroller. (You can go through this project for more info about reducing power consumption at: Reducing Arduino Power Consumption)……. Listed under: [Clock – Timer Projects](#)

153. [RPi Serial Console Automation Using Arduino](#)
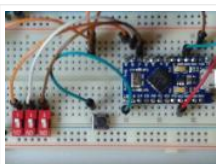
Story A Continuation of One Button Restart of a Stalled Raspberry Pi In a recent article, I showed how an Arduino Pro Micro can be utilized to send characters to the serial console of the Raspberry Pi Zero W. The Pro Micro was chosen because…… Listed under: [Other Projects](#)

154. [Darby's not dead](#)
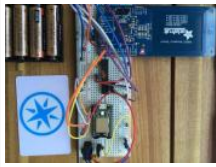
Story In the future there is a bar where all the dead punk rockers hang out. They are each given a MiFare classic card programmed with their name and 666 credits. This is the device the bartender uses to keep track of their tab. This...... Listed under: [Internet – Ethernet – LAN Projects](#)

155. [2 Players Competition/Quiz Buzzer Box System Using Arduino](#)
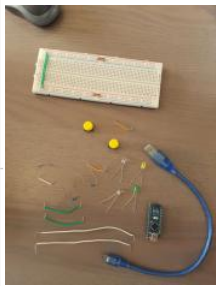
Story A bit of background. My brother came to me with an odd box that a friend of his asked someone to make so that they can determine the fastest contestant to push a button. The box consisted of some LEDs, two buttons, and two...... Listed under: [LED Projects](#)

156. [Congnitive GSM Autonomous Water Meter](#)

Story Imagine you could administer remotely your water utility service in real time, turning on or off your water services according to your usage patterns or needs, and not just letting the water flow in all the time, you could prevent taps for leaking a...... Listed under: [Metering – Instrument Projects](#)

157. [Back-Saver: Backpack-carrying follower robot powered by Wunderbar](#)

Hardware components: SparkFun RedBoard × 1 DC Stepper Motor 28-BY-J-48 × 1 MB 1010 LV-Max-Sonar EZ1 × 1 WunderBar × 1 Story A Sparkfun Red-Board utilizes a LV-Max Sonar component to judge distances between the user and the robot, powering the DC stepper motor to...... Listed under: [Robotics – Automation Projects](#)

158. [How to use the TFT display 2.2″ QVGA with Arduino](#)

Story The main purpose of this project is to build a system based on chip ATMEGA328P, Arduino compatible, and interface it with a 2.2″ QVGA TFT display using the library ILI9341. As an alternative to the self-build system you can use an Arduino Pro 3.3...... Listed under: [Other Projects](#)

159. [Easy Serial on the ATtiny](#)

Introduction The Atmel tinyAVR MCU's are great little chips for projects but can prove difficult to debug. Some ATtiny chips do not have direct support for hardware based serial and therefore the Serial object is unavailable in your code, however, it is easy to add...... Listed under: [Other Projects](#)

160. [CyDuino : An Arduino Dev Board with Lots of Goodies](#)

Story We (most of us) really like Arduino because it's possible to make cheap clones, lots of libraries, examples, forum support and community out there. Outside Arduino world, I like Cypress PSoC for some of its cool features like Graphical IDE, APIs, great features and...... Listed under: [Sensor – Transducer – Detector Projects](#)

161. [Trinket Firmware Exorcism](#)

Story Warning: Digispark uses Attiny85 PIN#1 as I/O – remove RESET button functionality Notes FOR ADVANCED USERS ONLY The Trinket 5V and the Digispark share the same hardware design, right down to the LED being on PB1. Personally, I prefer the Trinket hardware over the Digispark,...... Listed under: [Other Projects](#)

162. [A Semaphore for your Office Desk](#)

Story This is a small semaphore you can put on your desk. You can use it to tell whatever you want to the people around it. For example, because you need some concentration and you'd like your colleagues not to disturb you. Or to tell...... Listed under: [Other Projects](#)

163. [Chachka (Trinket clone)](#)
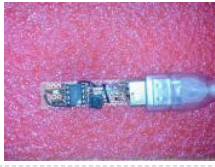
Chachka is born! Chachka is an Adafruit Trinket CLONE built from the ATtiny85 microcontroller. Because it is a current Adafruit product, it has a training guide and its own support forum and lots of sample code. All of this means that like an Uno clone, the...... Listed under: [LED Projects](#)

164. [Waterproof 10 Minute Timer](#)

Story I went for a shower one day, was getting late for office. Running tight on time, but I didn't want to come out of hot shower in cold morning. Without any clock in my bathroom I was saying to myself "Lets enjoy the shower...... Listed under: [Clock – Timer Projects](#)

165. [Build the Internet for your friend](#)

Background A few years ago, a co-worker turned me on to this TV program called "The IT Crowd". The show revolves around a two-person IT team and their "Relationship Manager", Jen, who inadvertently landed the job by including some basic PC skills on her resume....... Listed under: [Internet – Ethernet – LAN Projects](#)

166. [Arduino : Lead Acid Battery Capacity Tester (Updated)](#)

Story Yosh ! At last, finished working on this project. I have been working on this project for a while, then got bored and left the remaining work (mostly firmware) for a couple of months, ah ! the longest project I ever did...... Listed under: [LED Projects](#)

167. [ATTiny Joule Thief NeoPixel](#)
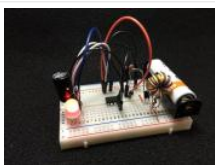
Introduction I've been fascinated with joule thief circuits since I made my first one. It's amazing what all you can power from a single AA or AAA battery. The only problem is you can't do much beyond light up an LED because the current isn't...... Listed under: [LED Projects](#)

168. [PicoDuino = Digispak + RGB LED + Button + Relay Driver](#)

Hardware components: Atmel ATTiny85 × 1 DigiSpark × 1 Software apps and online services: Arduino IDE STORY StartFragment How to get FREE board Order 1pc Picoduino board Create project max. 30 days from order Write project steps on instructables … Include link to my...... Listed under: [Development Board – Kits Projects](#)

169. [IR Thermometer, Stopwatch, Cooking Timer, Inactivity Tracker](#)

Hardware components: Arduino UNO & Genuino UNO × 1 Adafruit MLX90614 × 1 Atmel AVR for Arduino 328P/168P/8A × 1 SparkFun 7-Segment Serial Display – Red 3 digit display used × 1 Breadboard (generic) 8×2 cm × 2 16 MHz Crystal × 1 Slide Switch...... Listed under:

Bare bones: The ATtiny85 on its Own The ATtiny is a small, inexpensive chip that can replace the Arduino in a project you have prototyped. This helps make the project smaller and more permanent, as well as freeing up the Arduino for more fun! The…… Listed under: [LED Projects](#)

177. [OH HAI! on Windows 10 IoT Core](#)

Oh, Hai Hai ('hi') is an integration point for several stand alone smart home technologies. Hai runs on the Raspberry Pi and can be adapted to optimize electricity consumption (lighting/HVAC) and water usage (irrigation/rain collection) in a number of ways. Hai was originally envisioned for…… Listed under: [Other Projects](#)

178. [Persistence Of Vision](#)

Persistence of vision is an optical illusion, it works on a simple phenomenon how our day to day television works. MY first pov was six months before with arduino uno and with motor. However it is best to have a small and portable device that…… Listed under: [LED Projects](#)

179. [Cellular Data Logger](#)

I have been collecting data from Raleigh's trails and parks for the last couple years. My primary platform has been a custom Arduino board I developed for low-cost (hey, these things may get damaged or stolen) and long battery life. I wanted a connected sensor…… Listed under: [Internet – Ethernet – LAN Projects](#)

180. [AVR VideoBlaster](#)

More VideoBlasting So why didn't the TVout library reach any higher resolution than 160×100? The answer is simple. They did not use any hardware onchip to push the pixels out. If you use the SPI to push the pixel you will gain an immediate 1:1…… Listed under: [Video – Camera – Imaging Projects](#)

181. [POV Cylinder with Arduino Due](#)

Introduction This is my first Arduino project. My work was inspired by several maker projects that created Persistence of Vision Displays [2,3,4]. Persistence of vision (POV) refers to the optical illusion whereby multiple discrete images blend into a single image in the human mind and believed to be…… Listed under: [LED Projects](#)

182. [Programming the ATtiny85 (Using an Arduino Uno)](#)

Today, we are going to build a circuit to program an ATtiny85 with our Arduino. Supplies We are going to need the following: Some jumper wires 1 x 10 micro farad capacitor The ATtiny85 Chip A breadboard An Arduino For Extra visual's (that are not…… Listed under: [Arduino Programmer Projects](#)

183. [OLED on the Cheap!](#)
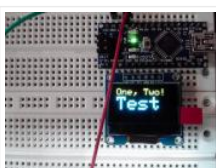
I like cheap electronics for playing. Cheap is good for budget conscious hobbyists and China is delivering lots of toys for playing – one being the inexpensive "mono" OLED displays. The single-color displays often come in a dual-color implementation where the top row of pixels…… Listed under: [LED Projects](#)

184. [3D-Printed Prank Vibrating Cup](#)

Picture the following: you have an nice white cup in front of you. It's filled to the brim with sparkling, cool, and refreshing H20. Your fingers curl around the nicely curved handle, and you bring the cup to your lips. Suddenly, a strong vibration assaults...... Listed under: [Game – Entertainment Projects](#)

185. [3D-Printed RGB Wallet](#)

Stand out from the crowd with this unabashedly ostentatious excuse for a wallet. It's got plenty of space, RGB lights, and you can even put your name on it for added vanity. Interested? Keep reading! In the files section of this build you can find...... Listed under: [LED Projects](#)

186. [The Annoy-O-Bug: A Chirping Light-Up Throwie](#)
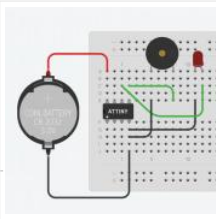
Small enough to slip in a mint tin, yet loud enough to be heard across a house at only a few dollars per unit. A nice combination for a pretty good prank! Let's dive in! Step One: The Circuit You can purchase the printed circuit...... Listed under: [LED Projects](#)

187. [nRF24L01+ with ATtiny85 3 Pins](#)
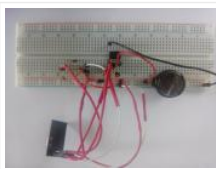
This would be the continuation of my previous project Programming ATtiny85 with Arduino Uno. Now with cheaper ATtiny85 in place I was looking for cheaper ways to transmit the sensor data. Which brought me to nRF24L01+ a cheap, low power RF transceiver. This seemed to...... Listed under: [Other Projects](#)

188. [A Strange Attraction. Various Hall Effect Sensors](#)

I came pretty close to calling this one "Magnets, How do they work?" But I thought that might confuse more than it would amuse. All jokes aside, hall effect sensors are pretty cool, and also pretty simple to use, but there are a few types...... Listed under: [Sensor – Transducer – Detector Projects](#)

189. [Simple Temperature With Thermistor + Arduino](#)

A Thermistor is a thermal-resistor. It's just a simple device that changes it's resistance based on temperature. If the LRD/Photoresistor is day of of arduino class. The thermistor should be day 1.01. (Can I do that?). If you need precise temperature readings, this is not...... Listed under: [Temperature Measurement Projects](#)

190. [Use The EasyDriver Stepper Motor Driver + Arduino](#)

Stepper (or step) motors are really cool. They are perfect for automation or any time you need a motor to turn to a specific point, at a specific speed, in a specific direction. For this article I wont get into why, or how, but unlike...... Listed under: [Motor Projects](#)

191. [Do You Have The Time? DS1307 RT Clock + Arduino](#)

Most microcontrollers are time-agnostic, meaning they are unaware of the time around them, but that's ok as most things we make have no need for it. But... every once in awhile you come up with an idea that requires knowing the actual time. Mostly this...... Listed under: [Clock – Timer Projects](#)

192. [How to Get Started with the ESP32](#)

ESP32 is the hottest new wireless chip out there, offering both WiFi and Bluetooth Low Energy radios rolled up with a dual-core 32-bit processor and packed with peripherals of every kind. We got some review sample dev boards, Adafruit and Seeed Studio had them in...... Listed under: [Wifi – WLan Projects](#)

The ESP32 is looking like an amazing chip, not the least for its price point. It combines WiFi and Bluetooth wireless capabilities with two CPU cores and a decent hardware peripheral set. There were modules in the wild for just under seven US dollars before...... Listed under: [Wifi – WLan Projects](#)

This is something I use all the time, so I figured I would share it with you. Controlling an Arduino over serial can be extremely simple if you let it, and extremely useful if you know how to use it. Many languages such as Processing...... Listed under: [LED Projects](#)

211. [Tilt Sensing with the RPI-1031 + Arduino](#)

Once in a while something comes out that I think is going to be really awesome, but when you get it, it is just so so. Im sure you all know what I mean... But yeah... This is one of those. The RPI-1031 available from...... Listed under: [Sensor – Transducer – Detector Projects](#)

212. [High-Power Control: Arduino + N-Channel MOSFET](#)

Eventually you are going to find yourself holding a 12v solenoid, motor, or light and wondering "How the heck am I supposed to control this from my Arduino?" And we have covered this in the past. Today we are going to talk about another way...... Listed under: [Other Projects](#)

213. [Create laser range finder using arduino](#)
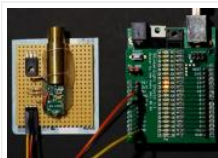
[highlight bgcolor="ffbb00"]I have collected 2 methods to create laser range finder, one is very simple but for hobbiest the first one using arduino clock but it comes with errors. Its just to conceptulize how we can create range finder. The second one with the The 7558...... Listed under: [LED Projects](#)

214. [Stable Orientation – Digital IMU 6DOF + Arduino](#)

A while back we wrote an article on sensing orientation with the adxl335 accelerometer. In that article I mentioned all the drawbacks of trying to do this with just an accelerometer, and said that if you needed something stable, what you really needed was an...... Listed under: [Metering – Instrument Projects](#)

215. [Controlling 2 motors with the TB6612FNG + Arduino](#)

First off: I know... we went overboard with the motor illustration. In previous articles we have discussed how to control motors with simple transistors. And... with PWM you could control the speed. But that is just one motor, and you can only go one direction....... Listed under: [Motor Projects](#)

216. [A Swarm of Xbees! Arduino Xbee Wireless & More](#)

In the past we have covered a few things that interact through serial, from RFID readers to controlling an Arduino's pins using the serial terminal. Serial as we have talked about it is actually know as UART, and operates over 2 pins RX and TX...... Listed under: [Other Projects](#)

217. [How's the weather? TMP102 + Arduino](#)

The TMP102 is a very simple, yet accurate, ambient temperature sensor which is capable of detecting .0625°C changes between -25 and +85°C, with an accuracy of 0.5°C. And the real kicker... It does all of this while only consuming 10μA (10 millionths of an amp)....... Listed under: [Sensor – Transducer – Detector Projects](#)

218. [One Wire Digital Temperature. DS18B20 + Arduino](#)

I know... you are probably thinking "Another Thermometer! How many do you need to cover?" – Well... All of them. But really, they all have something different to offer. For instance this guy, the DS18B20, has a unique serial-number sent with it's data, so if...... Listed under: [Sensor – Transducer – Detector Projects](#)

219. [Pin Control Over the Internet – Arduino + Ethernet](#)

In a previous article we showed you how to control digital pins over over serial, and showed how such a simple thing can be so powerful. One major downfall with that is you need to be nearby to send commands… So today we are going…… Listed under: [Internet – Ethernet – LAN Projects](#)

220. [Getting Data From The Web – Arduino + Ethernet](#)

Yesterday we covered how you would go about controlling pins of your arduino over the internet using the Arduino Ethernet Shield set up as a server. Today we are going to take a look at using the shield as a client to get information off…… Listed under: [Internet – Ethernet – LAN Projects](#)

221. [Get Touchy – Nintendo DS Touch Screen + Arduino](#)

It seems like touch screens are plastered on every consumer electronic device from your phone to your refrigerator. And why not right? Well, even though those beautiful multitouch hi-res screens are a little pricy and crazy hard to develop with, doesn't mean we cant still…… Listed under: [Other Projects](#)

222. [Sensing Humidity With The SHT15 + Arduino](#)

The SHT15 is a digital humidity sensor that outputs a fully calibrated humidity reading. And… because what we are measuring is actually relative humidity, and relative humidity being relative to temperature, the SHT15 has a builtin digital thermometer. This makes things much easier to work…… Listed under: [Sensor – Transducer – Detector Projects](#)

223. [Proximity Sensing with the VCNL4000 + Arduino](#)

I'm not really sure why, but proximity sensors are some of my favorite things in the sensor world. Maybe because there are so many of them? Who knows. Whatever the reason, the VCNL4000 is another proximity sensor that caught my eye, so I picked one…… Listed under: [Sensor – Transducer – Detector Projects](#)

224. [Force Sensitive Resistor + Arduino](#)

The Force Sensitive Resistor, or FSR is one of those parts that fills bins in interaction design labs across the world. It's a simple guy, a finicky guy, but it has its place in the maker toolbox. A FSR is just what it sounds like…… Listed under: [Sensor – Transducer – Detector Projects](#)

225. [Sensing Capacitive Touch – MPR121 + Arduino](#)

Every now and then you get sick of the typical push buttons and you want something cooler. And what is cooler than touch sensitive things? Remember that old lamp in your Grandma's that changed brightness just by touching the base? Yeah, that's right… We are…… Listed under: [Sensor – Transducer – Detector Projects](#)

226. [High-Power Control: Arduino + TIP120 Transistor](#)

Up until now, we have talked about working with a lot of low-power devices. Sensors, LEDs, ICs, and the like are all capable of being powered directly from your Arduino, but as many awesome 5 and 3.3v components as there are, eventually you will find…… Listed under: [Other Projects](#)

227. [Controlling a ton of servos – TLC5940 + Arduino](#)

This is something we have been asked a lot about. How do I control a ton of Servo motors with my arduino? Well… using the TLC5940 is one way. And this nice break outboard from sparkfun makes connecting a ton of servos easy. The output…… Listed under: [PWM Projects](#)

228. [Sensing Orientation With The ADXL335 + Arduino](#)

I know, I know, this one has such a simple name. Where's the pun? Honestly, the description was just to long to include one. Maybe it could have been "What's Up? Sensing Orientation With The ADXL335 + Arduino" – Ehhh... Probably not. A few weeks...... Listed under: [Sensor – Transducer – Detector Projects](#)

229. [Triple Axis Magnetometer HMC5883L + Arduino](#)

One of the first articles we did was on the hmc6352 digital compass. Well this is his older brother (or younger but smarter). I really don't know what to say about the HMC5883L other than it is a three axis magnetometer, so it is capable...... Listed under: [Metering – Instrument Projects](#)

230. [Displaying on Paper – Thermal Printer + Arduino](#)

The following code and library are compatible with arduino software 1.0+ ONLY. You can download the newest version of the arduino software here. Outputting data can be extremely useful, and typically when we look at doing this, it is either to the Arduino's serial terminal,...... Listed under: [Other Projects](#)

231. [Long Distance Remote Light Sensor With RFM95W/RFM98W LoRa](#)

There are many wireless communication options when connecting Arduino boards. One of the most popular ones is the Wi-Fi. It works well at small distances, and around Wi-Fi hotspots, however when the modules need to connect over long distance at areas where Internet is not...... Listed under: [Sensor – Transducer – Detector Projects](#)

232. [Arduino Nano: Flame Sensor With Visuino](#)
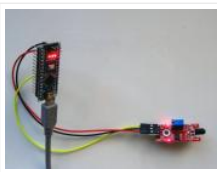
Recently somebody asked for tutorial on Infrared Flame Sensor. It took a while due to severe work overload, but finally I succeeded to make it. The Infrared flame sensors use infrared light to detect flame. While experimenting with my one I discovered that in direct...... Listed under: [Sensor – Transducer – Detector Projects](#)

233. [Capturing IMU Data with a BNO055 Absolute Orientation Sensor](#)

The Bosch BNO055 combines tri-axis accelerometers, gyroscopes, and magnetometers to provide orientation to users. About the Sensor The BNO055 uses three triple-axis sensors to simultaneously measure tangential acceleration (via an accelerometer), rotational acceleration (via a gyroscope), and the strength of the local magnetic field (via...... Listed under: [Sensor – Transducer – Detector Projects](#)

234. [Line Follower Robot using Arduino](#)
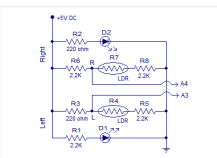
A line follower robot using 8051 microcontroller is already published here and this time the same thing is done using arduino. This line follower robot is basically designed to follow a black line on a white surface. Any way the same project can be used...... Listed under: [Robotics – Automation Projects](#)

235. [Ultrasonic range finder using arduino](#)

Ultrasonic range finder using 8051 mictrocontroller has been already published by me in this website. This time it is an ultrasonic range finder using arduino. HC-SR04 ultrasonic range finder module is used as the sensor here. The display consists of a three digit multiplexed seven...... Listed under: [Other Projects](#)

236. [Digital thermometer using arduino and LM35](#)

This article is about a simple three digit digital thermometer using arduino. Range of this thermometer is from 0°C to 99.9°C. There is also a provision for displaying the temperature in °F scale. Three terminal analog temperature sensor LM35 is used as the sensor here……. Listed under: [Metering – Instrument Projects](#)

237. [PWM motor speed control using Arduino](#)

PWM or pulse width modulation is a very common method used for controlling the power across devices like motor, light etc. In PWM method the power across the load is controlled by varying the duty cycle of the drive signal. More the duty cycle more…… Listed under: [Motor Projects](#)

238. [Interfacing LCD to Arduino – Display Text and Characters on LCD Screen using Arduino](#)

A Liquid Crystal Display commonly abbreviated as LCD is basically a display unit built using Liquid Crystal technology. When we build real life/real world electronics based projects, we need a medium/device to display output values and messages. The most basic form of electronic display available…… Listed under: [LCD Projects](#)

239. [OhmMeter using Arduino – with Auto Ranging Feature](#)

Auto ranging ohmmeter using arduino. This article is about a simple auto ranging ohmmeter using arduino. The measured resistance is displayed using a 16×2 LCD display. The circuit is sufficiently accurate and uses minimum number of external components possible. Before going into the details of…… Listed under: [Metering – Instrument Projects](#)

240. [LPG sensor using arduino](#)

LPG sensor using arduino with alarm and cutoff. A simple LPG sensor using arduino is shown in this article. This circuit indicates the amount of LPG in the air. The circuit sounds an alarm and trips a relay when the concentration is above a predetermined…… Listed under: [Sensor – Transducer – Detector Projects](#)

241. [Interfacing RFID with Arduino – How to Read RFID Cards using Arduino](#)

In this tutorial, we are dealing with yet another interfacing technique. This time we are interfacing an RFID Reader which can read RFID Tags to Arduino. RFID is Radio Frequency Identification. An RFID reader is used to read RFID tags (which contain certain unique data…… Listed under: [Other Projects](#)

242. [Simple RFID based Door Lock using Arduino](#)

Its quiet fun to work with RFID based projects! In the previous article, we saw how to interface RFID with Arduino. Interfacing is the first step to create any useful project. So why don't we create an RFID based Access Control System or an RFID…… Listed under: [Security – Safety Projects](#)

243. [Burglar Alarm using Arduino and PIR Sensor](#)

In this tutorial, we are building an interesting application using Arduino and PIR Sensor. A Burglar Alarm – is basically an intruder alarm or an anti theft alarm. So this project is all about building an anti theft alarm or an intruder alarm using Arduino…… Listed under: [Sensor – Transducer – Detector Projects](#)

244. [Arduino and Soil Moisture Sensor](#)

In this article, we are going to interface a Soil moisture sensor FC-28 with Arduino. This sensor measures the volumetric content of water inside the soil and gives us the moisture level as output. The sensor is equipped with both analog and digital output, so…… Listed under: [Sensor – Transducer – Detector Projects](#)

245. [Interface Arduino and Color Sensor – RGB Sensor TCS230](#)
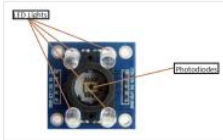
In this article, we are going to read the colors using the TCS230 color sensor (RGB Sensor) and Arduino Uno. The TCS 230 color sensor senses the color light by using the photodiodes. The sensor converts the readings from the photodiode into a square wave by…… Listed under: [Sensor – Transducer – Detector Projects](#)

246. [Pulse Sensor and Arduino – Interfacing](#)

In this article, we are going to interface a Pulse Sensor with Arduino. The pulse sensor we are going to use is a plug and play heart rate sensor. This sensor is quite easy to use and operate. Place your finger on top of the sensor…… Listed under: [Sensor – Transducer – Detector Projects](#)

247. [Interfacing Accelerometer to Arduino](#)
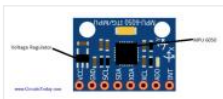
In this article, we are going to interface the GY-521 accelerometer with Arduino. The GY-521 has an InvenSense MPU6050 chip which contains a 3-axis accelerometer and a 3-axis gyro meter. This makes it a 6 DOF IMU (6 degrees of freedom inertial measurement unit). The chip…… Listed under: [Metering – Instrument Projects](#)

248. [Home Automation using Arduino and GSM Module](#)
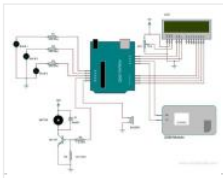
In this article, we are publishing a highly useful home application – GSM based home automation using Arduino. The project consists of a 16×2 LCD module for displaying the status of the home appliances. The status (turn ON or turn OFF) of the connected devices can…… Listed under: [Home Automation Projects](#)

249. [Robot using Arduino and Bluetooth Module (Obstacle Avoidance Robot)](#)
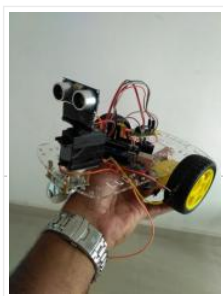
This project is designed to build a robot that automatically detects the obstacle on its path and guides itself whenever an obstacle comes ahead of it. This robotic vehicle is built, using Arduino UNO board. An ultrasonic sensor is used to detect any obstacle ahead…… Listed under: [Robotics – Automation Projects](#)

250. [Arduino Irrigation and Plant Watering using Soil Moisture Sensor](#)
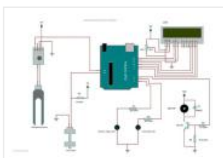
This project is about a moisture-sensing automatic plant watering system using Arduino UNO. The system reads the moisture content of the soil using soil moisture sensor and switches ON the motor when the moisture is below the set limit. When the moisture level rises above…… Listed under: [Sensor – Transducer – Detector Projects](#)

251. [IOT based Home automation and Security system](#)

IOT has become huge trend in the last couple of years. With growing needs in connected devices many companies have shifted the attention to iot market. Today we are going to share a simple project which we have built – IOT based home automation and…… Listed under: [Security – Safety Projects](#)
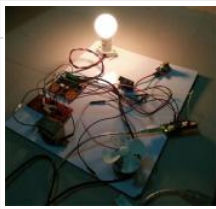
252. Arduino based voting system

Voting systems are one of the finest examples of Embedded devices and applications. The complexity and robustness of a voting system depends on the number of voters involved. Here you could see a simple Arduino based voting system that would be a great fit for…… Listed under: Security – Safety Projects

253. Arduino Weather machine
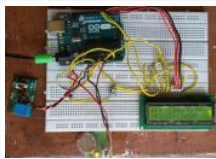
Arduino is a great hardware platform when comes to prototyping and building cool stuffs. Using this i have designed and developed a simple Arduino Weather machine which measures three important parameters Temperature, Light intensity and Humidity and predict the weather condition according to the measured…… Listed under: Other Projects

254. Bluetooth enabled Door locker using Arduino
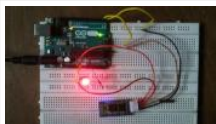
DIY Arduino based lockers can be found plenty in the internet where keypad was used to feed lock input. But this Bluetooth enabled Door locker uses Bluetooth as a medium to connect with the locker and your smart phone to feed input credentials. This locker…… Listed under: Security – Safety Projects

255. Remote controlled light effects using Arduino

Christmas is just around the corner and its time to start planning things to lighten up this festive season. Today you are about to see building of Remote controlled lights with adjustable lighting effects using Arduino. The coolest thing about this project is controlling the…… Listed under: Other Projects

256. Visitor counter project using Arduino
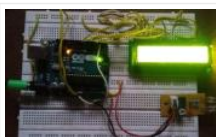
People or Visitor counters are pretty famous embedded application that was widely used in places like theaters, malls, Transport stations and so. High end counters uses sophisticated hardware to do the process of counting. Today we are about to see building of simple Visitor counter…… Listed under: Sensor – Transducer – Detector Projects

257. Reflex test for your brain using Arduino

Arduino based games and consoles are quite popular around the web. And this article is going to bring out the Design, working and code part of a simple Reflex test / trainer using Arduino Uno. Reflex tests are usually carried out to determine how quick…… Listed under: Other Projects

258. Stunning RGB light effects using Arduino Nano

None of us could deny the fact that we would love with to play with LED's and lighting stuffs. I love to play with LED's and create attractive lighting effects. This project was a result of such attempt where i created a stunning RGB light…… Listed under: Other Projects

259. Fun DIY project – piano using Arduino

Here is yet another application you can put your Arduino to use. This will be an interesting DIY to make even though you are not very much into music. Though you cannot expect music out of this but still it will be a fun project…… Listed under: Other Projects
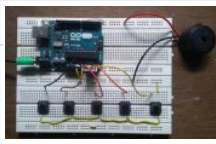
260. Keyless piano using Arduino uno
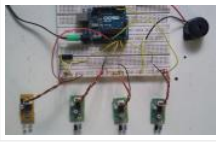
Keyless piano using Arduino is sort of sequel to the DIY fun piano i have published in this website. In this project i have eliminated the need of buttons involved to play the piano. Here i have used IR in place of buttons. Let's get...... Listed under: Other Projects

261. Project X – Smart home control using Arduino

Project X – Smart home control using Arduino is all about automating your home smartly. Imagine your home responding to external condition by altering itself and that's exactly what this project enables your home to do. Also this product features manual control just in case...... Listed under: Other Projects

262. Electronic Spinet – Musical instrument using Arduino

 Spinet it is a vintage musical instrument which has similar looks of a keyboard. It always get better when Technology touches the vintage stuffs. So we decided to build a simple Electronic Spinet using Arduino without using any keys. This project use of ultrasonic sensor...... Listed under: Other Projects

263. Garduino – Automatic plant watering system

During summers, most people are too lazy to water the potted plants every day and plants will eventually wither if people go out on vacation. Here is a simple Automatic plant watering system that can water plants in your absence. It is an Arduino based...... Listed under: Other Projects

264. Wireless notice board using Arduino and GSM
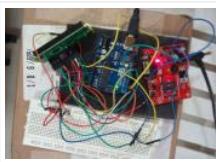
Everyone would have known the use of notice board around our daily life. Even it plays a vital role in public places like bus stops, railway station and hospitals. But with a great shift in technology we could revolutionize this kind of notice board by...... Listed under: Other Projects

265. Three level Ultra security system using Arduino

Today we are in a world where robbery has increased to a great extent. Hence there is a need to protect everything using a security system. Here is a small project on security system called ULTRA SECURITY SYSTEM which will be very useful. This system...... Listed under: Security – Safety Projects

266. Smart Vehicle using Arduino Uno
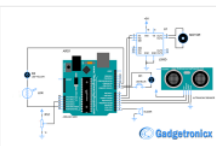
Everything around us is getting smart shoes, watches glasses. Even you might have come across news regarding smart vehicles in newspaper. Likewise we attempted to create a prototype of smart vehicle using Arduino. Let's get into the building part of our smart vehicle.   INPUT PERIFERALS:...... Listed under: Other Projects

267. Automatic Plant watering and Happiness monitoring system

The main motto of this project is to provide automatic water supply to plant when it feels thirsty. We intend to automate the watering of plants and deploy Arduino to do the job for us. This will take care of the water requirements of a...... Listed under: Other Projects

268. Voice controlled home automation using Arduino
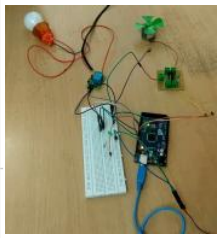
Ever thought of controlling your home using voice. If you are the one who fascinated it as I do, this project might help you do it for real. Voice powered products are already taking over the market and this voice controlled home project will enable...... Listed under: Home Automation Projects

269. IQ Alarm clock using Arduino for heavy sleepers

Raising from bed can be the most painful thing you could ever do. We often set alarms to wake up but ends up in snoozing it out or even kick the alarms away. To address this we have come up with an Arduino project "...... Listed under: Clock – Timer Projects

270. Gesture controlled car using Arduino

Who doesn't love playing with RC cars and Robots. Not only playing, engineers and enthusiasts like us love to build and experiment with these stuffs. Also its fair to say that RC's and Robots have became more than just toys, they already have started...... Listed under: Sensor – Transducer – Detector Projects

271. How to use position wheels with your Arduino

Hello everyone, em here today with an interesting tutorial on using position wheels using your favorite Arduino. The whole idea behind this article is to explain the logic behind position wheels, the way it works and how to implement it in your project. If you prefer...... Listed under: Other Projects

272. The Zambroombi: Roomba's Next Ultrasonic Competitor

 The Zambroombi is the next step up from your neighbor's fancy Roomba. Set it and forget it! "It changed my life. I don't know where I'd be today without it. I used to just have to clean everything once, but thanks to The Zambroombi, I...... Listed under: Other Projects

273. How to Make Arduino Based Collision Detection Warning System

This is arduino based collision detection warning system. This kind of system is fastest growing safety feature in automotive industries. Such system enables vehicles to identify the chances of collision and give visual and audio warning to driver. So that driver can take necessary action...... Listed under: LED Projects

274. Interfacing Arduino with DS1307 real time clock
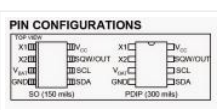
This topic shows how to interface Arduino with DS1307 real time clock to make a clock and calender. To understand the project and code easily you have to read the datasheet of the DS1307. DS1307 Pin assignment: The picture is taken from ds1307 datasheet and...... Listed under: Clock – Timer Projects

275. Arduino Real Time Clock Using DS1307

This topic shows how to interface Arduino with DS1307 real time clock to make a clock and calender. To understand the project and code easily you have to read the datasheet of the DS1307. DS1307 Pin assignment: The picture is taken from ds1307 datasheet and......
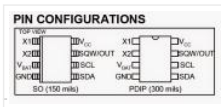
Listed under: [Clock – Timer Projects](#)

276. [Arduino 4-Digit 7-Segment LED Display](#)

7 Segment LED displays are used in many applications as front panel number indicators. The most common applications are calculators, microwave ovens, electronic lab equipment like function generators and frequency counters. A 7 segment LED display consists of 7 LEDs arranged in such a way...... Listed under: [LED Projects](#)

277. [Robot "Cheaper"](#)

The aim is to build cheapest possible Arduino-robot Step 1: Components Arduino UNO R3 x1 USB cable x1 Mini solderless breadboard x1 IR sensor x1 Continuous rotation servo x2 Battery holder x1 AA battery x4 Bunch of color wires Step 2: Getting Started With Arduino...... Listed under: [Robotics – Automation Projects](#)

278. [Make Your Own GPS Transmitter with the HC-12 Transceiver](#)
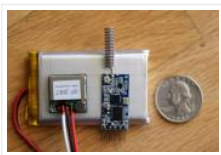
The first article in this two-part series, Understanding and Implementing the HC-12 Wireless Transceiver Module, uses the HC-12 to create long-distance data transmission between two Arduino Unos. This article uses a pair of HC-12 transceivers, a GPS module, an Arduino, and Google Maps to create...... Listed under: [GPS Based Projects](#)

279. [Flash Freeze Photography with an Arduino](#)
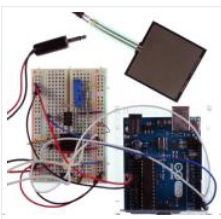
Freeze moments in time to easily produce extraordinary close-up pictures with your digital camera, an Arduino, and these simple circuits. I have always been impressed by high-speed photography. The photographic capture of what normally goes unseen, or at least unnoticed, is intriguing and oftentimes beautiful....... Listed under: [Game – Entertainment Projects](#)

280. [Create a Motion-Sensing Alarm with an Arduino and IR Sensors](#)

Infrared (IR) sensors are normally used to measure distances, but they can also be used to detect objects. By connecting a couple of IR sensors to an Arduino, you can make an intruder alarm. Overview Infrared (IR) sensors are normally used to estimate the distance of an...... Listed under: [Sensor – Transducer – Detector Projects](#)

281. [Controlling a Stepper Motor with an SIRC TV Remote and a PICAXE: Infrared Capabilities](#)

This is part one of a two-part project. For part one, we will focus on IR remotes and signaling, as well as IR reception and decoding. Using IR (InfraRed) radiation to control electronic devices is widely accepted and implemented. IR devices are routinely used in...... Listed under: [Other Projects](#)

282. [Quark D2000 I2C Interfacing Add a Color Sensor and Asynchronous Mode](#)

We finish up our project using I2C on the Quark D2000 development board with the addition of a color sensor and an object color identifier program. Finally, we revisit interfacing the BH1750FVI ambient light sensor using asynchronous mode I2C. Before continuing in this article, consider...... Listed under: [Sensor – Transducer – Detector Projects](#)

283. [Quark D2000 I2C Interfacing: Add a Light Sensor and an LCD](#)

Get acquainted with using I2C with the Quark D2000 development board by interfacing an ambient light sensor and an LCD. Previously, we presented a general overview of the Quark D2000 development board. Subsequently, we explored the use of the board's GPIO and

PWM. In this...... Listed under: [Sensor – Transducer – Detector Projects](#)

284. [The Santa Cam! An Arduino PIR Motion-Activated Camera System](#)

The Santa Cam is sure to catch who is stealing your milk and cookies this holiday season! You can even use it for a photo booth this New Year's Eve! BOM: Arduino Uno DSLR camera with remote shutter jack 2.5mm TRS cable Rectifier diode Milk...... Listed under: [Other Projects](#)

285. [Building a simple digital light meter using Arduino and BH1750FVI sensor](#)
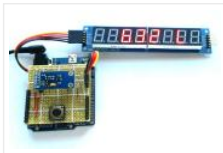
A light meter is a device that measures the intensity of light. It finds applications in schools, hospitals, production areas, passageways and more to measure and maintain proper lighting levels. It is often used by photographers to determine the proper exposure for a photograph. Today...... Listed under: [Sensor – Transducer – Detector Projects](#)

286. [MCP9802 temperature sensor and Arduino](#)

MCP9802 is a digital temperature sensor from Microchip that measures temperatures between -55°C and +125°C to a digital word. It provides an accuracy of ±1°C (maximum) from -10°C to +85°C. The MCP9802 sensor comes with user-programmable registers that provide flexibility for temperature sensing applications. The...... Listed under: [Sensor – Transducer – Detector Projects](#)

287. [Step-by-step guide for making a very simple temperature and humidity meter with 7-segment LED displays](#)
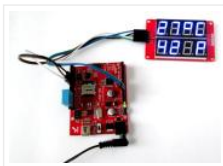
In this blog post, I am providing you step by step instructions to build a very simple temperature and relative humidity meter for indoor use. All you need to build this project are an Arduino Uno or compatible board, a DHT11 sensor, and a MAX7219...... Listed under: [LED Projects](#)

288. [High-voltage seven segment LED display driver with SPI interface](#)

Seven segment LED displays are known to be resource and power hungry. But because they are visually so charming and readable from a far viewing distance and at a much wider viewing angle as compared to any other electronic displays, they are still hugely popular....... Listed under: [LCD Projects](#)

289. [PC-based heart rate monitor using Arduino and Easy Pulse sensor](#)
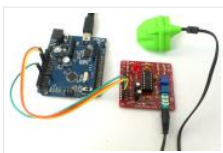
The heart rate, also referred to as pulse rate, has been recognized as a vital sign since the beginning of medicine, and it is directly related to a person's cadiovascular health. Today, we are going to make a PC-based heart rate monitor system using an...... Listed under: [Sensor – Transducer – Detector Projects](#)

290. [Arduino measures heart beat rate from fingertip](#)

The PIC16F628A based heart rate meter is one of the most popular projects published on Embedded Lab. In this article, I am going to show how to replicate the same project using a simpler platform like Arduino. The Arduino heart rate meter will use Arduino...... Listed under: [Medical – Health based Projects](#)

291. [Using BMP180 for temperature, pressure and altitude measurements](#)

The BMP180 is a new generation digital barometric pressure and temperature sensor from Bosch Sensortec. In this tutorial, we will briefly review this device and describe how to interface it with an Arduino Uno board for measuring the surrounding temperature and pressure. We will also discuss about...... Listed under: [Temperature Measurement Projects](#)

292. Arduino Crowtail and Easy Pulse Plugin

Arduino Crowtail is a modular and ready-to-use building block set from Elecrow for rapid prototyping with Arduino. It consists of a base Arduino Uno shield to which various sensor and I/O modules can be conveniently interfaced through standardized connectors. In this example, I am going to illustrate...... Listed under: Other Projects

293. Controlling relay switches with an infrared remote

The infrared (IR) communication technology, which existed long before WiFi and Bluetooth, is still a key component in implementing major components of a typical home automation system. For example, IR technology is still used in cordless headphones, for intrusion detection in home security systems, and in handheld...... Listed under: Other Projects

294. Serial seven segment LED display shield
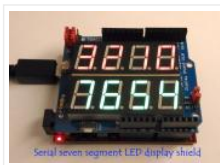
Seven segment LED displays are brighter, more attractive, and provide a far viewing distance as well as a wider viewing angle compared to LCD displays. This project describes a serial seven segment LED display shield for Arduino Uno or compatible boards. The shield consists of...... Listed under: LED Projects

295. Wireless Serial using nRF24L01
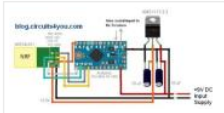
This project is very useful in many application where wireless reliable serial communication is required. It give bidirectional communication, You need to have same code in both arduino, no need of separate configuration for receiver or transmitter. It is more advantageous and cost saving than using Xbee,...... Listed under: Other Projects

296. GSM Based Home Security System With SMS Alert
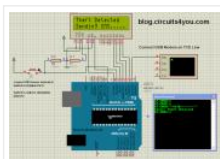
This project has GSM technology and anti-theft system using PIR motion detection. Whenever Motion is detected it sends the SMS on predefined mobile number. We have connected PIR Motion sensor with this project. GSM based home security system with SMS alert, it uses PIR Motion Sensor,...... Listed under: Home Automation Projects

297. pH sensor arduino

In this project, step by step tutorial we are discussing about how to interface pH sensor with Arduino. In chemistry, pH is the negative log of the activity of the hydrogen ion in an aqueous solution. Solutions with a pH less than 7 are said...... Listed under: Sensor – Transducer – Detector Projects

298. Low cost continuous pricision liquid level measurement using arduino
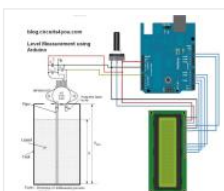
The purpose of this turorial is to demonstrate an innovative approach for low cost continuous liquid level monitoring based on MPX5010DP differential pressure sensor. Most of the traditional measuring systems were designed and implemented by complicated hardware circuitry. It made the product expensive, with low functionality...... Listed under: Other Projects

299. LCD interfacing with arduino

In this tutorial we'll be looking at how to connect interface parallel LCD to an Arduino. We are using 16 char x 2 Line LCD known as 16×2 LCD, you can usually identify this display by the 16-pin interface. You only need to solder 10 of...... Listed under: [LCD Projects](#)

300. [How to Make Your Own Arduino Clone Board](#)
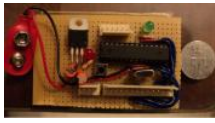
Want to save money by making your own Arduino clone boards? Or want to make a custom board specifically for your needs, then this project is for you! Make Arduino board from cheap electronic components available at your local store. Just follow these simple step...... Listed under: [Other Projects](#)

301. [Create an Android Controlled Robot Using the Arduino Platform](#)
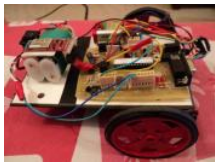
Ever wanted to make an Android controlled robot or car? Control your RC car with a smartphone? Or wanted a tutorial about connected devices and getting started with it? Now you can do that with this simple DIY hack that even provides you with a...... Listed under: [Robotics – Automation Projects](#)

302. [DIY Android Home Automation With Free Smartphone Application](#)

Ever wanted to make your home automated? Wanted to control the lights, fan, and other appliances from your smartphone? Or wanted a tutorial about connected devices and getting started with them? Our DIY Android Home Automation project will show you how to make your home...... Listed under: [Home Automation Projects](#)

303. [A Simple Guide to Using a Hall Effect Sensor With Arduino](#)

Have you ever wanted to make a project that involved contact-less sensing? For example: to detect a door closing, to count the number of revolutions of a wheel, or make a speedometer? Then this Arduino Hall Effect sensor tutorial is for you! This project uses...... Listed under: [Sensor – Transducer – Detector Projects](#)

304. [IMU Interfacing Tutorial Get started with Arduino and the MPU 6050 Sensor](#)
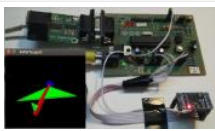
In this post, I will be reviewing a few basic IMU (Inertia Measurement Unit) sensors that are compatible Arduino. I will also give a short tutorial for interfacing an Arduino with the best IMU sensor available. IMU sensors like the MPU 6050 are used in...... Listed under: [Sensor – Transducer – Detector Projects](#)

305. [An Easy Way to Build an Arduino Powered Motion Sensor Alarm](#)

Have you ever wanted to build a project that had could detect the presence of a person in a room? If so, then you can do this very easily using the PIR (Passive Infra Red) Motion sensor. This Arduino motion sensor can detect the presence of a...... Listed under: [Sensor – Transducer – Detector Projects](#)

306. [DIY Music Keyboard: How to Make Sounds With Arduino](#)

Making cool things with an Arduino is something, but making musical instruments out of an Arduino is something else! So behold, here comes the Musical-duino, an Arduino keyboard. To see what this does, check out the demo video at the bottom of this page. They say...... Listed under: [Sound – Audio Projects](#)

307. [How to Make an Arduino Powered Lamp Dimmer](#)

Ever wondered how to bring an Arduino board into your daily life? We often adjust the display brightness of our mobile phones to suit to our need. With this project, you can do that for your bedside lamps or any other lighting at home. We...... Listed under: [Other Projects](#)

308. [How to Make Your First Robot Using Arduino](#)

One of the simplest projects you can make for your first time using an Arduino is an obstacle avoiding robot. If you are a beginner to Arduino and want to learn more about it, this Arduino robot tutorial will teach you the basics while you...... Listed under: [Robotics – Automation Projects](#)

309. [How to Shrink Your Arduino Projects: Making a Permanent Circuit Board](#)

When you make a project using Arduino, it usually contains a lot of jumper connections on the breadboard and the project will not be a permanent one. If you want to make any other project using that Arduino, you will have to remove all the connections made on it and to...... Listed under: [Other Projects](#)

310. [How to Make a POV Display Using LEDs and Arduino](#)

Here is a simple project using an Arduino and some LEDs. What we are going to learn here today is how to make a POV display or Persistence-Of-Vision display. It is made out of just 6$ worth of components. This tutorial gives will teach you...... Listed under: [LED Projects](#)

311. [How to Build an Arduino Speaker That Plays Music in Minutes](#)

The main thing which makes this project super simple is that this project requires only one extra component. If you are new to Arduino, this tutorial will help you get familiar with Arduino and learn the basics of Arduino programming. This musical project has a...... Listed under: [Other Projects](#)

312. [How to Make a 8bit Dot Matrix Display Using Arduino](#)

A simple project to display cool 8bit art and animation on your backpack! This is a quick and easy project you could finish off in minutes and show off to your friends. What it does is, when you move your backpack, a dot matrix display turns...... Listed under: [LED Projects](#)

313. [Interfacing: How to Make an Arduino Uno UltraSonic Range Finder!](#)

A range finder is a device used to find the distance from a point to the nearest obstacle. This device uses ultrasonic technology to measure the distance. You can consider it like an electronic, hassle-free version of a measuring tape with a measuring range of...... Listed under: [Other Projects](#)

314. How to Make an Audio Player with Speaker Using the Arduino Uno!
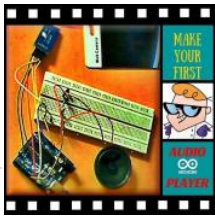
This Arduino project is a simple and fun project you can build in 10-15 minutes. The result of this make will be an Arduino audio player that plays ".wav" files. It consists of a speaker, a simple transistor acting as an amplifier, and a micro-SD card...... Listed under: Other Projects

315. Bluetooth Basics: How to Control an LED Using a SmartPhone and Arduino

Ever thought of controlling any of your electronic devices with your smart phone? How about a robot or any other device? Wouldn't it be cool to control them with your smartphone? Here is a simple tutorial for interfacing an Android Smartphone with Arduino via Bluetooth! Required...... Listed under: LED Projects

316. ESP8266 Tutorial: Programming the Onboard GPIO Pins

The ESP8266 is a great tool for enabling your project to access the internet. You can plug it into an Arduino easily as shown and allow your project to communicate through the internet. Or even more exciting, to control it from anywhere in the world!...... Listed under: Other Projects

317. Audio Amplifier Circuit on PCB Using LM386

In this project, we tend to area unit getting to create a Headphone/Audio electronic equipment by exploitation self-designed PCB. This project is especially designed for amplifying the audio signal from the headphones however we will additionally use it for amplifying the subwoofer or speaker output,...... Listed under: Sound – Audio Projects

318. How to Make a Water Level Indicator with Arduino 6 11
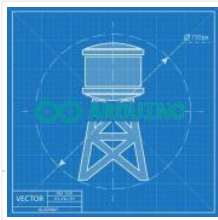
Knowing the amount of water in an overhead tank can be one tedious task. Usually, you'll end up climbing up the stairs to the tank and checking the level manually or you'll you hear the water overflowing from the top. But these days electronic water level indicators...... Listed under: Other Projects

319. How to make a Smart Cane for the Visually Impaired with Arduino

I wanted to make something for them to help the visually impaired become independent, so I created an open source Arduino project for a Smart Cane. This Arduino smart cane can assist with walking alone in new environments by taking inputs through an obstacle sensor...... Listed under: Other Projects

320. How to Make a Programmable Guitar Pedal With Arduino!
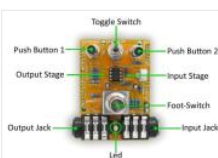
This DIY Guitar Pedal project is for guitarists, hackers, and programmers that want to learn about digital signal processing, effects, synthesizers, and experiment without deep knowledge of DSP, electronics, or hardcore programming. pedalSHIELD UNO is a lo-fi, programmable guitar pedal that works with the Arduino...... Listed under: Other Projects

321. [ESP8266 Tutorial: How to Control Anything From the Internet!](#)

In this ESP8266 tutorial, we are using an ESP-01 module to control an LED over the internet. The ESP8266 is a very cheap yet really effective platform for communicating over the internet. It is also easy to use with an Arduino. After going through this ESP8266 tutorial,…… Listed under: [Other Projects](#)

322. [DIY Arduino Tutorial: How to Automate a Lamp for Ceremonial Inaugurations](#)

"Knowledge removes ignorance, just as light removes darkness", as it is wisely said. In India, the ancient tradition of lighting oil lamps has a special significance. Almost all auspicious ceremonies are commenced by lighting a lamp. Hence came the idea to merge our traditional culture…… Listed under: [Other Projects](#)

323. [DIY Arduino Tutorial: How to Automate Your Curtains](#)
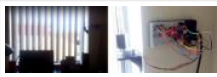
This Arduino Curtain Automation project will let you automate your curtain blinds using just an Arduino and a stepper motor. I just moved to America pursuing my higher studies. Because my dorm is very dark, I wanted to brighten up my room when I wanted…… Listed under: [Other Projects](#)

324. [Arduino Servo Catapult: DIY Catapult using Arduino](#)

Use an Arduino and a servo to shoot food to your cat! (Also works with other animals). Check out the video below to see how this Arduino Servo Catapult works. While maybe not the most practical application, this project will teach you the basics of servo motors…… Listed under: [Other Projects](#)

325. [DIY Soil Testing with Arduino and FC-28 Moisture Sensor](#)

In this article, we are going to interface an FC-28 Soil moisture sensor with an Arduino. This sensor measures the volumetric content of water in soil and gives us the moisture level. The sensor gives us both analog and digital output, so it can be used…… Listed under: [Sensor – Transducer – Detector Projects](#)

326. [Arduino Wheelchair Project: Motorized Controller Mount](#)

This was an Arduino wheelchair project we developed for Principles and Practices of Assistive Technology (PPAT) in Fall 2016 at MIT. We made an Arduino-based motorized wheelchair controller mount for our client, Lisa. She lives at the Boston Home, a center for people with progressive…… Listed under: [Motor Projects](#)

327. [LazyMax 1000: Arduino Phototransistor and Haptics Project](#)

The idea for this Arduino phototransistor project came to me based on an idea that was shared by one of my friends at the FabLab. He talked about how his lab only has stools for people to sit on. Being very uncomfortable, the person succumbs…… Listed under: [Other Projects](#)

328. [Arduino and Processing IDE Communication Tutorial](#)

In this tutorial, we will make the communication between the Arduino and Processing. We will make the communication in both the ways, from the Arduino to Processing and from Processing to the Arduino. We will change the color of the serial window in the

Processing...... Listed under:

329. [How to Make an Arduino Temperature Data Logger](#)
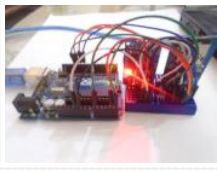
In this project, we are going to make an Arduino Temperature logger that will get the temperature value from the LM35 temperature sensor and the time from the DS3231 Real Time Clock module. Then we will store these values in the SD card file using...... Listed under:

330. [Revive Old Drive-In Speakers with a Modern LED Twist](#)

When I was a kid we went to the drive-in theater to see movies like The Legend of Boggy Creek and Evel Knievel. I loved those movies but I remember just as vividly those retro-cool metal speakers that entered into our car for these campy...... Listed under:

331. [Build a Simple Cocktail Drinkbot with Arduino](#)
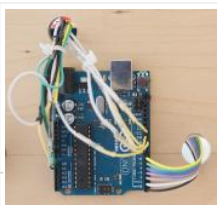
Big parties need a conversation piece, and what's better than a drink-making robot? Not only is it a good conversation starter, it also frees up the party host who would normally be the bartender. It turned out that the drink robot was a really good idea. The...... Listed under:

332. [A Simple Arduino LCD Min/Max Thermometer](#)

As a simple first Arduino experiment I interfaced a two line LCD (a Displaytech 162B) and an LM35DZ to make a simple Min/Max thermometer. Step 1 – Interfacing the Temperature Sensor This is really very simple. The LM35DZ has three pins, +5V, ground and a...... Listed under:

333. [Digital Door Lock using Arduino](#)

As thefts are increasing day by day security is becoming a major concern nowadays. In this project we will make a digital door lock system with keypad using Arduino Uno. It will open your door only when the right password is entered and it will start...... Listed under:

334. [Home Automation using Arduino and ESP8266 Module](#)

In this project we are going to make a home automation system using ESP8266 WiFi module and Arduino Uno. Using this we will be able to control lights, electric fan and other home appliances through a web browser using your PC or mobile. These AC...... Listed under:

335. [IoT Data Logger using Arduino and ESP8266](#)

Today we are going to make an IoT WiFi data logger using Arduino, ESP8266 WiFi module and DHT22 temperature humidity sensor. Arduino is reading temperature and humidity sensed by DHT22 and sending it to an internet server using the ESP8266 WiFi module. Here we are using ThingSpeak as...... Listed under:

336. [Arduino Weather Station Web Server](#)

In this tutorial we are going to make a weather station that will tell us temperature, humidity and heat index of a particular location. It will show these values in a web browser. You can monitor these data by entering the IP address in a mobile, computer or...... Listed under: [Sensor – Transducer – Detector Projects](#)

337. [Temperature Controlled Fan using Arduino](#)

Here we are going to make a temperature controlled DC fan. DHT22 sensor is used to sense the room temperature and then we adjust speed of a DC fan/motor accordingly using PWM (Pulse Width Modulation). Arduino Uno is the heart of this project and a L293D...... Listed under: [Other Projects](#)

338. [Simple Android Bluetooth Application with Arduino Example](#)
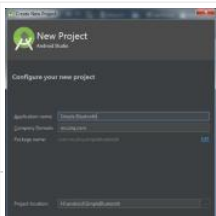
This article will detail how to make a simple bluetooth application using Android Studio and demo it using an Arduino to toggle an LED and send data back-and-forth. No prior knowledge of Android development is needed, however it will help to know some basics of...... Listed under: [Arduino Android](#)

339. [Arduino DC-DC Boost Converter Design Circuit with Control Loop](#)

This post will cover how to use an Arduino Uno to easily control a 10W+ boost converter. A discrete boost converter can be built by using just a few parts, namely an inductor, capacitor, diode, and a FET. Please see the Wikipedia page for how...... Listed under: [Other Projects](#)

340. [Arduino Line Tracking Robot Car](#)

This line tracking robot car was built base on the prototype mentioned in the previous knowledge item. You can find the details for the prototype: http://www.rs-online.com/designspark/electronics/eng/knowledge-item/arduino-line-tracking-robot-car-prototype Bills of Materials: PCB   Geared Motor OSRAM Opto Semiconductors Photodiode (RS stock number: 654-8902) Nichia LED (RS stock number: 713-3996)...... Listed under: [Robotics – Automation Projects](#)

341. [Johnny 6 is alive!](#)

Designing a custom plate for the Arduino Robot, adding jumbo LEDs and displaying readings from an ultrasonic distance sensor to the LCD. My previous post on the Arduino Robot described how I took the Runaway Robot sketch and modified it work with the PING ultrasonic...... Listed under: [LED Projects](#)

342. [The Evolution of a Light Theremin](#)

I started out a little over two years ago on work experience, before going on to become a trainee engineer, having decided that I would like to pursue a career in electronic engineering. At work I get to do a wide variety of things, such...... Listed under: [Other Projects](#)

343. [Developing your own Flowcode 7 controlled weather station](#)
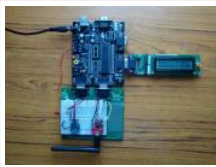
This project details a Flowcode and E-blocks based weather station capable of reading local temperature and humidity with 2 remote thermo-hygrometer sensors. The local board also incorporates a real time clock. This article has been contributed by Flowcode user John Crow. Flowcode can be downloaded...... Listed under: [Other Projects](#)

344. [Designing and building a coffee table](#)
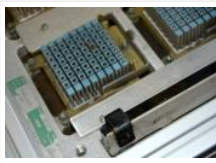
For a number of years, my colleague Andrew has had an old IBM mainframe CPU kept in storage, waiting to be transformed into something new. Hailing from a long-lost era of computing (the system in which this module was used was the 4381, first announced...... Listed under: [Other Projects](#)

345. [Old Sole](#)

ld Sole interrupts normal youthful days to force young people to interact with their environment in a different way. If the young shoe-wearer takes significantly more steps than the elderly individual with the walker, the shoes light up and vibrate uncomfortably, reminding the young person...... Listed under: [Other Projects](#)

346. [Flip](#)

Flip Intro There is something kind of magical about swimming when you are a child. Do you remember growing up and watching your shadow as you swam in the pool, trying to mimic a perfect dolphin kick and imagining you were a mermaid rather than...... Listed under: [Other Projects](#)

347. [Connected coffee machine](#)

Quite a lot of coffee is consumed at work but real statistics are missing. For the coffee machines with a can it can be interesting to have a visualization with coffee left in can, water in machine, time left until machine is finished, estimated time...... Listed under: [CNC Machines Projects](#)

348. [Wireless Motor Speed Control System with Arduino](#)

ICStation team introduce you the NRF24L01 Wireless Motor Speed Control System.This system works under DC 5V voltage. It uses the NRF24L01 Wireless Module to transmit speed control data and the Hall Sensor to detect the real rotate speed. This design uses the PWM duty cycle...... Listed under: [Motor Projects](#)

349. [Dish Shamer](#)

Project Description DishShamer solves the age-old problem of getting your roommates to wash their dishes. The kitchen is a communal space. When one individual fails to keep this shared environment clean, there can be two outcomes: conflict and socially awkward confrontations, or placing unfair cleaning burdens...... Listed under: [Other Projects](#)

350. [Chatty Coasters](#)

Chatty Coasters are interactive coasters that listen for silences and insert provocative conversation starters into them. Chatty Coasters are interactive drink holders that listen for silences in conversation and insert provocative questions into them. In order to encourage healthy, thought-provoking conversation in kitchens, Chatty Coaster waits...... Listed under: [Other Projects](#)

351. [A Smart Shop Window Experiment with Arduino](#)

Smart Shop Window A SmartLiving Experiment where using a QR code to control a light in a shop window. For this experiment we use a Grove LED (representing the shop's light) and a Smart phone to access the control switch. It's an ideal starter project...... Listed under: [LED Projects](#)

352. [Track and Control Your Car Remotely](#)

Actually, many of us may suffer or afraid from being his car stolen. In this project, I will try to help you to protect your cars and even control them remotely. Basically, you have to leave a mobile phone in your car and when the...... Listed under: [Car Projects](#)

353. [Build a smart "Clapper" with SmartThings and Arduino](#)

When my colleague @thegibertchan first set up his homemade "Clapper" in our office, I knew immediately that I had to learn how it was made. The way it works is simple. A small microphone listens to two claps (within four seconds of each other) and...... Listed under: [Other Projects](#)

354. [Arduino Phone](#)

Combining Arduino and other shield modules, we make a mobile phone named Arduino Phone. Meanwhile, we printed a shell for it with a 3D printer. Though not as fine as you think, even a little bit clunky, it is still very cool: that is the...... Listed under: [Phone Projects](#)

355. [DIY Temperature & Humidity & Smoke Detector Alarm System](#)

The working voltage of this system is DC5V. It can measure the current temperature, humidity and smoke. It can display real-time data by the 1602 LCD and can realize the sound and light alarm when in the dangerous temperature and humidity. It is a simply...... Listed under: [How To – DIY – Projects](#)

356. [Fast Counter](#)

Every once in a while there is a question in the Arduino forum on how fast you can toggle an IO pin. The answer to this question depends on your line of thinking / what you will allow as an answer. So here is my...... Listed under: [Clock – Timer Projects](#)

357. [Control a Parrot AR Drone with Linino](#)

Performing the control of the AR.Drone with the iOS or Android apps is really difficult. The controls are very unstable because the app virtual joystick hasn't a good sensitivity response. The idea was to use a real joystick instead of the Parrot application itself: So,...... Listed under: [Drone](#)

358. [Universal Remote Control](#)

The transmitter in the remote control handset sends out a stream of pulses of infrared light when the user presses a button on the handset. A transmitter is often a light emitting diode (LED) which is built into the pointing end of the remote control...... Listed under: [Other Projects](#)

359. [Arduino / Raspberry Pi Internet Radio](#)

This is a project for Arduino and Raspberry Pi to make an Internet Radio, aimed at intermediate skill level. Some familiarity with Linux usage will be beneficial (or access to someone who can help out if required). Raspberry Pi runs mpd music player daemon to...... Listed

under:
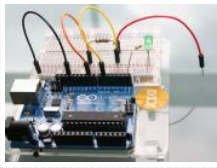
Bring Touch Control to the Arduino. Use interesting touch sensors like Carrots or Beets to make a "Beetbox". In this project you will learn: * How to use the Cap Sense library to make Arduino responsive to touch * How adding a Wave Shield (and…… Listed under:

Story Fascinated by this humorous anthropomorphic idea on instructables that left me philosophizing deeply about the essence of art, I decided to make this a project after witnessing many ruthless battles between human and robot on youtube.   How does it work? The Arduino "listens"…… Listed under:

If life has been too serious for you lately, this weekend project will take some of the stress out of your life and create a really neat toy in the process; a delight for a child or for those children who gather around your desk…… Listed under:

Description Urban Encounters is our imagination of the future of interactive surfaces within our 5x5x5 site. The crosswalk "island" we chose at the corner of Shattuck and Center in downtown Berkeley promotes an interesting combination of isolation, stuck-ness and loneliness. To bring out these themes into the physical world,…… Listed under:

Brainstorming Process After selecting Kroeber Fountain as our location of interest, we began to notice that it was a place at which people would congregate without interacting with one another. The fountain's shape – most notably, its tiered steps – affords it the ability to…… Listed under:

What are the paper instruments made of? Using Conductive Paint, we were able to create a paper piano & guitar that plays notes and changes graphics on a screen. Paper Piano Arduino Code Step by step – Paper Instrument Development Software needed Processing: https://processing.org/ Capacitive Arduino…… Listed under:

About this project Reasoning about time by printing onto the surface of a river Maybe you know situations when time's running up. In German there is a metaphor for that and translated it would be something like "time trickles away". Having this saying in mind…… Listed under:
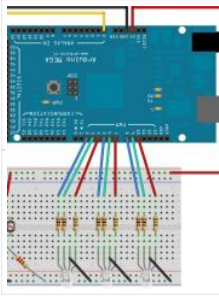
The principal behind ArduinoPi First a little clarification, the ArduinoPi isn't really a library or a command set or an out of the box controller, its more a proof of concept using already know programming languages. If you want to use it be ready for…… Listed under: [Other Projects](#)

368. [Cracking an electronic safe using brute force](#)

Preface There's nothing nefarious here, nor is the information contained herein particularly helpful to thieves or the dishonest. A thief would just cut the dang thing open and be done with it. The story So I bought a fire safe to protect some documents that…… Listed under: [Security – Safety Projects](#)

369. [Drawing with a Laser – Hack-a-Day Logo](#)
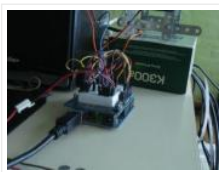
Reading Hack a Day I found an interesting challenge: drawing their logo somewhere. And the fact that was even more interesting: "preference will be given to the largest and smallest submissions". I started figuring out how to do something like that with the things I had around, and…… Listed under: [Other Projects](#)

370. [Arduino Astronomical Clock](#)

This product allows you to set separate turn-on and turn-off times and those repeat every day. The disadvantage of this product is that, as the seasons change, you need to constantly adjust the turn-on and turn-off times. As illustrated in Figure 1, the variation over…… Listed under: [Clock – Timer Projects](#)

371. [Bike Across the Country While in Your Basement](#)
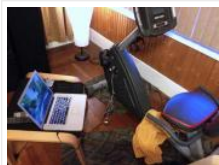
About this project This is a very simple and easy-to-build project that provides a sensor on the pedal crank of any exercise bike and generates keyboard output triggering Google Maps Street View to advance via the up arrow key. In my design, you pedal the crank five…… Listed under: [Car Projects](#)

372. [deCart](#)

Description deCart is an attachment to a shopping cart that uses social pressure to make the shopping a more productive, connected experience for society as a whole. List of Materials Although the entire premise of the project is simple, the implementation, however, is not and…… Listed under: [Other Projects](#)

373. [Arduino Weight Measurement using Load Cell and HX711 Module](#)

Today we are going to Measure the Weight by interfacing Load Cell and HX711 Weight Sensor with Arduino. We have seen weight machines at many shops, where machine displays the weight just by placing any item on the weighing platform. So here we are building…… Listed under: [Metering – Instrument Projects](#)

374. [Arduino Based Distance Measurement using Ultrasonic Sensor](#)

Ultrasonic sensors are great tools to measure distance without actual contact and used at several places like water level measurement, distance measurement etc. This is an efficient way to measure small distances precisely. In this project we have used an Ultrasonic Sensor to determine the distance of an obstacle from…… Listed under: [Sensor – Transducer – Detector Projects](#)

375. [LPG Leakage Detector using Arduino](#)

While LPG is an essential need of every household, its leakage could lead to a disaster. To alert on LPG leakage and prevent any mishappening there are various products to detect the leakage. Here we have developed an Arduino based LPG gas detector alarm. If gas…… Listed under: [Other Projects](#)

376. [Line Follower Robot using Arduino](#)
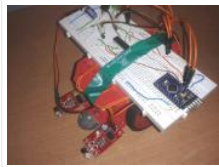
Line follower Robot is a machine which follows a line, either a black line or white line. Basically there are two types of line follower robots: one is black line follower which follows black line and second is white line follower which follows white line. Line…… Listed under: [Robotics – Automation Projects](#)

377. [Live Temperature and Humidity Monitoring over Internet using Arduino and ThingSpeak](#)

Humidity and Temperature are very common parameters for measuring at many places like farm, green house, medical, industries home and offices. We have already covered Humidity and Temperature Measurement using Arduino and displayed the data on LCD. In this IoT project we are going to…… Listed under: [Temperature Measurement Projects](#)

378. [Arduino Based Digital Thermometer](#)

Thermometers are useful apparatus being used since long time for temperature measurement. In this project we have made an Arduino based digital thermometer to display the current ambient temperature and temperature changes on a LCD unit in real time . It can be deployed in houses, offices, industries etc……. Listed under: [Metering – Instrument Projects](#)

379. [Frequency Counter using Arduino](#)
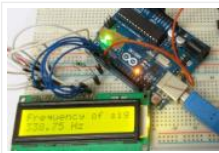
Almost every electronic hobbyist must have faced a scenario where he or she must measure the frequency of signal generated by a clock or a counter or a timer. We can use oscilloscope to do the job, but not all of us can afford an…… Listed under: [Calculator Projects](#)

380. [Interfacing Arduino with Raspberry Pi using Serial Communication](#)

Raspberry Pi and Arduino are the two most popular open source boards in Electronics Community. They are not only popular among Electronics Engineers but also among school students and hobbyists, because of their Easiness and Simplicity. Even some people just started liking Electronics because of Raspberry…… Listed under: [Other Projects](#)

381. [Interfacing TFT LCD with Arduino](#)

Today, we are going to Interface 2.4 inch TFT LCD Shield with Arduino. By using this color TFT LCD shield we can show characters, strings, blocks, images etc on the color TFT LCD. And we can use this TFT Shield in many applications like: Security…… Listed under: [LCD Projects](#)

382. [How to Send Data from Arduino to Webpage using WiFi](#)

Wireless communication between Electronic devices and modules is very important, to make them 'Fit' in the World of Internet of Things. HTTP protocol and HTML language have made it possible to transfer the Data anywhere in the world, over the web. We have already covered…… Listed under: [Other Projects](#)

383. [Controlling RGB LED using Arduino and Wi-Fi](#)

In last tutorial, we explained controlling a Robot using Wi-Fi and Arduino, and in this article we are with our next IOT Based Project- RGB LED Flasher using Wi-Fi. Here we have used Arduino and ESP8266 Wi-Fi Module to control the colors of RGB LED, through a Android…… Listed under: [LED Projects](#)

384. [Sending Email using Arduino and ESP8266 WiFi Module](#)

We are moving towards the World of Internet of Things (IoT). This technology plays a very important role in the Electronics and Embedded system. Sending an Email from any Microcontroller or Embedded system is very basic thing, which is required in IoT. So in this article,…… Listed under: [Other Projects](#)

385. [Wireless Notice Board using GSM and Arduino](#)

Wireless notice board is very selective term for this project, as it has a very wide scope rather than just being a simple notice board. First we should understand the purpose of this project, in this system we can display a message or notice to…… Listed under: [Other Projects](#)

386. [Pressure Sensor BMP180 Interfacing with Arduino Uno](#)
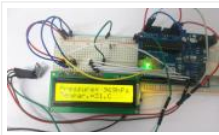
In this tutorial we are going to design a Barometric Pressure Measuring System using BMP180 and ARDUINO. First of all for interfacing BMP180 to ARDUINO, we need to download a library specifically designed for BMP180. This library is available at: https://github.com/adafruit/Adafruit-BMP085-Library After attaching that library, we…… Listed under: [Sensor – Transducer – Detector Projects](#)

387. [How to Use ADC in Arduino Uno?](#)
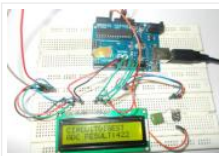
In this tutorial we are introducing concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. Arduino board has six ADC channels, as show in figure below. Among those any one or all of them can be used as inputs for analog voltage. The Arduino Uno…… Listed under: [Other Projects](#)

388. [Arduino-based Ultrasonic Radar System via IOT](#)

Abstract RADAR is an object-detection system which uses radio waves to determine the range, altitude, direction, or speed of objects. Radar systems come in a variety of sizes and have different performance specifications. Some radar systems are used for air-traffic control at airports, and others…… Listed under: [Medical – Health based Projects](#)

389. [Arduino 101 Curie iOS Pulse Sensor](#)

I want use the Genuino 101 by Intel and Arduino for a project that regards health, but I want to use all the characteristics of the Arduino 101. One of most important characteristics of this board, I think, is the BLE connection. Then I want…… Listed under: [Sensor – Transducer – Detector Projects](#)

390. [arduino bluetooth vehicle](#)

Before I even began to think about how my final chassis was going to look like I became obsessed with the idea of eliminating all of the useless space that plagued my previous designs. I wanted to reduced the car to its most essential components……. Listed under: [Car Projects](#)

391. [Control Door Lock Remotely Using Smartphone](#)

Introduction Hi, friends. I came to this idea of controlling a door latch/lock remotely using a smartphone when I saw many people many times forget to carry latch/lock keys when they leave the house for a short trip, or the door gets latched accidentally while…… Listed

under: [Security – Safety Projects](#)

392. [Quizmo](#)

This project is related to developing a handy gadget to help kids practice basic arithmetic operations. I decided to make it as my kids were very lazy to look into the books and come back very soon saying that they have done it (specially multiplication…… Listed under: [Calculator Projects](#)

393. [Plan your Holiday with Smart Power Planner](#)

Introduction Holiday times! It's the time we get a vacation to have fun and be relaxed. Everyone loves to make their holiday, an unforgettable one. But there will always be somethings that can bother you and spoil the holiday fun. As an example, while you…… Listed under: [Wireless Projects](#)

394. [Making of the Holiday Lantern](#)

Story I wanted to make a lantern that I can change its 'outfits' to different theme depending on the holiday seasons. So I make this lantern which I can change to paper covers and lighting of the lantern. A easy one would be just reuse…… Listed under: [Other Projects](#)

395. [Arduino HackHD Time-Lapse Dolly](#)

Story This project was inspired by someone else who made an Arduino time-lapse dolly (suprise surprise). However that project was published some years back and I have lost the link to it. Of course time-lapse is not that exciting anymore but 5 years ago it…… Listed under: [Clock – Timer Projects](#)

396. [IoT Controlled Snow Machine](#)

Story The most homemade snow machine you've ever seen. Made from a hairdryer, polystyrene and MKR1000. Controllable from anywhere in the world* *Must have internet connection Motivation I live in the middle of wet rainy England and my boyfriend lives in the south of Oregon,…… Listed under: [Other Projects](#)

397. [Grill & Deck-Door Monitor](#)

Story We use our barbecue grill and our deck frequently. After once leaving the grill on all night, I wanted an easy way to check to make sure the grill is off before going to bed. This is especially important since our grill is tapped…… Listed under: [Other Projects](#)

398. [Give Your BLEBot a New Name](#)
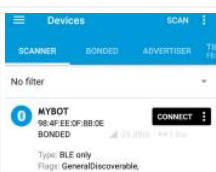
At the Hackster Hardware Meetup Seattle, we had a bunch of BLE Bot 9000 robots. The problem was that all of the bots exposed the same services and names, so you can't choose the robot you want to control. The solution to controlling your bot…… Listed under: [Other Projects](#)

399. [Tertiarm – 3d Printed Robot Arm](#)

This is first version of my low cost 3d printed robot arm. It is based on Ikea Tertial lamp. I choose it because it has very good kinematic with using springs to unload servos. So you can use different number of springs to achive diffrent…… Listed under: [Robotics –](#)

407. Amazon Kitchen DRS

The Project This project is a combination of the many smart fridges and pantry's of the past. The idea is to combine all of them while also introducing Amazon's DRS system through Alexa and the Echo products as a bonus feature. The process will be…… Listed under: Other Projects

408. Alarm Clock

Story After designing the "Clock Set Date Time" and hearing the suggestion of ArduPic , I thought it would be a good idea and also useful, add a "wake-up alarm." A small change to the code and adding a few components: Here's "the Alarm Clock"……. Listed under: Clock – Timer Projects

409. Digital Dice using Arduino
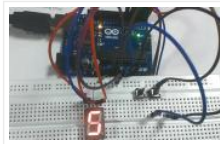
We all are familiar with dice and often played LUDO or SANP SIDI (Snake & Ladders) game by using dice. Dice is a squire type solid box which contains 6 different numbers on all of its sides. We throw dice on a surface to get…… Listed under: Other Projects

410. Automatic Door Opener using Arduino
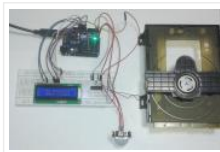
You must have seen automatic door openers in shopping malls and other commercial buildings. They open the door when someone comes near the entrance and close it after sometime. A number of technologies are available to make such kinds of systems like PIR sensors, Radar sensors, Laser…… Listed under: Other Projects

411. Computer Controlled Robot using Arduino
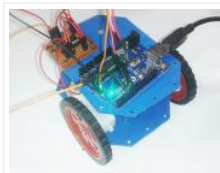
After designing this line follower robot using arduino uno, I have developed this computer controlled robot. It can be controlled via the computer and we can use specific keyboard keys to move it. It runs over serial communication which we have already discussed in our previous…… Listed under: Robotics – Automation Projects

412. DTMF Controlled Robot using Arduino

In present time almost all the people are familiar with robots. Robots play a very important role in human life. Robots are a machine which reduces the human efforts in heavy works in industries, building etc. and makes life easy. We are here with our next robot…… Listed under: Robotics – Automation Projects

413. DC Motor Control using Arduino
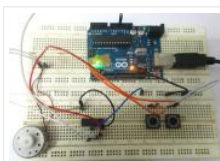
Here we are going to interface a DC motor to Arduino UNO and its speed is controlled. This is done by PWM (Pulse Width Modulation). This feature is enabled in UNO to get variable voltage over constant voltage. The method of PWM is explained here;…… Listed under: Motor Projects

414. Arduino Based LED Dimmer using PWM

This LED DIMMER is an Arduino Uno based PWM (Pulse Width Modulation) circuit developed to get variable voltage over constant voltage. The method of PWM is explained below. Before we get start building a 1 Watt LED Dimmer circuit, first consider a simple circuit
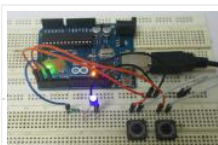
as shown in figure below. Now...... Listed under: [PWM Projects](#)

415. [How to Use Shift Register 74HC595 with Arduino Uno?](#)
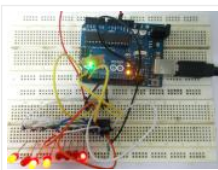
In ARDUINO we have 20 I/O pins, so we can program 20 pins of UNO to be used as either input or output. Although there are more pins on ATMEGA328P controller than on UNO, this is because while designing the board some pins are defaulted. Now...... Listed under: [Memory – Storage Projects](#)

416. [Temperature Controlled Fan using Arduino](#)

In this arduino based project, we are going to control DC fan speed according to the room temperature and show these parameter changes on a 16×2 LCD display. It is accomplished by the data communications between Arduino, LCD, DHT11 sensor Module and DC fan that is controlled by...... Listed under: [Temperature Measurement Projects](#)

417. [Interfacing 16×2 LCD with Arduino](#)
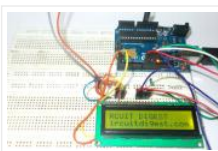
To establish a good communication between human world and machine world, display units play an important role. And so they are an important part of embedded systems. Display units – big or small, work on the same basic principle. Besides complex display units like graphic displays...... Listed under: [LCD Projects](#)

418. [7 Segment Display Interfacing with Arduino](#)
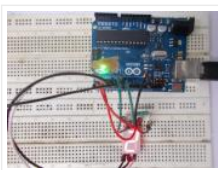
In this tutorial we are going to interface a seven segment display to ARDUINO UNO. The display counts from 0-9 and resets itself to zero. Before going further, let us first discuss about seven segment displays. A seven segment display got its name from the very...... Listed under: [LED Projects](#)

419. [Accelerometer Based Hand Gesture Controlled Robot using Arduino](#)

Robots are playing an important role in automation across all the sectors like construction, military, medical, manufacturing, etc. After making some basic robots like line follower robot, computer controlled robot, etc, we have developed this accelerometer based gesture controlled robot by using arduino uno. In this project...... Listed under: [Robotics – Automation Projects](#)

420. [How to Use ADC in Arduino Uno?](#)

In this tutorial we are introducing concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. Arduino board has six ADC channels, as show in figure below. Among those any one or all of them can be used as inputs for analog voltage. The Arduino Uno...... Listed under: [Other Projects](#)

421. [Humidity and Temperature Measurement using Arduino](#)

Humidity and temperature are common parameters to measure environmental conditions. In this Arduino based project we are going to measure ambient temperature and humidity and display it on a 16×2 LCD screen. A combined te mperature and himidity sensor DHT11 is used with Arduino uno...... Listed under: [Temperature Measurement Projects](#)

422. [Color Detector using Arduino Uno](#)

In this project we are going to interface TCS3200 color sensor with Arduino UNO. TCS3200 is a color sensor which can detect any number of colors with right programming. TCS3200 contains RGB (Red Green Blue) arrays. As shown in figure on microscopic level one
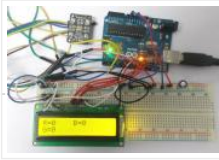
can see...... Listed under: [Other Projects](#)

423. [Automatic Room Light Controller with Bidirectional Visitor Counter](#)

Often we see visitor counters at stadium, mall, offices, class rooms etc. How they count the people and turn ON or OFF the light when nobody is inside? Today we are here with automatic room light controller project with bidirectional visitor counter by using Arduino Uno. It is very...... Listed under: [Home Automation Projects](#)

424. [Electronic Voting Machine using Arduino](#)

We all are quite familiar with voting machines, even we have covered few other electronic voting machine projects previously here and here using RFID and AVR microcontroller. In this project, we have used the arduino controller to create an electronic voting machine. Components Arduino Uno 16×2...... Listed under: [Other Projects](#)

425. [Arduino Based Heartbeat Monitor](#)
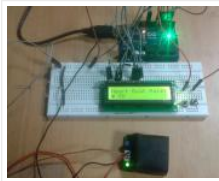
Heart rate, body temperature and blood pressure monitoring are very important parameters of human body. Doctors use various kind of medical apparatus like thermometer for checking fever or body temperature, BP monitor for blood pressure measurement and heart rate monitor for heart rate measurement. In...... Listed under: [Medical – Health based Projects](#)

426. [Arduino Based LED Chaser using Rotary Encoder](#)
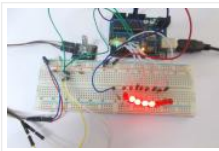
In this project we are going to interface a ROTARY ENCODER with ARDUINO. ARDUINO UNO is an ATMEGA controller based development board designed for electronic engineers and hobbyists. In ARDUINO we have 20 I/O pins, so we can program 20 pins of UNO to be...... Listed under: [LED Projects](#)

427. [Keypad Interfacing with Arduino Uno](#)
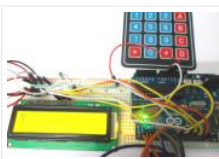
In this tutorial we are going to interface a 4×4 (16 key) keypad with ARDUINO UNO. We all know keypad is one of the most important input devices used in electronics engineering. Keypad is the easiest and the cheapest way to give commands or instructions to...... Listed under: [Other Projects](#)

428. [Servo Motor Control using MATLAB](#)

In this tutorial you will learn to make direct connection between your Arduino and Matlab, so that you can program your Arduino directly through Matlab. It is very useful when you are working on complex robotics like Robotic Hand, Humanoid etc. as you can process your...... Listed under: [PWM Projects](#)

429. [Magnetic Field Strength Measurement using Arduino](#)
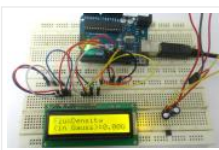
In this project we are using the concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. We are going to use a Hall Effect sensor and Arduino uno to measure the field strength of a magnet. The sensor which we have used here is UGN3503U. This...... Listed under: [Other Projects](#)

430. [RFID Interfacing with Arduino](#)

In this tutorial we are going to design a system to read the ID of RFID cards. RFID stands for Radio Frequency Identification. Each card has a unique ID embedded in it. These systems have many applications, like in offices, shopping malls and in many other...... Listed
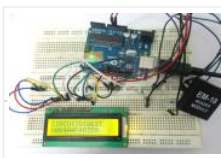
under: <u>Other Projects</u>

431. <u>Servo Motor Control using Arduino</u>
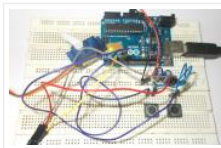
In this tutorial we are going to control a servo motor by ARDUINO UNO. Servo Motors are used where there is a need for accurate shaft movement or position. These are not proposed for high speed applications. These are proposed for low speed, medium torque…… Listed under: <u>Motor Projects</u>

432. <u>Automatic Water Level Indicator and Controller using Arduino</u>

In this Arduino based automatic water level indicator and controller project we are going to measure the water level by using ultrasonic sensors. Basic principal of ultrasonic distance measurement is based on ECHO. When sound waves are transmitted in environment then they return back to the origin as…… Listed under: <u>Other Projects</u>

433. <u>Working of Force Sensor with Arduino</u>
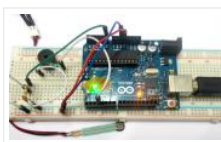
In this project we will be developing a fun circuit using Force sensor and Arduino Uno. This circuit generates sound linearly related to force applied on the sensor. For that we are going to interface FORCE sensor with Arduino Uno. In UNO, we are going use…… Listed under: <u>Sensor – Transducer – Detector Projects</u>

434. <u>8×8 LED Matrix using Arduino</u>

In this project we are going to design an 8×8 LED matrix display, for that we are going to interface an 8×8 LED matrix module with Arduino Uno. An 8×8 LED matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence…… Listed under: <u>LED Projects</u>

435. <u>RGB LED with Arduino</u>
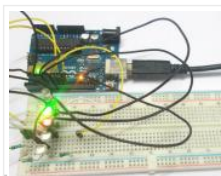
In this project we are going to interface 5 RGB (Red Green Blue) LEDs to Arduino Uno. These LEDs are connected in parallel for reducing PIN usage of Uno. The RGB LED will have four pins as shown in figure. PIN1: Color 1 negative terminal…… Listed under: <u>LED Projects</u>

436. <u>Servo Motor Control by Flex Sensor</u>

In this tutorial we are going to develop a circuit using FLEX sensor, Arduino Uno and a Servo motor. This project is a servo control system where the servo shaft position is determined by the flex or bent or deviation of the FLEX sensor. Lets first…… Listed under: <u>Motor Projects</u>, <u>Sensor – Transducer – Detector Projects</u>

437. <u>Variable Power Supply By Arduino Uno</u>
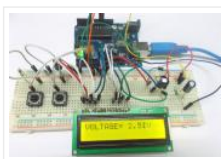
In this tutorial we will develop a 5V variable voltage source from Arduino Uno. For that we are going use ADC (Analog to Digital Conversion) and PWM (Pulse Width Modulation) feature. Some digital electronic modules like accelerometer work on voltage 3.3V and some work on…… Listed under: <u>Other Projects</u>

438. <u>PC Controlled Home Automation using Arduino</u>

This project explains designing a home automation system which is controlled by a computer to switch On and switch Off various electrical and electronics devices. For demonstration we have used 3 zero watt bulbs which indicates LIGHT, FAN and TV. It uses Arduino Uno board as a…… Listed under: <u>Home Automation Projects</u>

439. [Arduino Based Tone Generator](#)
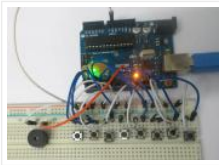
In this project we will develop a tone generator using Arduino Uno. We will have buttons interfaced with the UNO and each one of them generates different intensity of tone. The frequency of tone generated by the UNO is same at every internal. It's the intensity of the...... Listed under: [Other Projects](#)

440. [Snake Game on 8×8 Matrix using Arduino](#)

Snake Game has been very popular since the beginning of the Mobile phones. Initially it was come in Black and white cell phones, and soon became very famous. Then with the advancement of the Cellphones, this game has also changed a lot, and now many...... Listed under: [Game – Entertainment Projects](#)

441. [Digital Code Lock using Arduino](#)

Security is a major concern in our day to day life, and digital locks have became an important part of these security systems. One such digital code lock is imitated in this project using arduino board and a matrix keypad. Components Arduino Keypad Module Buzzer...... Listed under: [Other Projects](#)

442. [GSM Based Home Automation using Arduino](#)

Mobile phone is a revolutionary invention of the century. It was primarily designed for making and receiving calls & text messages, but it has become the whole world after the Smart phone comes into the picture. In this project we are building a home automation...... Listed under: [Home Automation Projects](#)

443. [Prepaid Energy Meter using GSM and Arduino](#)

Prepaid Electricity Energy Meter is a good concept in which you can recharge its balance, like we do in our mobile phones. In this project we are building a automated system by using Arduino and GSM module. You can recharge the electricity balance through this...... Listed under: [Metering – Instrument Projects](#)

444. [Clap Switch using Arduino](#)
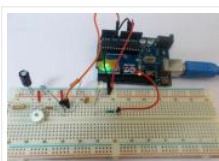
In this project we are going to make Clapper circuit using the concept of ADC (Analog to Digital Conversion) in ARDUINO UNO. We are going to use a MIC and Uno to sense the sound and trigger a response. This Clap ON Clap OFF switch basically turns...... Listed under: [Other Projects](#)

445. [IR Remote Controlled Home Automation using Arduino](#)
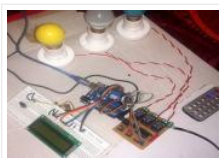
Previously we have covered many types of Home automations using different technologies like DTMF Based Home Automation, PC Controlled Home Automation using Arduino, Bluetooth Controlled Home Automation. In this project, we are using IR based wireless communication for controlling home appliances. In this project, Arduino...... Listed under: [Home Automation Projects](#)

446. [Bluetooth Controlled Toy Car using Arduino](#)

After developing few popular robotic projects like line follower robot, edge avoiding robot, DTMF robot, gesture controlled robot, etc. in this project we are going to develop a bluetooth controlled robo car. Here we used a Bluetooth module to control the car, and it is also...... Listed under: [Car Projects](#)

447. [Servo Position Control with Weight (Force Sensor)](#)
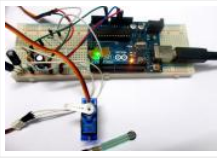
In this tutorial we will develop a circuit using Force sensor, Arduino Uno and a servo motor. It will be a servo control system where the servo shaft position is determined by the weight present on the force sensor. Before going any further let's talk…… Listed under: [Sensor – Transducer – Detector Projects](#)

448. [How to establish UART communication between ATmega8 and Arduino Uno?](#)

Here we are going to establish a communication between an ATmega8 microcontroller and Arduino Uno. The communication established here is UART (Universal Asynchronous Receiver Transmitter) type. It's serial communication. By this serial communication data can be shared between two controllers, which is a required in various embedded system…… Listed under: [Arduino Programmer Projects](#)

449. [WiFi Controlled Robot using Arduino](#)
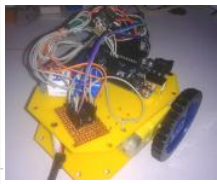
There are many types of Robots, from the simple ones like a Toy car to the advanced ones like industrial Robots. We have already covered many types of Robots using different technologies, have a look at them: Line Follower Robot using 8051 Microcontroller Line Follower…… Listed under: [Robotics – Automation Projects](#)

450. [Arduino Solar Day Night Controller](#)

Introduction This is an Arduino controlled light sensing switching unit. Its main use is to control solar lights to turn on when it is dark outside, but it can work in many more applications. This guide will walk you through every aspect of the building…… Listed under: [Solar energy projects](#)

451. [Capacitance Meter using Arduino](#)

When we come across circuit boards which are previously designed or we take out one from old TV or computer, in attempt to repair it. And sometimes we need to know the capacitance of particular capacitor in the board to eliminate the fault. Then we…… Listed under: [Metering – Instrument Projects](#)

452. [GUI Based Home Automation System using Arduino and MATLAB](#)

We all are familiar with the word 'Automation', where the human interaction is minimal and things can be controlled automatically or remotely. Home automation is very popular and demanding concept in the field of Electronics, and we are also making our best efforts to make…… Listed under: [Home Automation Projects](#)

453. [Arduino GPS Clock](#)

There are many GPS satellites around the Earth which are used to provide the exact location of any place. Along with the location coordinates (Latitude and Longitude), it also provide other data like time, date, altitude, direction tracking angle etc. We have already learned to…… Listed under: [Clock – Timer Projects](#), [GPS Based Projects](#)

454. [How to Use GPS with Arduino](#)

GPS is a very useful device which is used in many electronics projects and applications like vehicle tracking system, GPS Clock, Accident Detection Alert System, traffic navigation and surveillance system etc. But question is how to use the GPS and read the data from GPS? We can…… Listed under: [Other Projects](#)

455. [Arduino Propeller LED Display](#)

You have seen Propellers in Aircrafts or in marine ships, if not in real then in movies for sure. In this session we are going to design a Propeller Display with Arduino, LEDs and a DC motor. In this Propeller Display, text will appear to…… Listed under: [LED Projects](#)

456. DIY LED VU Meter as Arduino Shield

VU Meter or Volume Meter is very popular and fun project in Electronics. We can consider the Volume Meter as an Equalizer, which is present in the Music systems. In which we can see the dancing of LEDs according to the music, if music is loud then equalizer...... Listed under: How To – DIY – Projects, LED Projects

457. Call and Message using Arduino and GSM Module

Sometimes people find it difficult to use the GSM Module for its basic functions like calling, texting etc., specifically with the Microcontrollers. So here we are going to build a Simple Mobile Phone using Arduino, in which GSM Module is used to Make the Call,...... Listed under: Phone Projects

458. DIY Smart Vacuum Cleaning Robot using Arduino

Hi guys, are you a newbie to the world of Robotics or Electronic? OR Are you looking for a simple yet powerful project to make your friends and teachers impressed? Then this is the place. In this project we will use the power of Embedded...... Listed under: How To – DIY – Projects

459. Track A Vehicle on Google Maps using Arduino, ESP8266 & GPS

Vehicle Tracking System becomes very important now days, especially in case of stolen vehicles. If you have GPS system installed in your vehicle, you can track you Vehicle Location, and its helps police to track the Stolen Vehicles. Previously we have built similar project in...... Listed under: Other Projects

460. Make Your Own Homemade Arduino Board with ATmega328 Chip

Arduino is an open-source development platform for engineers and hobbyists to develop electronics projects in an easy way. It consists of both a physical programmable development board (based on AVR series of microcontrollers) and a piece of software or IDE which runs on your computer and used to write and upload...... Listed under: Home Automation Projects

461. Frequency Counter using Arduino
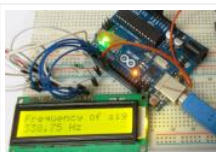
Almost every electronic hobbyist must have faced a scenario where he or she must measure the frequency of signal generated by a clock or a counter or a timer. We can use oscilloscope to do the job, but not all of us can afford an...... Listed under: Metering – Instrument Projects

462. Arduino Solar Tracker using LDR and Servo Motor
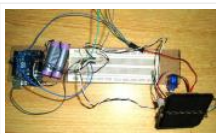
In this article we are going to make a Solar Panel Tracker using Arduino, in which we will use two LDRs (Light dependent resistor) to sense the light and a servo motor to automatically rotate the solar panel in the direction of the sun light....... Listed under: Solar energy projects

463. Smoke Detector using MQ2 Gas Sensor and Arduino

Smoke Detectors are very useful in detecting smoke or fire in buildings, and so are the important safety parameters. In this DIY session, we are going to build a Smoke Detector Circuit which not only sense the smoke in the air but also reads and displays the level...... Listed under: Sensor – Transducer – Detector Projects

464. [Heart Beat Monitoring over Internet using Arduino and ThingSpeak](#)
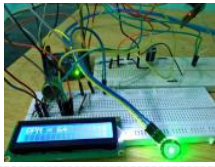
In this project we are going to make a Heart Beat Detection and Monitoring System using Arduino that will detect the heart beat using the Pulse Sensor and will show the readings in BPM (Beats Per Minute) on the LCD connected to it. It will...... Listed under: [Medical – Health based Projects](#)

465. [Using the Android Platform to control Robots](#)

The popularity of android devices is attributed to their powerful capabilities which include internet connectivity, open architecture, and several other kinds of built-in sensors. Students and other software developers are increasingly using the android platform since it utilizes Java programming language which can easily be...... Listed under: [Phone Projects](#), [Robotics – Automation Projects](#)

466. [Arduino based Automatic Plant Irrigation System with Message Alert](#)

Whenever we go out of town for few days, we always used to worry about our plants as they need water on regular basis. So here we are making Automatic Plant Irrigation System using Arduino, which automatically provides water to your plants and keep you updated...... Listed under: [Home Automation Projects](#)

467. [IOT based Air Pollution Monitoring System using Arduino](#)
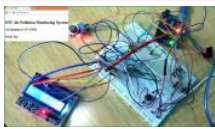
In this project we are going to make an IOT Based Air Pollution Monitoring System in which we will monitor the Air Quality over a webserver using internet and will trigger a alarm when the air quality goes down beyond a certain level, means when...... Listed under: [Sensor – Transducer – Detector Projects](#)

468. [Scrolling Text Display on 8×8 LED Matrix using Arduino](#)
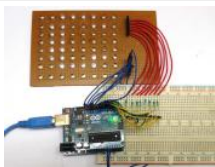
In this tutorial we are going to design an 8×8 LED Matrix Scrolling Display using Arduino Uno, which will show scrolling alphabets. 8×8 LED Matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence the name is LED...... Listed under: [LED Projects](#)

469. [IOT Based Dumpster Monitoring using Arduino & ESP8266](#)

In this DIY, we are going to make an IOT based dumpster/garbage Monitoring System which will tell us that whether the trash can is empty or full through the webserver and you can know the status of your 'Trash Can' or 'Dumpsters' from anywhere in the...... Listed under: [Other Projects](#)

470. [The Big Easy Stepper Motor Driver](#)

Stepper (or step) motors are really cool. They are perfect for automation or any time you need a motor to turn to a specific point, at a specific speed, in a specific direction. And, unlike typical motors, steppers are able to do all of this,...... Listed under: [Motor Projects](#)

471. [Sensing Humidity With The SHT15](#)

The SHT15 is a digital humidity sensor that outputs a fully calibrated humidity reading. And... because what we are measuring is actually relative humidity, and relative humidity being relative to temperature, the SHT15 has a builtin digital thermometer. This makes things much easier to work...... Listed under: [Sensor – Transducer – Detector Projects](#)

472. [MQ-3 Alcohol Sensor, Breakout Board + Arduino](#)

lot has happened since our last article was published and to celebrate the continuance of bildr we'll be playing with the MQ-3 Alcohol Gas Sensor. Coupled with the SparkFun Gas Sensor Breakout Board, connecting the MQ-3 to your Arduino is a breeze. The MQ-3 is...... Listed under: [Sensor – Transducer – Detector Projects](#)

473. [Arduino + MLX90614 IR Thermometer](#)

Being able to sense temperature is cool... But being able to read the temperature of an object without even touching it is simply awesome. The MLX90614 is a sensor that can do just that. By reading the infrared light coming off an object, this guy...... Listed under: [Temperature Measurement Projects](#)

474. [DIY 3X3X3 LED Cube with Arduino](#)
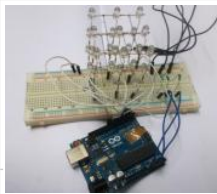
In this project we are going to design a 3x3x3 LED CUBE and connect it to Arduino UNO to get different patterns. For a beginner we will start with a simple pattern. A typical 3*3*3 LED cube connected to UNO is shown in the image above,...... Listed under: [How To – DIY – Projects](#)

475. [Art-duino](#)
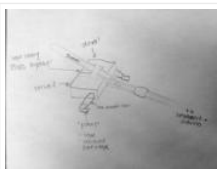
We built a mini-crawler robot that draws a path behind it to make interesting designs. We chose this design for a variety of reasons. First and foremost, we experimented with attaching our other materials to the motors, and most of them were too heavy for...... Listed under: [Other Projects](#)

476. [Mobile Phone Controlled Robot Car using G-Sensor and Arduino](#)
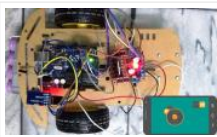
In this article, we are going to Control the Robot Car through the G sensor of our mobile phone and you will be able to move the Robot just by tilting the Phone. We will also use Arduino and RemoteXY app for this G-Sensor Controlled...... Listed under: [Car Projects](#)

477. [Interfacing MQ2 to Arduino- Gas Sensor for Smoke-Butane-CH4 and LPG](#)

In this article, we are going to learn how to interface MQ2 Gas Sensor with Arduino. MQ2 is basically a general purpose gas sensor (similar to MQ5) which can sense a broad range of gases like LPG, Butane, Methane(CH4), Hydrogen and in addition to these...... Listed under: [Sensor – Transducer – Detector Projects](#)

478. [Interfacing PIR Sensor to Arduino – Connect Motion Sensor/Detector to Arduino](#)

In this article, we are going to learn how to interface/connect PIR Sensor or Passive Infrared Sensor to Arduino. We have written a tutorial on how to interface PIR sensor to 8051 previously in CircuitsToday! So a PIR sensor which is also known as Pyroelectric...... Listed under: [Sensor – Transducer – Detector Projects](#)

479. [Arduino and 7 Segment Display – Interfacing Tutorial](#)

In this article, we are publishing a tutorial on how to interface seven segment LED display to Arduino. Seven segment displays are used in many embedded system and industrial applications where the range of outputs to be shown is known beforehand. Basic 1 digit seven segment...... Listed under: [LED Projects](#)

480. [LM35 and Arduino – Temperature Measurement and Display on LCD](#)

 In this article, we are presenting a tutorial on how to interface LM35 and Arduino along with its program. Once we successfully interface arduino and lm35, we will go on to build a temperature display using arduino and a 16×2 LCD module which constantly monitors…… Listed under: [LCD Projects](#), [Temperature Measurement Projects](#)

481. [Interfacing 8×8 LED Matrix with Arduino](#)

 LED matrix displays can be used to display almost anything. Most modern LED sign boards uses various types of matrix boards with controllers. In this tutorial we are going to interface a single color 8×8 LED matrix with Arduino and display a few characters in…… Listed under: [LED Projects](#)

482. [How to Make an LED Scrollbar](#)

 In this tutorial, we are going to build an LED Scroll Bar as shown in the image given below. The project is designed to flash Ten LED strips (by giving different lighting patterns for each strip) with the help of a control board. We…… Listed under: [LED Projects](#)

483. [Interfacing MQ5 LPG Sensor to Arduino](#)

 In this guide, we learn how to interface MQ5 Gas sensor (which is a generic Gas Sensor more suited to detect and determine LPG concentrations) with Arduino. In this tutorial, we are using the MQ5 Gas sensor module (which is widely available in market) ……. Listed under: [Sensor – Transducer – Detector Projects](#)

484. [Tachometer using arduino](#)

 Tachometer is a device used for measuring the number of revolutions of an object in a given interval of time. Usually it is expressed in revolutions per minute or RPM. Earlier tachometers purely mechanical where the revolution is transferred to the tachometer through mechanical coupling…… Listed under: [Other Projects](#)

485. [Programming an ATtiny w/ Arduino 1.6 (or 1.0)](#)

 This tutorial shows you how to program an ATtiny45, ATtiny85, ATtiny44 or ATtiny84 microcontroller using the Arduino software. These are small, cheap ($2-3) microcontrollers that are convenient for running simple programs. The ATtiny45 and ATtiny85 have eight legs and are almost identical, except that the…… Listed under: [Other Projects](#)

486. [Temperature logger using arduino](#)
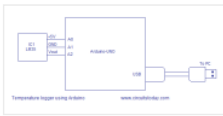
Simple temperature logger using arduino (°C & °F). This project is about a simple USB temperature logging system using arduino uno and the serial monitor function in the arduino IDE. The system monitors the temperature every 2 seconds and shows it on the arduino serial monitor....... Listed under: [Temperature Measurement Projects](#)

487. [Open source EEG/ECG/EMG](#)

Introduction Electrodes on the skin can be used to measure muscle (electromyography, EMG) brain (electroencephalography, EEG) and heart (electrocardiogram, ECG/EKG) activity. These electrophysiological measures are popular for clinical, research and hobbyist applications (such as brain computer interfaces). Most commercial systems are "medical grade" – these...... Listed under: [Medical – Health based Projects](#)

488. [Gas Leakage Detector using Arduino and GSM Module with SMS Alert and Sound Alarm](#)
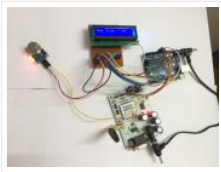
We have published lots of interesting arduino projects like GSM based Fire Alarm System , Line Following Robot, RFID Based Access Control System and many other useful projects. This time, we are publishing a highly useful home application – Gas Leakage Detector using Arduino and...... Listed under: [Sensor – Transducer – Detector Projects](#)

489. [Arduino and Python](#)
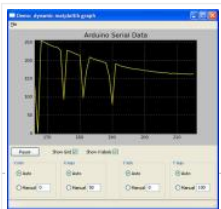
Talking to Arduino over a serial interface is pretty trivial in Python. On Unix-like systems you can read and write to the serial device as if it were a file, but there is also a wrapper library called pySerial that works well across all operating...... Listed under: [Other Projects](#)

490. [Calibration](#)

This example demonstrates one techinque for calibrating sensor input. The board takes sensor readings for five seconds during the startup, and tracks the highest and lowest values it gets. These sensor readings during the first five seconds of the sketch execution define the minimum and...... Listed under: [Sensor – Transducer – Detector Projects](#)

491. [Arduino Resistance Data Logger](#)
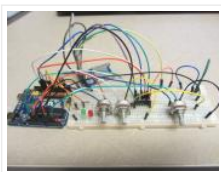
I was working on a project were I needed a cheap and efficient way to log the changing resistance of a sensor while simultaneously logging the temperature. This project is similar in many respects to the other data loggers on my site. Three prototypes have...... Listed under: [Memory – Storage Projects](#)

492. [DS1631 – Arduino Code and Temperature Validation](#)
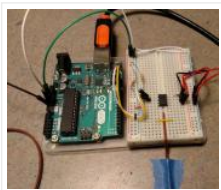
Basic information The DS1631 is a low cost, I2C interface digital thermometer popular in the maker community. Capable of providing 12-bit temperature readings over a -55°C to +125°C range. I have need for a digital thermometer in many of my projects and thought it would...... Listed under: [Temperature Measurement Projects](#)

493. [Live Action MATLAB – Arduino data logger.](#)

Background I was in need of an affordable data logger for a project. I have access to MATLAB on all of my machines so it was an easy choice to build an Arduino based data logger that would easily interface with MATLAB R2014a. MATLAB is...... Listed under: [Memory – Storage Projects](#)

494. Dented Joystick

Goals: The project goals are: Adjustable number of detents Adjustable foce threshold Software controlled damping Implementation: A brief overview: The team's design utilizes several components: Arduino Leonardo Firgelli L16-50-35-12-P actuators (2x) FSRs (4x) TI L293D H bridge MSU Eagle custom PCB print ...... Listed under: Medical – Health based Projects

495. Staircase Meets Piano
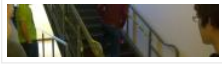
In November 2014, we displayed our first completed project as a club, the Staircase Piano. The idea for the project was given to us by Professor Barry Brown before the club was even formed. Throughout the semester we worked towards putting the piano together for...... Listed under: Arduino Programmer Projects

496. LTD SMRT Project (Safe Monitored Rider Transit)
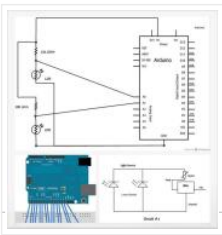
The proposed new LTD public transportation system uses people counters on the bus system to get an accurate measure of rider tendencies across different routes at specific times. Each bus will be equipped with two sensors which will generate numeric data no larger than 4...... Listed under: Development Board – Kits Projects

497. Nodemcu arduino interfacing project
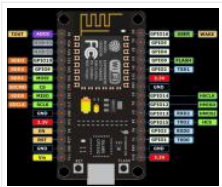
A guide to getting started with the ESP8266 with the Arduino IDE This assumes that yo have a NodeMCU type board with the Silicon Labs CP2102 USB to UART Bridge. These boards are convenient because they can be connected directly to your computer for progamming...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

498. Using an Arduino as a Latching Relay
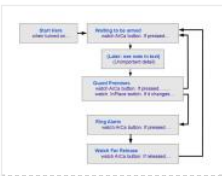
I wrote this one hot week in July 2010. I've been leaving my front door ajar, to get some air through the house. Probably not a very good idea. So I thought I'd hook up an Arduino to ensure that no one takes advantage of...... Listed under: LED Projects

499. Arduino-based Graphical Heart Rate Monitor

Introduction: Like many out there, I enjoy a good exercise session, whether it be indoors or outdoors. As part of that I purchased a Polar branded heart rate monitor, which came with a "Wearlink" chest strap and RS300Xsd receiver watch. The watch is able to...... Listed under: Medical – Health based Projects

500. High-Power Control: Arduino + TIP120 Transistor

Up until now, we have talked about working with a lot of low-power devices. Sensors, LEDs, ICs, and the like are all capable of being powered directly from your Arduino, but as many awesome 5 and 3.3v components as there are, eventually you will find...... Listed under: Sensor – Transducer – Detector Projects

501. SunAir Solar Power Controller for Raspberry Pi and Arduino

Ever wanted to build your own Solar Powered Raspberry Pi or Arduino system? SunAir and SunAirPlus are 3rd Generation Solar Charging and Sun Tracking Boards designed by Dr. John C. Shovic at SwitchDoc Labs. You can use this board to power your projects and add...... Listed under: Solar energy projects
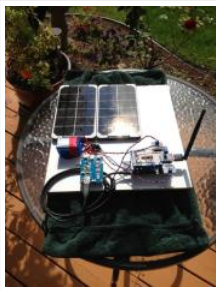
502. [Using Arduino and Pd for musical live performance](#)
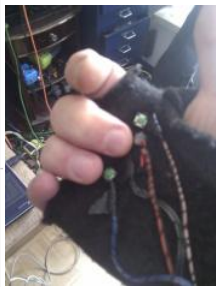
Connecting an Arduino microcontroller to Pd is no big problem: You can just put Firmata on your Arduino and use the Pduino library for communication on the Pd side. But sometimes Firmata is not the answer to every problem: You may want to turn on...... Listed under: [Sound – Audio Projects](#)

503. [Lab 8: Shift Register and Binary](#)
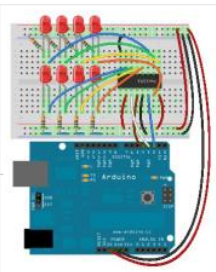
Topics: First Build The Circuit The Code Hardware Theory Overview-"Rollover Rollover" What is a Shift Register How the Arduino Controls the Shift Register Software Theory The shiftOut Function Binary Numbers Other Functions in the Code Exercise References 1. First Build It would be a really...... Listed under: [LED Projects](#)

504. [Knock Detector](#)

Introduction For the third assignment, we decided to make a 'knock-detector' that is capable of informing the user/owner of specific events. We designed our system such that it can detect both casual knocks and knock patterns. Casual knocks could be used to inform the owner/user...... Listed under: [Sensor – Transducer – Detector Projects](#)

505. [Arduino Yun SBC adds Wifi and Linux to Leonardo features](#)

[Updated Sep 30] — Arduino announced the first open source Arduino hacker board with built-in WiFi, and also the first to run Linux. The $69 Arduino Yun integrates the functions of an Arduino Leonardo, featuring an Atmel ATmega32U4 microcontroller and 14 GPIO pins, with an...... Listed under: [Wifi – WLan Projects](#)

506. [Internet Datalogging With Arduino and XBee WiFi](#)

Introduction Are you looking to get your data gathering project hooked into the "Internet-of-Things"? Then check out data.sparkfun.com! It makes posting data to the web as easy as constructing a URL and POSTing it to a server. I wanted to create a quick project to...... Listed under: [Wifi – WLan Projects](#)

507. [Tutorial 18: Two Wire Arduino Knight Rider](#)

This tutorial shows how to interface eight LEDs to an Arduino using only two Arduino pins. This is made possible by using a PCF8574 I/O expander IC. A "Knight Rider" display is shown on the LEDs. Prerequisites Complete tutorial 4 – Arduino Knight Rider. Be...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

508. [Weather Monitor](#)

This Instructable shows you how to build a micro-controller based weather monitoring device. Built on the Arduino Uno board it can easily be extended and modified should you have additional sensors at hand. Main requirements: – Measure temperature (accuracy +/- 0,5 degree Kelvin) – Measure...... Listed under: [Home Automation Projects](), [Metering – Instrument Projects](), [Sensor – Transducer – Detector Projects](), [Temperature Measurement Projects]()

509. [Tutorial 15: Arduino Serial Thermometer]()
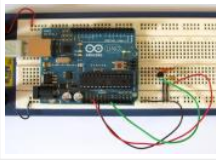
The Arduino reads temperature from a MCP9700 temperature sensor IC and displays the temperature in the Arduino IDE serial monitor window. Also see the Arduino LCD thermometer tutorial (tutorial 14). Prerequisites Complete Tutorial 9: Using the Arduino Serial Port before attempting this tutorial. Components Besides...... Listed under: [Sensor – Transducer – Detector Projects]()

510. [Speech Controlled Quadropod]()

This is my first post on Instructables and I am super excited to share my knowledge! My original robot post is here: Spryo SpoonTail which is just my robot showing some tricks but with a tethered control. In this Instructable I am going to show...... Listed under: [Bluetooth Projects](), [Robotics – Automation Projects]()

511. [DIY Low Cost Arduino Mobile Development Platform]()

I have wanted to build my own robot for awhile now. But after many tried and failed attempts, I was losing hope that may ever happen. I discovered that there wasn't a small, robust, super easy to add-on to, robot that was within my budget to...... Listed under: [Development Board – Kits Projects](), [How To – DIY – Projects](), [Phone Projects]()

512. [APR9600 Voice Recording and Playback System with JRC286D Chip ICStation Mega 2560 Compatible Arduino]()

ICStation team introduce you this APR9600 voice recording and playback system used in elevator based on the ICStation Mega2560 compatible with Arduino. It uses DC5V voltage to work. When you press the different keys, the loudspeaker will sound that which floor you arrive. This design...... Listed under: [Sound – Audio Projects]()

513. [Making the TFF: a dress that gets excited when tweeted]()

The idea of this dress comes from a series of tweets with online friends @shineslike and @arduinogirl. @shineslike and I had taken a half day Arduino workshop given by @arduinogirl at the MCN 2011 conference. I was immediately inspired creatively by the sensory and interactive opportunities....... Listed under: [Game – Entertainment Projects](), [Home Automation Projects](), [Internet – Ethernet – LAN Project Ideas](), [Sound – Audio Projects]()

514. [Ultrasonic Dimmer]()

I have been working on this project for a while and whilst it is still under development I decided to write a short guide after several requests to do so. The dimmer uses an interrupt driven XL-Maxsonar EZ1 ultrasound range finder to measure the distance...... Listed under: [Sensor – Transducer – Detector Projects]()

515. [Control Two LEDS with an Arduino and bitVoicer]()

So what I want to do here is do several things with two LEDs with speech recognition I'm using bitvoicer you can get it here Step 1: Part List So I'm doing this with as little parts as I can, here's the list: Green LED...... Listed under: [LED Projects]()

516. How-to Guide

In this section we will explain exactly how you can create your own Amblone setup, consisting of 3 RGB LED strips and an Arduino Mega. What do I need? To create the Amblone setup described in this guide, you will need the following: Amblone software…… Listed under: LED Projects

517. Talking Pumpkin

So my boss came to me one last week and said he wanted to scare the trick-or-treaters who came to his home, and the kids who would come to work during a special Halloween Walk the community does. Thus was born the talking pumpkin. In…… Listed under: Game – Entertainment Projects, Home Automation Projects, PWM Projects, Sensor – Transducer – Detector Projects, Sound – Audio Projects

518. Basics of Turning your Remote Controll Vehicle into an Autonomous System (Drone) Using an Arduino

I began this project with the objective of cheaply turning my RC helicopter into something of a UAV or at least to fit some sensors to reduce collisions and other "mis-haps." Now unfortunately at the beginning of the project i miscalculated my little helicopter's lift…… Listed under: Wireless Projects

519. Super Amazing Button using Arduino

Hello Everyone. This is my very first Instructable so please go easy on me. This was more or less a test project to see if my new arduino board worked. Any friendly advice will be greatly appreciated so my future posts can be even better……. Listed under: Game – Entertainment Projects, Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

520. Connect A 16×2 LCD Display To An Arduino

Welcome to my FIRST instructable, i will show you how to connect a 16×2 lcd display to an arduino, follow these simple step by step instructions and you will have it done in no time ☺ Tools Needed : Soldering Iron Wire Strippers Pliers…… Listed under: LCD Projects, Projects

521. How to tweet from an Arduino using the wifi sheild

Hey, I am a big fan of Instructables. I have consistently used it for the past 3 years and now its time for me to write one myself.Here we go. This instructable is for those who want to make some inanimate object tweet automatically. Like say for…… Listed under: Wireless Projects

522. Webserver for home appliances control

This instructable describes how a simple but powerful webserver used for controlling of home appliances can be done. The hart of the circuit is the ATmega328 microcontroller. I have chosen this because I wanted to use all available Arduino libraries compatible with them. The Ethernet…… Listed under: Home Automation Projects

523. Learning Arduino basics the easy way – Part 01 "Blink" or "The Internet"

You've bought your first Arduino or you're planning to get this great little device? Obi Wan would say: "That's good. You have taken your first step into a larger world." Same thing for me! Congratulations! You'll see, as soon as you master the basics, you'll…… Listed under: Internet – Ethernet – LAN Projects

524. [Datura 6 home automation – 2015 improvements](#)

News: In this latest months I've made some important fixes and improvements to the code and to the webserver of the project. See datura_mega_v19.ino for the latest code. The most functional project over internet – Use it as a complete irrigation system for your garden,...... Listed under: [Home Automation Projects](#)

525. [Analog Read Voltage using Arduino](#)
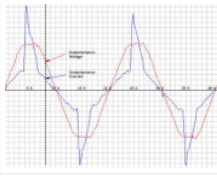
This example shows you how to read an analog input on Pin 0, convert the values from analogRead() into voltage, and print it out to the serial monitor. Circuit: image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the three wires from...... Listed under: [Metering – Instrument Projects](#), [PWM Projects](#)

526. [Firefighting Robot](#)

For my project I created a robot with an attached water cannon. My mentor and I built it in a budget of around $300 (not including the necessary equipment), and it functions quite well. For the motors we used drill motors, powered by the 18...... Listed under: [Robotics – Automation Projects](#)

527. [An animation inside a water drop by Physalia](#)

2000 pictures compose this piece- that is, 2000 perfect different water drops into which we mapped an animation. Droplets that behave and look strangely similar at the stage of less entropy, and become more disorderly as they splash. The final result of the piece you...... Listed under: [Video – Camera – Imaging Projects](#)

528. [Arduino Alphabet](#)
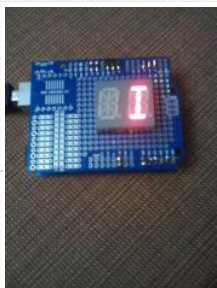
This project is very interesting because it shows the sequence of all letters of our English alphabet. That is, the project generates capital letters from the A to the Z based on Arduino code and showed by an alphanumeric display. I'm using a common cathode...... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)

529. [Arduino based Tic Tac Toe with TV Remote](#)

This was my first time attending the Internet of Things Pune Group. It was such a fun learning experience! At today's meetup, Dhiraj and Nishant started out by introducing the InduinoX and Arduino Uno boards along with the Processing IDE that is used to write...... Listed under: [Wireless Projects](#)

530. [RaspiDuinoRover – (Yet another) iPhone driven moving Raspberry Pi and Arduino rover](#)
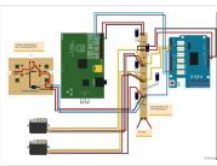
Architecture RaspiDuinoRover is made of three main parts: A Raspberry Pi which receives commands from a remote device through a TCP connection, and sends these commands to an Arduino Uno through an I2C connection. The same TCP channel is used to send back the remote...... Listed under: [Wireless Projects](#)

531. [Hear your plant make music! – Ethernet version](#)

This walk-through will show you how to build a sensor to monitor your plant's environment and use Stats in Sound's ERC-20 app to turn this data into music, allowing you to listen to your plant's reaction to it's environment. For more information on this project,...... Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)

532. [Autonomous drone that you already have in your pocket!](#)

In this tutorial i want to learn you something, maybe change your mind. And make autonomous drones available for everyone. Simple question is: What do you need to make your drone autonomous? . Answer: – GPS – Accelerometer – Gyroscope – Telemetry wireless system -…… Listed under: [Phone Projects](#)

533. [TiltKey- Write by Tilting](#)

The TiltKey is a keyboard input device based on tilting. Based on the angle that it is tilted at, and the direction it is tilted in, you can write every letter of the alphabet, every number, and every symbol found on a standard US keyboard……. Listed under: [Sensor – Transducer – Detector Projects](#)

534. [Gesture controlled robot using Arduino](#)
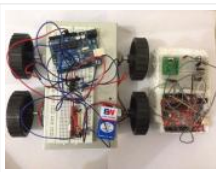
This gesture controlled robot uses Arduino,ADXL335 accelerometer and RF transmitter-receiver pair. We will divide the entire robot into 3 parts the transmitter,the receiver and the robot. The different gestures that have been mapped to the direction of the bot are- Hand parallel to the ground-stationary…… Listed under: [Robotics – Automation Projects](#)

535. [Fading an LED off and on using Arduino](#)
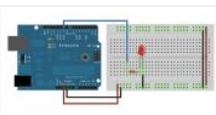
Demonstrates the use of the analogWrite() function in fading an LED off and on. AnalogWrite uses pulse width modulation (PWM), turning a digital pin on and off very quickly, to create a fading effect. Circuit Connect the anode (the longer, positive leg) of your LED to digital output pin 9 on your…… Listed under: [LED Projects](#), [Projects](#)

536. [Computer controlled RC car with two Arduinos](#)

Required Parts: This project requires two Arduino boards which can be bought from http://www.adafruit.com/category/17 This project uses two Arduino Uno compatible boards. An L293D or other Dual H-Bridge Motor Driver chip will be needed to drive the motors of the RC car. This can be…… Listed under: [Game – Entertainment Projects](#)

537. [RC MOOD LYTE](#)

RC MOOD LYTE is a commercial quality flameless light engine for heavy, everyday use in the home, restaurant, catering and hospitality industry ,a great improvement over the traditional wax candles in terms of safety and reliability features . LED Candles have No wax, No smoke,…… Listed under: [LED Projects](#)

538. [Arduino Lilypad powered shooes for the visually impaired](#)

Anirudh Sharma, an IT Engineer from Rajasthan Technical University has developed a system that offers non-obtrusive navigation for the visually impaired . Calling it Le Chal (Hindi for 'Take me there'), Sharma conceptualized and demonstrated the system at MIT (Massachusetts Institute of Technology) Media Lab…… Listed under: [Game – Entertainment Projects](#)

539. [Using an Arduino Uno R3 as a Game Controller](#)

Naturally, the Uno does not natively support keyboard strokes, unlike it's Leonardo brother. Most of Google will tell you you need to do some firmware workarounds and ATMEGA reprogramming just to get it working and the entire ordeal is a mess. If you're like me,…… Listed under: [Game – Entertainment Projects](#)

540. [Hard Disk Clock (HDD Clock with Arduino Uno)](#)

This is a fun project that can be done easily and also cheaply. In this instructable we will explain step by step how to make this beautiful POV clock. Used material: Arduino Uno, RTC modul, ULN 2003, IR diode and IR transistor (used like a…… Listed under: [Clock – Timer Projects](#)

541. [Home Automation Using Arduino & Autohotkey](#)

Its been awhile since i last posted something here. Was kinda busy with my university exams & all! Idea for this project was in my mind for very long & i don't think anyone would've done this project with Autohotkey! Anyway, this is a necessity…… Listed under: [Home Automation Projects](#)

542. [Volcom RGB Desktop Light Box](#)

Greetings! I'm Russell Petersen. I'm an engineer, inventor, designer, fabricator, and dreamer. I'm a junior Electrical Engineer by trade, located and working in the San Francisco Bay Area. I love playing with Solid State Lighting, and came up with this idea one night. Simply stated,…… Listed under: [LED Projects](#)

543. [FTDI Vinco USB Host/Device Development Platform – also for Android & Arduino](#)

FTDI has announced its commitment to supporting the Android Open Accessories initiative, thus allowing engineers to realize exciting new system designs that are compatible with tablets and smartphones utilising the highly popular Android operating system. "FTDI is very excited about the new Android Open Accessories…… Listed under: [Phone Projects](#)

544. [Microcontrolled Farm Equipment](#)

Modified BaleScoop(for picking hay bales out of the field) from manual levers to arduino controlled functions. This eliminates the need for 3 sets of hydraulic hoses to only one set and operator can focus more on where they are going rather then controling the implement. This is set…… Listed under: [Other Projects](#)

545. [Turn your Arduino into a Magnetic Card Reader](#)

Everyone has used a magnetic card reader, I believe. I mean, who carries cash these days? They're not difficult to get your hands on, either, and during a trip to my favorite local electronics shop, I found a bin full of these guys. So….of course,…… Listed under: [Memory – Storage Projects](#), [Projects](#)

546. [Arduino PID Motor Controller](#)

INTRODUCTION : The development of high performance motor drives is very important in industrial as well as other purpose applications. Generally all high performance motor drives use quadrature encoders and PID control because of its simplicity and precise control. The quadrature encoder acts as a…… Listed under: [Motor Projects](#)

547. [ZIF socket Arduino-compatible board](#)

In this tutorial we make an Arduino-compatible board that holds the microcontroller in a ZIF socket. Updated 18/03/2013 Today we are going to make a different type of Arduino-compatible board, one that has a ZIF ("zero insertion force") socket. Our reason for making this is…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

548. [Bootload an ATmega Microcontroller & Build Your Own Arduino – 2](#)

Since you lacked the USB interface in your own Arduino board, it becomes necessary to use a homemade/ready-made USB to Serial Converter Module as an efficient and economical solution. Inexpensive and easy-to-use USB to Serial Converter modules are now widely available, such as one shown…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

549. [Simple Remote Data Plotting using Android / Arduino / pfodApp](#)
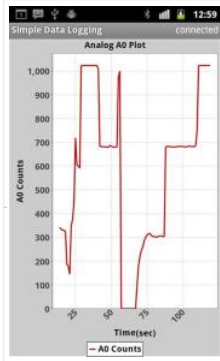
Simple Remote Data Plotting using Android / Arduino / pfodApp This Instructable shows you how to plot Arduino sensor data on your Android mobile and capture it for later downloading to your computer. These instructions are also avaliable at www.pfod.com.au No Android programming is required…… Listed under: [Arduino Android](#), [Arduino Programmer Projects](#), [Phone Projects](#)

550. [How To Make a Simple Variable Frequency Generator Using Arduino](#)

A frequency generator is a very handy device in electronic design, development, testing and trouble shooting. It is such a kind of device which can generate the required frequencies which can be then applied directly to the target device for testing it. There are frequency…… Listed under: [Development Board – Kits Projects](#)

551. [Fun Hackable Speaker Timer](#)

This is a fun speaker timer I made for some upcoming conferences. It uses a 4-digit charlieplexed LED (pseudo 7-segment) display and is driven by a AVR ATMega328 or an Arduino. It allows a default time to be set, can be paused, and will put…… Listed under: [Clock – Timer Projects](#)

552. [How to Build a Vibration Detector Circuit](#)
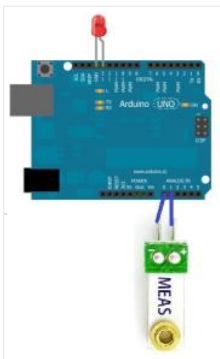
In this project, we will go over how to build a vibration detector circuit.This is a circuit which can detect and measure flex, touch, vibration, and shock.The sensor we will use to detect these movements is a piezo vibration sensor from Measuremenet Specialists (MEAS). The…… Listed under: [Sensor – Transducer – Detector Projects](#)

553. [Control an iPod with the Arduino](#)

This tutorial will describe a way of controlling an iPod remote, and thus, an easy way of getting some music and sound out of your Arduino project. The remote we used was an unofficial remote I found on the worldwide auction site for around 10…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Phone Projects](#), [Projects](#)

554. [DIY: Arduino Based Ohmmeter](#)

This is a project based on Arduino board which can measure the unknown resistance values and perform diode test and continuity testing. When we connect the unknown resistor on the breadboard circuit, the 16×2 LCD displays the resistor value and when we connect a diode…… Listed under: [LED Projects](#)
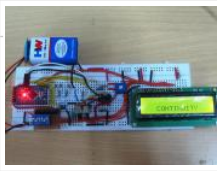
555. [Arduino Powered Four Letter Word Generator](#)
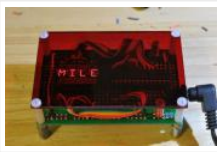
Build an Arduino-powered version of the "Four Letter Word Generator" (FLW). This version generates "words" on the fly – it does not use a list. The "original" version from the 1970's used B7971 nixie alphanumeric tubes. These tubes are getting hard to find and they're…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)

556. [HSM-20G Interface with Arduino Uno](#)
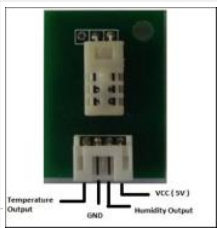
The HSM-20G is an analog humidity and temperature sensor that outputs analog voltage respects to relative humidity and temperature. However from this sensor relative humidity is found along with temperature. Relative humidity is the percentage of moistures of airs for a particular temperature [1]. Feature:…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

557. [Real-time room temperature on your Website using Arduino](#)

This is how to push high resolution real-time data from Arduino-based temperature sensor to your web page without any server-side coding. Arduino is a great device for collecting, storing and transferring data from various sensors but there are times you need to make your data…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)

558. [How To Make a PC Control Robot](#)
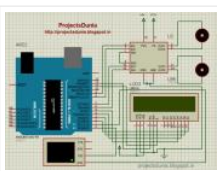
Do you ever tried to control your robot using your PC or laptop? Controlling a robot using PC or laptop is often being a fun for the student or hobbyist. Thus during this article you will be tend to learn how to control your robot…… Listed under: [Robotics – Automation Projects](#)

559. [PSoC 4 Pioneer Kit Community Project#042 – Hangman Game](#)

 Hello! It has been our Friday tradition for the past few weeks to end with a game. This week we have the Hangman game. In this game the user will be using two Pmod boards, an LCD and Button board to display outputs and generate…… Listed under: [Game – Entertainment Projects](#)

560. [Build a big crane game using Arduino](#)
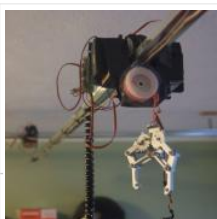
How to build a whole room crane game. Based on the arcade style 'Crane Game' or 'Claw Machine'. This is a continuation of a previus instructable titled CRANE GAME in which we built a 2-axis crane game in a door frame. We have now added a third axis and…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

561. [Battery powered device hardware design tips](#)

I'm working on a prototype product(Wifi motion sensor) that will be powered from a battery source, it has a mega328(arduino bootloader, with sleep mode on and wake on interrupt,and WDT in case it hangs up), a PIR motion sensor , and a CC3000 break out……

Listed under: [Wireless Projects](#)

562. [Accelerometer powered LED dress](#)

Let's be honest for a moment, doesn't everyone want a dress that lights up at your very whim? No? Alright, well I do. It's pretty straightforward, though the programming gets a wee bit tricky. So pick up your pencil, sketch out a design and then we'll...... Listed under: [LED Projects](#), [Metering – Instrument Projects](#)

563. [Beacon](#)
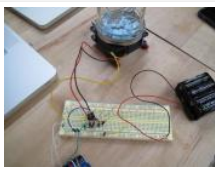
In this tutorial you will learn how to turn any conductive surface into a capacitive touch sensor. This project illustrates how to use capacitive touch to turn on a motor (fan) and neopixel. In this example, all of the components were custom designed and built...... Listed under: [Sensor – Transducer – Detector Projects](#)

564. [Digital thermometer using arduino](#)

Digital thermometer using arduino and LM35. This article is about a simple three digit digital thermometer using arduino. Range of this thermometer is from 0°C to 99.9°C. There is also a provision for displaying the temperature in °F scale. Three terminal analog temperature sensor LM35...... Listed under: [Metering – Instrument Projects](#)

565. [Making sound (noise) machines using Arduino](#)

As a part of being an artist in residence at Instructables, I took it upon myself to build of couple of noise machines / music boxes. My interest lies in designing objects that would enable people to explore the world of sound synthesis and for...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)

566. [Arduino powered voltmeter and temp gauge](#)

For a while I have been looking for a way of getting a reading of main and leisure battery voltage, and inside and outside temperature in the van. I spent ages on researching and found some bits here and there that might help, but nothing...... Listed under: [Sensor – Transducer – Detector Projects](#)

567. [Play Music using Arduino Esplora](#)

This example shows how to play notes on the buzzer mounted on the Arduino Esplora. Buzzers can generate different audio signals in audible frequency ranges. A note is an audio signal at a specific frequency. If you know the frequency of the notes you want...... Listed under: [Projects](#), [Sound – Audio Projects](#)

568. [Servo Feedback Hack (free)](#)

This Instructable brought to you by the kind folks a Rachel's Electronics Visit www.rachelselectronics.com for cool electronics kits and breadouts! This hobby servo hack will add shaft position feedback by tapping into the servo's own internal potentiometer. The only parts that need are wire and...... Listed under: [Sensor – Transducer – Detector Projects](#)

569. [Object Tracking Robot](#)
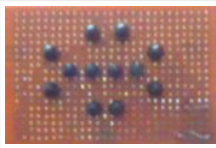
In this tutorial I am going to post the step-by-step procedure to make a simple Object Tracking Bot. The main aim of this Bot is to follow the objects which are shown to it in 3D space i.e., x, y and z – axis (horizontal,…… Listed under: [Robotics – Automation Projects](#)

570. [How to Send Message from GSM Module using Arduino](#)

The GSM stands for Global System for Mobile communications. This is a global standard which is followed by the GSM modules inside the cellular phones which enables them to be connected with any mobile network around the globe. In certain applications the microcontroller based systems…… Listed under: [Phone Projects](#)

571. [MultiMovEDIA – Description of my Project](#)

The title "MultiMovEDIA" does not mean much – if anything – at first sight. However, looking at more carefully, we can see it is a composition of two words: "Multimedia", referring to the information content and the channels it uses (text, image, sound), and "Move",…… Listed under: [Video – Camera – Imaging Projects](#)

572. [Servo Motor Simulation via Arduino UNO](#)
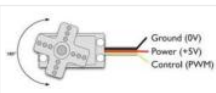
Hey everyone. I hope you will be fine. As you know that last time, we had started Arduino UNO course and given you a brief introduction how to simulate the LED blinking via Arduino UNO and its implementation in proteus ISIS. Now, today we are…… Listed under: [Motor Projects](#)

573. [Web Client Repeating using Arduino](#)

This example shows you how to make repeated HTTP requests using an Ethernet shield. This example uses DNS, by assigning the Ethernet client with a MAC address, IP address, and DNS address. It connects to http://www.arduino.cc/latest.txt. The conent of the page is viewable through your…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

574. [Temperature Display Using LCD](#)

Here is a Simple Temperature Display Circuit using LCD (Liquid Crystal Display). For Heat Sensor we have used IC LM35 (Precision Centigrade Temperature Sensors) whose Output voltage is linearly proportional to the Celsius (Centigrade) temperature. Output of LM35 IC is 10mv/degree centigrade for eg if…… Listed under: [LCD Projects](#)

575. [Arduino Based Lie Detector](#)
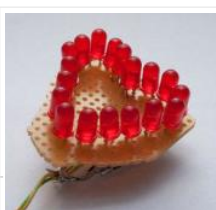
We have previously posted the the project lie detector, now here is is also a lie detector using arduino. Here is a simple tutorial to build a simple lie detector which will give visual indication through LED arrangement whether the person speaks lie or truth. The project uses a…… Listed under: [LED Projects](#)

576. [Easy Home Surveillance](#)

Everyone wants to keep their home secure. If zombies have swarmed your house, you want to know it's not safe to return, RIGHT? What better way to do this than to set up a surveillance system? Now it's easier than ever to have. And, you don't…… Listed under: [Home Automation Projects](#), [Security – Safety Project Ideas](#), [Video – Camera – Imaging Projects](#)

577. [Lambda Calculus in a Can using Arduino](#)

You can get soup in a can. You can get bread in a can (*). Now the long wait is over! You can finally get Lambda Calculus in a can. Project LambdaCan is an amusing exercise in absurdity. It implements a reducer (interpreter) for the...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

578. [Fritzing – The Ultimate Tool For Sketching Out Electronics Projects [Cross Platform]](#)

 Despite sounding like an alcopop, Fritzing is actually an incredible bit of free software you can use to create circuit and component diagrams for use with rapid-protoyping electronics boards such as the fantastic open-source Arduino. As such, it's open source too, entirely cross platform and...... Listed under: [Development Board – Kits Projects](#)

579. [LCD Shifter for Arduino](#)
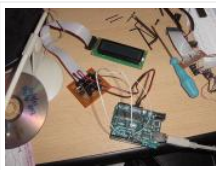
The original idea was to create a library that simplify the use of IC 74HC595 between Arduino and other hardware. In this Instructable I will share this to you using as example the control of a 16×2 LCD. The example will show on the LCD...... Listed under: [LCD Projects](#)

580. [Arduino 7 Segment LED Display and Counter – Tutorial #8](#)

 This is a simple 0 to 9 counter circuit constructed using Arduino! Here, a common cathode 7-segment LED display is connected to Arduino for displaying the digits. The code (Arduino sketch) allows push button increment of the counter from 0 to 9. The whole circuit...... Listed under: [LED Projects](#)

581. [Temperature Sensor DS18B20](#)

Electronic Brick, Waterproof and other Versions NOTE: There are different-appearing versions but they work the same. This is an electronic thermometer which has high accuracy over a wide range (accurate to ±0.5°C over the range of -10°C to +85°C) (Workable from -55°C to +125°C). You...... Listed under: [Metering – Instrument Projects](#)

582. [Playfield :: Hardware :: Flippers](#)
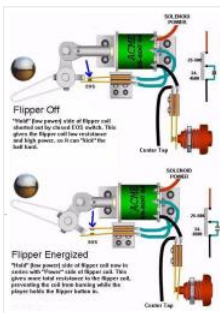
If you are contemplating building your own machine, then you probably already know a good bit about how pinball machines work. It's basically series of electro-mechanical events where a steel ball activates a switch, which in turn fires a solenoid that drives a mechanism, sending the ball off in some other...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

583. [StrobeDuino – Computer-controlled RGB strobe/lamp](#)

After experimenting with Arduino and Processing serial communication i wanted to do something cool. I had some RGB LEDs lying around so i thought about making something with them. I ended up with a strobe/lamp controlled by a Processing sketch that receives the commands from...... Listed under: [LED Projects](#)

584. [Arduino – Theremin with 7 Segment LED Display](#)
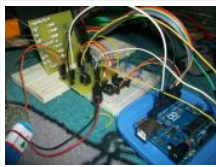
In this instructable, I will show you how to make a simple toy that combination of the LEDs flash and Theremin. We're gonna using some basic electronics built on top of an Arduino. The basic idea of 7 Segment LED Display was from Enjoying Electronics....... Listed under: [LED Projects](#)

585. [Arduino Air Cap-Sense Piano](#)

I recently got my shipment of 10 buzzers I ordered about a month ago, so as soon as I got them I was eager to make something fun with them, so I looked around a bit and searched for what to do with them, and...... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Project Ideas](#)

586. [Arduino multi-mode lamp with soft touch switch](#)

In this Arduino-based project, we will build a lamp with multiple light displays: color sequencer, dimming light, color chaser, firelight – all selected by a touch bar on the circuit board. All the functions are done in software, including the touch sensor, which is a...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

587. [The Transistor Menace – Questions regarding an Arduino rgb LED project](#)

I've been browsing this forum and the internet now for a couple of days and what I thought would be an easy side project turned into a (for me) quite complicated matter. I'm planning to build a mood light that consists of 12 common cathode...... Listed under: [LED Projects](#)

588. [HSM-20G temperature & humidity analog sensor + Nokia5110 LCD](#)

Temperature and humidity measurement are always a nice addition to hobbyist projects. In my previous post, I've discussed the DHT11 sensor, which is capable of measuring both temperature and humidity. They are digital sensor and provide calibrated outputs with temperature and relative humidity. I've also...... Listed under: [LED Projects](#), [Phone Projects](#)

589. [Arduino Binary Clock (hours, minutes and seconds)](#)

Hello everyone; I was looking for this project for a long time. Finally I it it together with a lot of effort. For this project you will need: [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] 1- ...... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

590. [Remote Controlled lunaring with Arduino](#)

Nothing puts the fun back into coding like watching your very own creations come to life in the physical world. Luckily, with the current glut of high-tech toys and electronic gadgets on the market, it's never been easier to experience the thrill of designing your...... Listed under: [Wireless Projects](#)

591. [PC-350: Arduino Synthesiser](#)

Contents 1 Aim 2 Research 2.1 Experimental Musical Instruments 2.2 Interfaces 2.2.1 Arduino and Nintendo Wii Nunchuck 2.2.2 Arduino and Nintendo DS Touchscreen 2.3 Sound Out 3 User Scenario 4 Development 4.1 Requirements & Analysis 4.1.1 Components 4.1.2 What I Need to Do 4.1.3 The...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

592. Compact Protoboard Arduino type thing yea

This ible is for the building of my small, almost matchbox size, arduino compatable board. As seen in this ible.. http://www.instructables.com/id/Pocket-Ardiuno-kit/ I experemented with the one in this ible to see how it can be impreoved, but the consept is the same and so is…… Listed under: Development Board – Kits Projects

593. Solar powered wireless Arduino based Geiger counter porject.

Hello, I have plans to build myself a solar powered wireless Geiger counter using a RH Electronics Arduino IDE Geiger counter connected via a serial connection through a logic level converter to a 3.3V ATmega328P-AU Pro MCU with an ESP8266 serial WiFi tranceiver to send…… Listed under: Solar energy projects, Wireless Projects

594. Diverting surplus PV Power
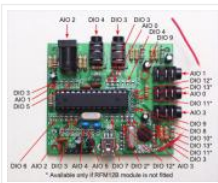
As mentioned on the Contents page, two different hardware platforms have been successfully used to support Mk2 PV Routers. [Update at 7/3/14: Since writing this article, I have developed a new hardware platform which has been specifically designed for this product. The main board has…… Listed under: Development Board – Kits Projects

595. RS-232
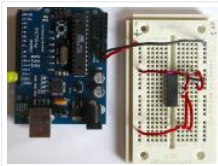
In this tutorial you will learn how to communicate with a computer using a MAX3323 single channel RS-232 driver/receiver and a software serial connection on the Arduino. A general purpose software serial tutorial can be found here. Materials needed: Computer with a terminal program installed…… Listed under: Development Board – Kits Projects

596. Arduino (optic fibre)

I just brought a new lamp and after a week, I'm tired of looking at it randomly change colours between red, blue, green. What can you expect from a cheap lamp brought at 5$. Looking at the lamp I realized that I could make…… Listed under: Home Automation Projects, LED Projects

597. Arduino 2.4 GHz Spectrum Analyser

This article describes a simple spectrum analyser for the 2.4 to 2.5 GHz Wi-Fi band. It's based on the Cypress CYWM6935 Wireless Radio Module. Although the manufacturer doesn't recommend it for new commercial projects, it is still widely available from eBay suppliers and Farnell here…… Listed under: LCD Projects

598. Arduino Laser Show (adapted from NothingLabs' Instructable)

This project uses an Arduino, a pair of speakers, and a laser pointer to create a laser projector able to trace out designs in a dark room. To power it, I've cannibalized a PC ATX power supply capable of delivering plenty of current for the…… Listed under: Game – Entertainment Projects, LED Projects

599. Daox's diy arduino thermal differential controller

We have a great thread that contains lots of info on thermal differential controllers here. However, I wanted to start a thread dedicated to my own development of a thermal differential controller that I'll be using for my attic heat reclamation project. Tonight I setup...... Listed under: [Sensor – Transducer – Detector Projects](#)

600. [A Simple Bat Detector based shield for the Arduino Uno](#)

I've built a number of projects that have interfaced the output of the Simple Bat Detector with a microprocessor. The most recent was the BatLogger II. But I hadn't come up with an easy way for others to experiment with this idea ... until now....... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

601. [How to make (and connect) a soft potentiometer](#)

This instructable will tell you how to make and connect a soft potentiometer to a microcontroller, in particular we will connect it to a Lilypad Arduino. In our case soft potentiometer means a potentiometer made of a textile conductive ribbon. What you need: 1. soft...... Listed under: [Metering – Instrument Projects](#)

602. [Arduino UNO Tutorial 8 – NightLight](#)
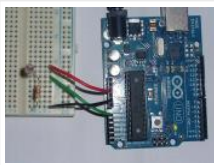
In this Arduino UNO tutorial, we are going to use a Light Dependent Resistor (LDR) to create a simple childrens bedroom nightlight which turns on automatically when it gets dark and turns off when it gets light. An LDR's resistance changes depending upon the amount...... Listed under: [Sensor – Transducer – Detector Projects](#)

603. [1 LED Game with Arduino Uno and an RGB LED](#)

Sometimes I just have those days where I really want to make something neat with the Arduino I have lying around, but I know I don't have the patience for a more involved project that'll take more than a day or so. This is for...... Listed under: [LED Projects](#)

604. [LED aquarium lighting with an Arduino based PWM timer](#)

I bought a small aquarium (54l) as an impulse buy and I needed some lights for it, so naturally I wanted to use LEDs. I also needed a timer for the lights. I also wanted the lights to fade in and out when they were...... Listed under: [LED Projects](#)

605. [Ground Tracking LED Longboard Mod](#)

This mod uses a custom designed encoder on one of the wheels to track where the longboard is on the ground and light up the LEDs so that the light pattern remains stationary on the ground as the board moves over it. To make doing...... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)

606. [Arduino Clock using Standard Clock Display](#)

This is a relatively simple clock to build, in terms of the hardware required and in terms of hooking up all the wires. The complexity lies in the software, which I've conveniently included as part of this instructable ☺ This instructable illustrates a few things:...... Listed under: [Clock – Timer Projects](#), [Projects](#)

607. [Getting Things to Talk: Arduino + LCDs](#)

I spent the better part of the day on Saturday doing some more basic research into connecting an Arduino and LCD for this ongoing project. For the most part, it's pretty basic and following the wiring diagrams and tutorials online is fine. I ran into...... Listed under: [LCD](#)

[Projects](#)

608. [Arduino ISP – LOG](#)

Arduino ISP – LOG So this Lazy Old Geek (LOG) has had a lot of trouble getting Arduino bootload on Atmega chips. I couldn't get either of these to work with Arduino UNO Rev3. http://arduino.cc/en/Tutorial/ArduinoISP http://letsmakerobots.com/node/35649 So I developed a couple that worked for me:...... Listed under: [Arduino Programmer Projects](#)

609. [Home Automation with Android and Arduino Yún](#)

 The Arduino Yún is a WLAN capable development board featuring an ATMega microcontroller, as well as a separate chip running a small Linux distribution, making it a perfect candidate for home automation projects like in the picture below! This basic tutorial will show you how...... Listed under: [Home Automation Projects](#)

610. [Make an Atom Synchronised Clock from a 1950's Slave Dial using Arduino](#)

One day while exploring the bric-a-brac at the markets, I stumbled across an old, Bakelite slave dial from the 1950's. Slave Dials are clock movements without the actual time keeping circuit. All they contain is the mechanism to drive the hour and minute hands, which...... Listed under: [Clock – Timer Projects](#), [Projects](#)

611. [Make Electronic Dice using Arduino](#)

In this project we make electronic dice. Updated 18/03/2013 In this article you can learn how to make an electronic die (die is the singular of dice), using an ATmega328 with Arduino bootloader and a few inexpensive components. The reason for doing this is to introduce another...... Listed under: [Other Projects](#), [Projects](#)

612. [Knob](#)
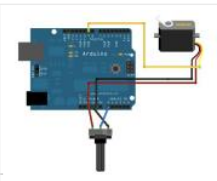
Control the position of a RC (hobby) servo motor with your Arduino and a potentiometer. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor (1) Potentiometer hook-up wire Circuit Servo motors have three wires: power, ground, and signal....... Listed under: [Motor Projects](#)

613. [Prototyping shield for Arduino Mega](#)
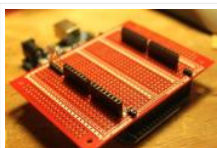
This is a down and dirty prototyping shield that will work for Arduino Mega's and there pin compatible clones. This is the first time i have made this board, but i have other projects i think this would be handy for. [box color="#985D00" bg="#FFF8CB" font="verdana"...... Listed under: [Development Board – Kits Projects](#)

614. [LED Sun rise/set Arduino Proj](#)
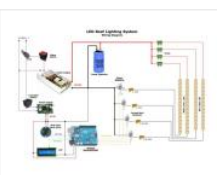
I've been slowly working on this project for the past month or so. I finally have some time to share and post-up what I'm working on. I know there are commercial products available, but then what's the fun in that! What I want is a...... Listed under: [LED Projects](#)

615. [Orange mePod](#)

Firstly, why would I make a music player when one can be purchased for so little and Apple iPods are so great? Well, I'll tell you. After several cheap MP3 clones have died due to their Lipo batteries and my cracked, inoperable screen on my...... Listed under: [Sound –](#)

616. Remotely Controlled VGA Camera – Overview

The idea behind this project was very straightforward: design an inexpensive remotely controlled system capable of taking still pictures and uploading them to a remote file storage with a camera to be activated by either remote commands or sensor events. And after numerous brain storms…… Listed under: Wireless Projects

617. Introduction: T.A.B.U. A Robot using Arduino

To all other teens (I'm 16) who have begun to pick up an intrest in robotics and electronics the following project will give you a great user-system to get started with. This is not for complete beginers, but after only 6 months of teaching myself…… Listed under: Projects, Robotics – Automation Projects

618. DIY Thermal Differential Controller – Part 4: Building Your Own

In our last episode, I explained how I redesigned the controller from what I first thought I was going to do. Now, I am going to explain how to make your own thermal differential controller based on mine. As it is, this setup will only…… Listed under: How To – DIY – Projects

619. CustomKeys using an Arduino

CustomKeys is a customizable, Arduino-based, polyphonic synthesizer. The CustomKeys keyboard uses capacitive touch sensing – each key is made of a conductive material which, when touched, signals the synthesizer to emit a tone from the speaker. The CustomKeys library allows the user to choose an…… Listed under: Projects, Sound – Audio Projects

620. Nerd++: Controlling Dioder RGB LED Strips with Arduino, Pt. 1 – Getting Started

A few weeks ago, it came to my attention that IKEA do a set of colour-changeable LED strips. I've been looking for a decent way of providing some lighting behind my computer to reduce eye-strain for a long time, and these seemed perfect: I was…… Listed under: LED Projects

621. DIY- G-force measurement system

So this time around, it's another fun and functional microcontroller based DIY, a g-force measurement system with data logging to SD card. HARDWARE USED: 1) Arduino UNO w/ATmega328P 2) 3-axis accelerometer breakout 3) SD card 4) SD card breakout w/level shifting circuit 5) LED HOW…… Listed under: Game – Entertainment Projects, How To – DIY – Projects

622. Autonomous Robot Part 3: Ghosty

Introduction Ghosty is an autonomous little robot who is adventurous and loves to explore his surroundings. However, unlike a normal ghost, he doesn't like to scare people. Instead they actually scare him! In our most current version of Ghosty, his vision line is based on…… Listed under: Motor Projects

623. [Animatronic Stargate helmet using Arduino](#)

I love the movie Stargate and when I first saw it I immediately knew I wanted to make one of the super cool Horus guard helmets. I had sketched multiple designs over the years and figured out several different methods for building it but rejected...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

624. [Arduino BiCMOS Curve Tracer](#)
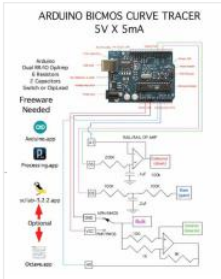
Draw curve traces for both Bipolar and CMOS transistors using this hardware and free online software. Step 1: UpLoad and Plot Curve for NPN, PNP, NMOS, and PMOS The data for the transistor curves gets uploaded into any computer and can be plotted using SciLab...... Listed under: [Sensor – Transducer – Detector Projects](#)

625. [Making a Vibrator That Listens to Your Body](#)

This project has been an astonishing little journey. Many of my previous projects were characterized by an amazing outpouring of effort to build something highly intricate and ultimately invisible. This is the opposite kind of project. A little bit of work and a little custom...... Listed under: [Arduino Programmer Projects](#)

626. [Arduino Laser Security Shield](#)

*** I AM THIRTEEN. I REALLY ENJOY PUTTING TOGETHER THESE INSTRUCTABLES. PLEASE SHOW SUPPORT BY VOTING FOR ME IN THE LASER CUTTER CONTEST – http://www.instructables.com/contest/epilog3/*** I started thinking about this project a couple of months ago now. A laser tripwire that can log when the...... Listed under: [Projects](#), [Security – Safety Projects](#)

627. [Arduino-based AVR High Voltage Programmer](#)

Update 01/02/09: A PCB version of this circuit is in the design stages – some preliminary information is here. Update 03/11/09: Kits based on this design are now for sale! Update 12/14/10: The original AVR HV Rescue Shield kit has been replaced by the new...... Listed under: [Arduino Programmer Projects](#)

628. [SP0256-AL2 Speech With Arduino](#)

Here's the Arduino version of a project to use the General Instruments (GI) SP0256-AL2 vintage speech synthesis chip to say "hello world". I'd previously shown how to do this with a Basic Stamp 2. Here's what it sounds like saying, "hello world" 20101215_164333.mp3 How it...... Listed under: [Development Board – Kits Projects](#)

629. [Robot shield for Arduino. Part 1 – Hardware and Schematic](#)

The idea behind this post is to bring together some robot designs and trasform them in a new device with new hardware and standard software (arduino of course) and so easier to use. These robots have three things in common: a mechanical structure, the hardware...... Listed under: [Robotics – Automation Projects](#)

630. Si4707 Hookup Guide
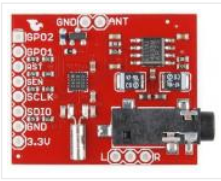
Introduction Weather-band radio is an awesome public service provided in the US, Canada, and Bermuda. With hundreds of transmitting stations dotting the country, weather radio acts as the "voice of NOAA" (National Oceanic and Atmospheric Administration). In addition to spouting out weather forecasts, weather radio...... Listed under: Development Board – Kits Projects

631. Arduino UNO Tutorial 6 – Rotary Encoder

We have written a tutorial for Rotary Encoders using a Microchip microcontroller but now would be a good time to make an Arduino UNO version. With a rotary encoder we have two square wave outputs (A and B) which are 90 degrees out of phase...... Listed under: Other Projects

632. Arduino LEDs

Description In this tutorial you will set up and turn on a single LED. Note that this code can actually be executed with just the Arduino and no other components as in Figure 5. If you notice, next to pin 13 is a tiny LED...... Listed under: LED Projects

633. Arduino Leonardo AVR Development Board

Arduino Leonardo AVR Development Board is a microcontroller board based on the Atmel ATmega32u4. It offers 20 digital IOs (of which 7 can be used as PWM outputs and 12 as analog inputs), a 16MHz crystal oscillator, a micro USB connection, a power jack, an...... Listed under: Development Board – Kits Projects

634. Android Phone Controlled Robot using Arduino
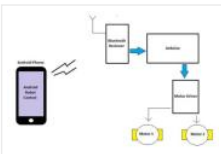
The Android phone that stays in your hand most of the time is useful in many other applications apart from Whatsapp, Facebook; appliances; monitor your health parameters. How it would be if it can control a Robot, which can assist in your daily work. With...... Listed under: Phone Projects, Robotics – Automation Projects

635. Sending MIDI Messages
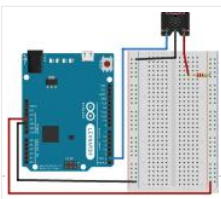
Introduction If you completed any of the buzzer projects, you will know by now that there is much fun to be had in making the Arduino create noises. The only issue you might have had is with the quality of the sound. Since MIDI is...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

636. Servo powered peristaltic pump controlled by Arduino

This instructable shows you how to make a pump using a servo motor and an Arduino Uno to transfer small amounts of liquids. The pump is a peristaltic pump which consists mainly of a motor, flexible tubing and a circular pump casing. Two rollers attached...... Listed under: Motor Projects

637. DIY Microscope

This Project Is A Part Of The Afrimakers Event http://www.afrimakers.org/ Introduction We used a simple cheap webcam to make a microscope. In short, a small hack to the optics of a standard webcam with an adjustable focus-lens, allows to create video data, with a magnification...... Listed under: Video – Camera – Imaging Projects

638. [Temperature Sensor 2 0](#)
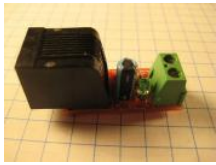
Overview This board allows you to use a thermistor to measure the temperature of something. It is designed to be used to measure things in the range of 100C – 300C, but with the proper calibration and resistors, it can be adapted to any temperature…… Listed under: [Temperature Measurement Projects](#)

639. [PhysComp: Mid-term Project – Instagram TUI – prototyping the interactive elements using Arduino](#)

 The physical interface will consist of a 3×3 grid of push buttons that will correspond to a 3×3 grid of images in the Processing program. Instead of a creating a 2D array of variables to correspond to the buttons' postions in the grid, each location…… Listed under: [Other Projects](#)

640. [Perfboard Hackduino ($8 Arduino-compatible circuit)](#)

Never again will you have to dismantle a finished project just to reuse an Arduino board! This tutorial will go through the steps involved in fabricating your own Arduino-compatible circuit using just ~$8 of parts (this includes the ATMega chip!). This is perfect for installing…… Listed under: [Development Board – Kits Projects](#)

641. [Brushless DC (BLDC) motor with Arduino – Part 2. Circuit and Software](#)

 In this post I will describe the hardware and the software part of a project involving the use of BLDC (Brushless DC) motor salvaged from a broken XBox 360. This is a second installment in the series of posts related to Arduino and brushless DC…… Listed under: [Motor Projects](#)

642. [Digital to Analogue Converter (DAC) DAC Theory](#)
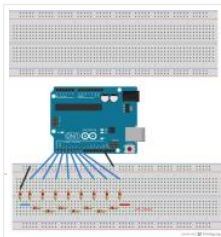
A digital to analogue converter takes a series of digital inputs (a string of 1s and 0s, in our case there will be 8 of them like 10011001) and converts it into an analogue output. You see DACs in every digital audio device (MP3 players,…… Listed under: [Sound – Audio Projects](#)

643. [The DIY Arduino Telescope GOTO control project](#)

Why make your own Arduino control system? After completing my homemade telescope mount it was powered by a Meade DS motor kit. This system was extremely slow, underpowered and unreliable. It was also impossible for me to change the programming or maintain the system. I…… Listed under: [How To – DIY – Projects](#)

644. [Remote Controlled Switching](#)

Vision The aim of our project is to be able to control a electrical switching process using a remote.The idea is to come up with an alternative to the conventional electric switch boards, using a wireless control mechanism, in an economic way.In other words, an…… Listed under: [Wireless Projects](#)

645. Arduino Motor Shield

We are not the first to make an Motor Shield for Arduino. But could be that we are the first that make a Motor Shield with a minimum of flexibility. We are studing a WiFi robot with camera controlled by Arduino. The robot will be…… Listed under: Motor Projects

646. Mobile Controlled Automation Using Arduino

By this mobile controlled automation using Arduino you can perform switching operation of any load or device which is connected with the circuit. Before some days i posted about DTMF tone in mobile communication. Here i am using DTMF tone in this project. Visit following…… Listed under: Phone Projects

647. Toaster Oven Reflow Technique

Introduction This page describes how to reflow solder surface mount printed circuits using a cheap toaster oven. It owes a great deal to Nophead's Cooking with Hydraraptor blog post. The picture shows Sally Bowyer (Director, RepRapPro Ltd) preparing components for soldering in the oven. For…… Listed under: Sensor – Transducer – Detector Projects

648. Small Arduino DMX controller
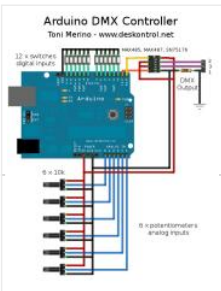
In this post we show you how to make a small and useful Arduino DMX512 controller, which can use by example to handle a smoke machine with DMX, or as test equipment, etc… We can use Arduino Mega, Arduino UNO, and other with small changes……. Listed under: Sensor – Transducer – Detector Projects

649. Control a Furby with Arduino (or other microcontroller)
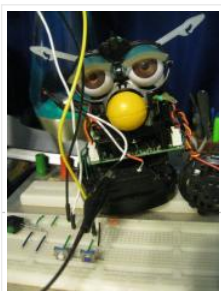
The Million Dollar Furby: We can rebuild him. We have the technology. Continued from the previous Instructable where we excised Furby's primitive brain , it's now time to replace it with something greater. This Instructable will detail how to install a new microcontroller in place…… Listed under: Robotics – Automation Projects

650. Arduino Tri-colour LED Flasher Circuit

This simple tri-colour LED flasher circuit is great for beginners. The three pin tri-colour LED is controller by an Arduino Uno and changed between three colours. This video shows the Arduino running a sketch that controls the tri-colour LED. Circuit Diagram for the Arduino Tri-colour…… Listed under: LED Projects

651. Tutorial 19: Arduino Dice

In this tutorial you will build a dice that is shaken by holding the button in and thrown by releasing the button. The shake, throw and number thrown are animated and displayed on a seven segment display. A 74HC595 IC is used to interface the…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

652. Blink
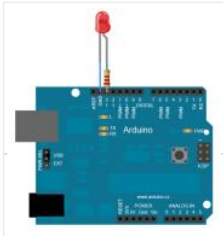
This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Hardware Required Arduino Board LED Resistor, anything between 220 ohm to 1K ohm Circuit To build the circuit, connect one end of the resistor to…… Listed under: [LED Projects](#)

653. [Tutorial 4: Arduino Knight Rider](#)

In this tutorial, eight LEDs are interfaced to the Arduino Uno board. This is not complicated – it is just like interfacing a single LED to the Arduino as done in tutorial 3, but eight times over. A program is then loaded to the Arduino…… Listed under: [LED Projects](#)

654. [Tutorial 16: Arduino Clock](#)
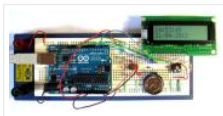
In this tutorial, the Arduino displays the time and date on a LCD (optional) and in the Arduino IDE serial monitor window. A PCF8563 real time clock (RTC) IC is used to generate the time and date. The time and date can be set using…… Listed under: [Clock – Timer Projects](#)

655. [The Arduino Microprocessor Miniterm Project Pages: keattsd](#)

Navigation LCD_driver.c LCD_driver.h LCD_driver.h.out ball12d.php bojia.c bojia.c.out chenb.php doyler.php ellwangerk.php foo.txt frickd.php gamblec.php hurleyg.php keattsd.php littletonj.php panuskip.php parsonstc.php schrodere.php Here is keattsd Bluetooth SNES Controller Supplies I used the following supplies for my mini-term project: Arduino Uno microcontroller RN-42 bluetooth module USB A to B…… Listed under: [Bluetooth Projects](#), [LED Projects](#)

656. [Magic Light (Capacitance Sensor, First Arduino Project)](#)

This was my very first arduino project. Its great for beginners. Fade the color or the lights my moving your hands near it. It fades from a pretty purple blue to a firey red-orange. Its was SUPER easy to build, not to hard to write…… Listed under: [Sensor – Transducer – Detector Projects](#)

657. [Temperature Sensing using DS18B20 Digital Sensors](#)
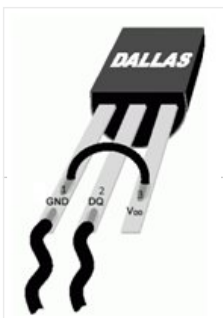
Note: When referring to Arduino below, this works in the same way on the emonTx which is arduino-based. The DS18B20 is a small thermometer with a built in 12bit ADC; it can be easily connected to Arduino digital input. The sensor communicates over a one-wire…… Listed under: [Sensor – Transducer – Detector Projects](#)

658. [Arduino Tiny Relay Shield Project](#)
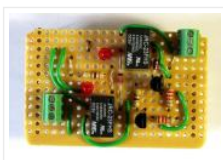
In this Arduino project, you will build a small relay shield from stripboard. The shield can have one or two relays fitted to it. Connect the Arduino and relay shield to your PC via a USB cable. Download the PC software and use it to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

659. [Arduino Platform – Interrupts Introduction](#)

Introduction This is my second article relating to the Arduino Microprocessor Platform. The first one was a simple implementation of the SIMON game using the Arduino. The article can be found here. For an introduction to the Arduino Hardware, see jeffb42's excellent articles, as there…… Listed under: [Development Board – Kits Projects](#)

660. [Open Source Home Automation Project using Arduino UNO + Ethernet Shield](#)

This is Open Source Home Automation Project based on Arduino Uno and Arduino Wiznet based Ethernet shield. How Does it Work The main brain for this project is Arduino UNO Board along with Arduino Ethernet Shield to give it a wireless connectivity.Arduino runs a code…… Listed under: [Home Automation Projects](#)

661. [Arduino Buzzer Circuit](#)

This article and circuit diagram show how to connect a buzzer to an Arduino when the buzzer operates at a different voltage to the Arduino. The buzzer may operate at 9V, 12V or some other voltage. Arduinos such as the Arduino Uno operate from 5V……. Listed under: [Arduino Programmer Projects](#)

662. [Thermal Camera: Arduino UNO + MLX90614 IR Thermometer](#)

I did the following steps: 1) Hardware: Connect the MLX90614 (refer to the datasheet) as follows: Pin 1 on MLX (SCL) connect to ANALOG pin 5 on Arduino Pin 2 on MLX (SDA) connect to ANALOG pin 4 on Arduino Pin 3 on MLX (VDD)…… Listed under: [Video – Camera – Imaging Projects](#)

663. [Arduino MicroBot Project](#)
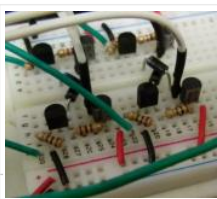
Steps On the breadboard, build two bi-directional motor control circuits (also known as "H-bridge") circuits. These circuits will control the two DC motors that drive the wheels. Each circuit will have two wires from the Arduino (one for forward, one for backward) to control the…… Listed under: [Robotics – Automation Projects](#)

664. [Blinkenlights](#)
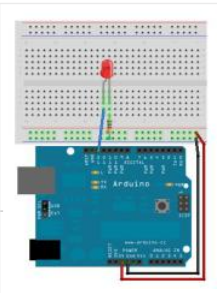
Topics: Overview Hardware A Basic Schematic Diagram Resistors Reading Resistor Values Putting it Together Trying it out! More on Resistors and LEDs Software Comments Variables Procedures References Project 1.Overview As mentioned earlier, Arduino consists of two major parts: the hardware (the Arduino board) and the…… Listed under: [LED Projects](#)

665. [GPS and GSM based Vehicle Tracking System Using Arduino](#)

This circuit is designed for tracking the location of vehicles. Most oftracking systems are made by using GPS. This is very simple and cheap. Tracking systems are mostly used by fleet operators for tracking a vehicle location, routing and others. This is a very good…… Listed under: [GPS Based Projects](#)

666. [Real Time GPS Tracker with Integrated Google Maps](#)
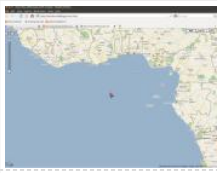
This project describes how you can build a mobile real time GPS tracker with integrated Google Maps. I began this project mainly to see if I can integrate all the different pieces of hardware and software to make a workable solution, and it took some...... Listed under: [GPS Based Projects](#)

667. [ArduDroid: A Simple 2-Way Bluetooth-based Android Controller for Arduino](#)

UPDATES October 30, 2013 – 7PM (GMT+2) The new official name for this app is ArduDroid and it can be installed from Google Play. I changed the name to avoid a naming conflict with another app.   September 15, 2013: I Have won a Nexus...... Listed under: [Bluetooth Projects](#)

668. [Build An Audible Memory Chest [Instructables How-To]](#)

If you're a fan of the Harry Potter series then we also bet you were pretty taken with Hogwarts headmaster Dumbledore's pensive—the magical object that could not only store memories, but actually let people fall into and re-experience the events. This week's Instructables How-To from...... Listed under: [LED Projects](#)

669. [General Purpose Input Output Arduino Shield](#)
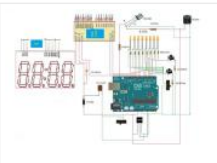
This example shows technique for calibrating sensor input and shows the sensor outputs by controlling LEDs and SSD, also shows how to monitor the state of a switch. Hardware Required 8 LEDS 2 push button switches 2 sliding switches 4-SSD with MAX7221/7219 LM35 Speaker Circuit...... Listed under: [LED Projects](#)

670. [Stage 4: Complete Beginner's Guide For Arduino Hardware Platform For DIY](#)

Contents 1. Background 2. Setting up Arduino Development Environment 3. Arduino Power Management 3.1 Powering Up Arduino Board 3.2 Output Power of Arduino 4. Indicators And Switches 4.1 LED 4.1.1 Working With Onboard LED 4.1.2 Connecting and Controlling External LED 4.2 Buzzer 4.3 Switches 5....... Listed under: [How To – DIY – Projects](#)

671. [Arduino project: USB foot-operated mouse switch](#)

This foot pedal plugs into the Arduino case which plugs into your PC via microUSB cable. Arduino microcontrollers can easily be used to power fun projects like robots and even sending tweets to Twitter but they're versatile enough to turn up in the strangest of...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

672. [Stream support for the Arduino MQTT library](#)

MQTT is a lightweight messaging protocol for the Internet of Things. This post details the use of Stream support for large payload storage in the Arduino MQTT library. MQTT is a lightweight protocol, but that doesn't mean that the payloads have to be small. The...... Listed under: [Other Projects](#)

673. [Technical Details of Logging Seawater Temperature](#)

Block Diagram This diagram shows the basic components required for collecting temperature readings from seawater and transmitting the data to a base station where it can be collated into a database for analysis. To the left is a schematic of 10 temperature sensors, spaced 1...... Listed under: [Temperature Measurement Projects](#)

674. [Modifying an Arduino Mega and chipKIT Max32 for 5V Operation](#)

Max's Arduino Mega and chipKIT Max32 both require 9V external supplies, but he really wishes to power them from a single 5V supply. Well, nothing is simple, is it? I ran into a minor "gotcha" with regard to my Bodacious Acoustic Diagnostic Astoundingly Superior Spectromatic…… Listed under: [Development Board – Kits Projects](#)

675. [Arduino Projects: Wireless Arduino](#)

Long-time readers will know I'm not one to promote trendy marketing phrases and certainly 'Internet of Things' or 'IoT' is right up there with the best (worst) of them. But the concept behind the phrase is worth understanding as it drives the next generation of…… Listed under: [Wireless Projects](#)

676. [Making a RFID Card Reader with Arduino Yún](#)

Surya Mattu is a creative technologist who loves to make things. He's based in NYC and working at ITP, a two-year graduate program exploring the imaginative use of communications technologies. Today he's sharing with us how feasible it could be to build an RFID-controlled entry…… Listed under: [RFID – NFC projects](#)

677. [Arduino Project 6: Web-controlled music player](#)

Our NetPlay project is built on a standard breadboard. In our previous Arduino masterclass we briefly introduced the Ethernet Shield an Arduino expansion board that adds Ethernet connectivity plus microSD card storage. We used that storage as the basis of a simple one-button digital audio…… Listed under: [Other Projects](#)

678. [Simulating and controlling GE Color Effects Lights with Arduino](#)

Overview This project builds a Christmas lights controller for the GE Color Effects lights allowing programmed control of up to 8 sets of Christmas lights. Furthermore, it provides a function specific language for programming patterns for these lights and an emulation environment for testing the…… Listed under: [LED Projects](#)

679. [Arduino Project 8: Stompy the robot (part 1)](#)

Our first Arduino robot called Rolly in our February issue proved to be a popular project. Powered by an Arduino Uno board it was easy to put together and cost very little. In this project we upped the ante again with our first walking robot…… Listed under: [Robotics – Automation Projects](#)

680. [Tutorial: Arduino Motor/Stepper/Servo Shield – Part 1: Servos](#)

This post starts a small (or larger?) series of tutorials using the Arduino Motor/Stepper/Servo Shield with the FRDM-KL25Z board. That motor shield is probably one of the most versatile on the market, and features 2 servo and 4 motor connectors for DC or stepper motors……. Listed under: [Motor Projects](#)

681. [Communication between a USB/serial device and an AVR (atmega/Arduino) microcontroller](#)

I have a device which provides a USB port. If I attach it to a Windows PC it is recognized as a "CP2103 USB to UART Bridge Controller". According to the device documentation, it should communicate in serial format at 38400bps.I have to talk to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

682. [Store Arduino data to Firebase database [Howto]](#)

The last few weeks I was playing with Firebase mostly because I wanted to get familiar with this technology. So at some point I thought that it will be a great idea to connect Arduino with Firebase. Imagine that you have a simple temperature sensor…… Listed under:

[Temperature Measurement Projects](#)

683. [New Arduino Project: Spectrum Analyzer?](#)

I've been reading a lot about receivers, and it sounds like one important thing is filtering. It makes sense too – simple receivers can suffer from front end overload due to a strong signal. And when on the ham bands, you never know where that...... Listed under: [Development Board – Kits Projects](#)

684. [Arduino Projects: Digital Audio Recorder](#)
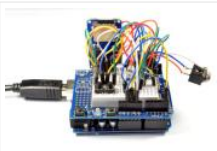
Being able to capture sound, store it and play it over and over again never fails to leave me in awe of its pioneers, from Thomas Edison to Alan Blumlein, the British electrical engineer who, in 1931, invented 'binaural recording' – what we now call...... Listed under: [Sound – Audio Projects](#)

685. [Indoor Weather Station using Arduino](#)
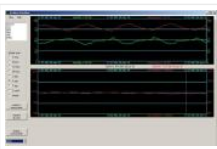
Introduction In my first article using the Arduino 2009 board, I described a simple temperature sensor interfaced using Visual Basic. I have developed the board and Visual Basic code to give a fairly usable indoor weather station. Overall Operation The Arduino 2009 acts as a...... Listed under: [Sensor – Transducer – Detector Projects](#)

686. [Arduino Weatherstation](#)

At University, Alexander Zenger and I decided to realise a weatherstation with an Arduino Microcontroller. We wanted to measure temperatur, pressure and humidity. It should be also possible to get every 5 min a value update on an external server. Our basic idea was to develope...... Listed under: [Temperature Measurement Projects](#)

687. [Arduino and Android Projects for the Evil Genius](#)
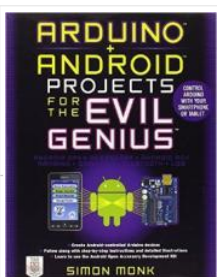
Since this book was written, Arduino 1.0 was released and Google has changed the Open Accessory standard a lot. At the start of December 2011 Arduino 1.0 was released. This changed a few things, requiring all third-party libraries to be updated. This hasn't happened yet...... Listed under: [Phone Projects](#)

688. [1B – Arduino Project – Perry the Predator Pillow](#)

The Team Kaitlin Schaer as scribe; Bryan Gardiner as tutor; Ruben Markowitz as designer; Anna Failla as integrator Introduction In a time where the logistics of sleep can be all too much to handle, there is a solution! There is a smarter pillow, a pillow that......
Listed under: [Home Automation Projects](#)

689. [Add a TFT Display to your Arduino projects (1.8 TFT SPI 128×160)](#)

In all my arduino projects I was using cheap 1602 LCDs mostly because... they are cheap but also of the libraries flexibility. Recently I found a nice TFT 1.8 inch 128×160 in a very competitive price and i thought to give it a go. Just...... Listed under: [LCD Projects](#)

690. [The E-Taster Assistance System with Lab-on-Spoon and Lab-on Fork as 'Electronic Tongues'](#)
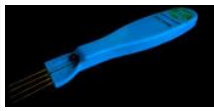
Subject: Daily life activities of food preparation can be challenging for consumers due to restricted skills and experience, loss of perceptive abilities (accident/aging) or due to product fraud and contaminations, commonly summarized under the term of food adulteration, which are exceeding human perceptive abilities in…… Listed under: [Wireless Projects](#)

691. [Interfacing an Arduino with LCDs](#)
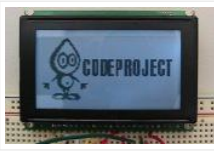
Introduction This is the second article in a three part series I am writing on the Arduino hardware platform. This article focuses on wiring an Arduino to a character LCD and a graphic LCD, and includes static and animated demos to show off the capabilities…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LCD Projects](#)

692. [Midi VU meter, LM3914, Arduino, PWM](#)
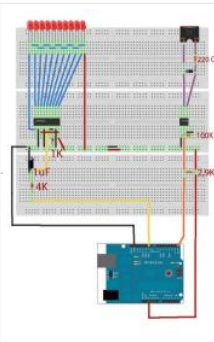
Hello everybody, I've been working on a midi controller for some time now, Midi OUT hasn't been a problem, but for Midi IN i had to take some more time. i've used this circuit for midi input but i've used a 4n25: original thread @…… Listed under: [Metering – Instrument Projects](#)

693. [Arduino Event-Driven Universal AV Remote](#)

TL;DR – I wanted all of my AV components to turn on and change inputs as soon as I started Airplaying music to my Apple TV from my iPhone, so I popped open the Apple TV, wired up a photocell sensor to an Arduino Uno, …… Listed under: [Wireless Projects](#)

694. [Android Arduino Communication through Modbus and Rs485](#)

In this post I'd like to describe you a project I'm working on that consists of connecting an Android development board to one (or more) Arduino slave(s) using modbus protocol and rs485. Even though the idea of this project could be applied in many fields,…… Listed under: [Development Board – Kits Projects](#)

695. [Safe and simple AC PWM Dimmer for arduino / Raspberry pi](#)

Dimmer With MOSFET This circuit shows that dimmers intended for use at mains voltage do not always have to contain a triac. Here, a MOSFET (BUZ41A, 500 V/4.5A) in a diode bridge is used to control the voltage across an incandescent bulb with pulse-width modulation…… Listed under: [PWM Projects](#)

696. [Arduino Distance Detector with a Buzzer and LED's](#)

This is a simple guide on how to make a distance detector using an Arduino, a HC-SRO4 Ultrasonic Sensor, a Buzzer, and some LED's. The ultimate goal of this tutorial is to use the buzzer and LED's to display how far the object is from…… Listed under: [LED Projects](#)

697. [Displaying Arduino data](#)

Arduino temperature display I've had an Arduino-based weather station since June 2009, but one problem with it has been that there hasn't been any easy way to display the data in real time without going to the database (or the raw import files) to see…… Listed under: [LCD Projects](#)
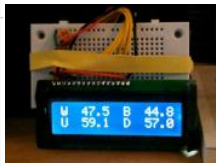
698. [Arduino – Cannot get ECG readings from heart, but I do when I poke at the leads](#)
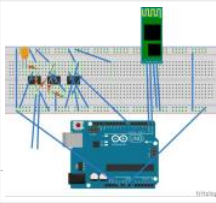
down vote favorite I have a minor issue with my ECG. When I poke at the leads, I get a reading. But when I hold the leads or place it near my heart, I don't get anything. I'm pretty sure this is hardware related, but…… Listed under: [Medical – Health based Projects](#)

699. [Pololu Wixel Shield for Arduino User's Guide](#)

1. Overview The Wixel shield seamlessly enables a wireless link (with a typical range of ~50 feet) to replace your Arduino's USB interface, which means you can use the standard Arduino computer software to: wirelessly program the Arduino (this feature is not available with the Arduino…… Listed under: [Wireless Projects](#)

700. [Stepper Motor Control System Based On Arduino With ULN2003 Chip](#)

Project Summary: This project uses ULN2003 chip to drive. The working voltage is DC5V. It is widely used on ATM machine, inkjet printer,cutting plotter, fax machine,spraying equipment, medical instruments and equipments, PC peripheral, and USB Mass Storage ,precise instrument,industrial control system,office automation,robot areas,etc. Bill of…… Listed under: [Motor Projects](#)

701. [How to make a Arduino LED Scroll Bar](#)

Today I want to make a LED Scroll Bar as the above picture showed. Ten LED strips can flash in different effects by using a control board. Required Components LED strip, Arduino Nano, Dupont line and a control board. So, how to make a LED…… Listed under: [LED Projects](#)

702. [Traffic light and pedestrian crossing implemented with an Arduino](#)
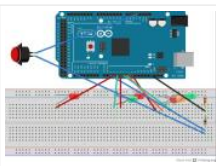
This video shows the Traffic light and pedestrian crossing I've implemented with an Arduino. It's a reproduction of the crossing near my home, timings taken from a video of it. Incidentally, I produced the diagrams for this using a product called Fritzing. It's a nifty piece of…… Listed under: [Development Board – Kits Projects](#)

703. [Rain Alarm Project](#)
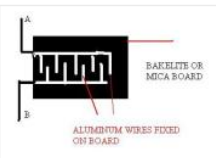
Water is basic need in every one's life. Saving and proper usage of water is very important. Here is an easy project which will give the alarm when there is rain, so that we can make some actions and save the rain water. As a…… Listed under: [Home Automation Projects](#)

704. [RC Quadrotor Helicopter](#)

This project is a RC quadrotor helicopter (quadrocopter, quadcopter, quadricopter, etc). It's a RC helicopter that uses 4 rotors. You need some pre-requisite skills: How to use Arduino, enough to get started Soldering, wiring, basic electronic skills Basic hand tool operation A quadrotor helicopter flies…… Listed under: [How To – DIY – Projects](#)

705. [A Voice Shield for Arduino – Give Voice to your Ideas!](#)

The objective of this project is to build an Arduino voice shield to empower thousands of voice related applications! All this mostly thanks to an integrated ISD1790PY chip. This particular voice/TTS feature can be useful to integrate voice messages in alarm systems, to implement generic…… Listed under: [Home Automation Projects](#)

706. [[FTC] Open Feathercoin ATM](#)

Open Fethercoin ATM is an open-source automated teller machine for education and experimentation. Based on John Mayo Smith's OpenBitcoinATM which can be seen in action here A "voucher" is printed containing a private key QR Code that has been pre-loaded with the correct value of…… Listed under: [Other Projects](#)

707. [Scooterputer](#)

I spend a fair amount of time zipping around town on my scooter, and thought it would be cool to add a voltage monitor to warn when the battery might need recharging. Waiting until the electric starter no longer works is somehow lacking. So after…… Listed under: [LED Projects](#)

708. [Arduino Tutorial – Chapter 2.3: Schematic and Breadboard Diagrams](#)
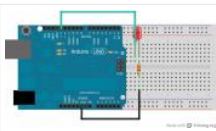
Schematic Diagram You may remember, if you studied electronics as part of your science course at school, that there is a specific way of drawing circuit diagrams. Each component has a particular symbol (which may vary slightly depending where in the world you live) that…… Listed under: [Development Board – Kits Projects](#), [LED Projects](#)

709. [The LCDuino-1 I/O processor](#)
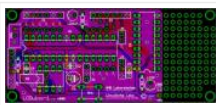
News – April 25, 2010: All future announcements and updates for the LCDuino-1 and related app modules (δ1 relay-based attenuator, δ2 relay-based input/output selector, and others) have moved to the new AMB DIY audio forum. We have an entire forum category dedicated to the LCDuino…… Listed under: [LCD Projects](#)

710. [Web Server with Two Temperature Gauges](#)

This project consists of two temperatures that are measured by the Arduino using two MCP9700 temperature sensors An Arduino Uno and Ethernet shield are set up as a web server that hosts a web page to display the two temperatures on two gauges. The web…… Listed under: [Temperature Measurement Projects](#)

711. [How to Text Yourself when your DSC PC1550 Home Security System Alarms](#)

I have a home security system that was installed when my home was built in the early 1990's. It is, or was until I modified it, a wired perimeter system with a single wired motion detector. The system is a DSC PC1550 and originally was…… Listed under: [Security – Safety Projects](#)

712. [A lightning flash counter](#)

Many years ago, I think it was in 1997, I stepped into an interesting circuit on a book about high voltage [1]. It was the diagram of a simple "lightning flash counter" intended to help in designing lightning protections on power lines. The description was…… Listed under: [Other Projects](#)

713. [Using an Arduino as a garage car parking sensor](#)

"M-my lord, it-it's impossible to locate the ship. It's out of our range." – Nute Gunray We recently moved into a new house and as always the first problem to address was finding the optimal place to park cars in the garage. Ideally, we wanted...... Listed under: [Sensor – Transducer – Detector Projects](#)

714. [Gesture control car(robot) with Arduino and Android(bluetooth)](#)

Hi folks, Here's an interesting project for all you creative minds out there. We are going to build an android phone controlled RC car. Nothing could be more fascinating than remote controlled cars. This one uses Bluetooth for communication and accelerometer of the mobile device...... Listed under: [Bluetooth Projects](#), [Robotics – Automation Projects](#)

715. [GSM Home Security Alarm System with Arduino](#)

This project deals with the design & development of a theft control system for home, which is being used to prevent/control any theft attempt. The developed system makes use of an embedded system (comprises an open hardware microcontroller and a gsm modem) based on Global...... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)

716. [Arduino RFID Reader RC522 + Access Control System](#)

I just received my RC522 RFID reader and made this simple Arduino access control system that uses the reader, a buzzer for the alarm and a relay shield for the security system. The relay can be used to open a door lock and if you...... Listed under: [RFID – NFC projects](#)

717. [Fun With The Arduino Esplora: A Digital Picture Frame](#)
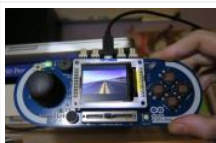
With this article I kick off my series on the Arduino Esplora board. Today's project is a nice (and cheap!) little digital picture frame that uses the Esplora's TFT Screen add-on. Materials Needed In this section you will find the materials that you need to...... Listed under: [LED Projects](#)

718. [Rotary Encoder & Arduino](#)

I am not sure, but it was in year 1999, a non-stop (360 degree rotation) potentiometer found in a stereo music system confused me a lot. At that time, I failed to keyed out the strange potentiometer manufactured by ALPS. Later, I learned that it's...... Listed under: [Other Projects](#)

719. [Arduino based Bi-color LED Matrix Flappy Bird Game](#)

We have built quite a few projects using the Bi-color (Red and Green) LED Matrix Driver Module kits from jolliFactory and have published them as instructables here. Each of these modules uses two MAX7219 Display Driver ICs to drive a Bi-color LED Matrix. These ICs...... Listed under: [LED Projects](#)

720. [Arduino based Electronic Queuing System](#)

This is a Queuing System project requested by a clinic asistant which allows the doctor enter number from a keyboard and display it on a 32×16 LED panel. This project uses two Arduino, the first Arduino functioned as a SENDER which included a PS2 keyboard...... Listed

under: [LED Projects](#)

721. [Digital Arduino Voltmeter with Temperature](#)

Step 1: The case I dug out an appropriate case from the dumpster, milled out a rectangular hole for the lcd, and drilled holes to mount the LCD and the Arduino. I used brass standoffs and fiber washers to prevent shorts. Then I gave the…… Listed under: [Metering – Instrument Projects](#)

722. [Learning Sequential Logic Design for a Digital Clock](#)
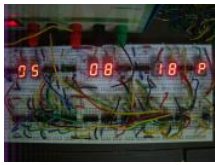
This instructable is for two purposes 1) to understand and learn the fundamentals of sequential logic 2) use that knowledge to create a digital clock. Digital clocks have been built by countless electronics hobbyists over the world. So why have I chosen to implement that?…… Listed under: [Clock – Timer Projects](#)

723. [Homebrew Arduino Pulse Monitor (Visualize Your Heartbeat)](#)

Movies look cool with those EKG (electrocardiogram), the one that beeps and detects heart activities. A few months ago, we had to shoot a hospital scene for our school project. We needed an EKG instrument. To keep the movie authentic, we didn't want to fake…… Listed under: [Medical – Health based Projects](#)

724. [How to Build a (Piezo) Knock Sensor Circuit](#)
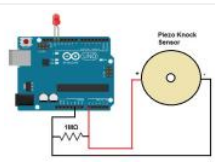
In this article, we go over how to build a piezo knock sensor circuit. A knock sensor is a sensor which produces a voltage in response to some type of physical stress such as a knock or vibration. This is why it's called a knock…… Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)

725. [Simulating Logic Gates](#)
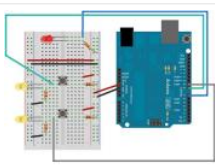
Introduction This project is a simple way of using the Arduino to simulate the behaviour of logic gates. Logic gates are explained on this page. The project does not actually carry out the function of the logic gate, just turns a light on or off…… Listed under: [LED Projects](#)

726. [Tri-State Logic](#)
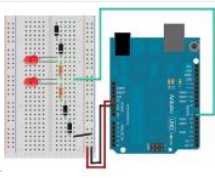
Introduction So far we have sent one of two values to any Arduino output pin, either HIGH or LOW. This project shows how we can exploit a third state of the Arduino pins to reduce the number of pins needed to control LEDs. In the…… Listed under: [LED Projects](#)

727. [Coin slot detector](#)

when your coin slot is exposed, this wearable hip-pack vibrates that area to make you aware of it. you decide to cover up, or let it all hang out. the coin slot detector is a simple way to tackle the complicated modern problem low-rise jeans…… Listed under: [Sensor – Transducer – Detector Projects](#)

728. [Polargraph Drawing Machine](#)

This machine, a variation on the hanging-pen plotter is a conspicuous and wilfully naive attempt to break out of the pristine, pixel perfect, colour-corrected space that exists inside our computers. It's a drawing machine, that takes a pen (a human tool) and uses it to…… Listed under: [Robotics – Automation Projects](#)

729. [Turn your Arduino into a Magnetic Card Reader!](#)

Everyone has used a magnetic card reader, I believe. I mean, who carries cash these days? They're not difficult to get your hands on, either, and during a trip to my favorite local electronics shop, I found a bin full of these guys. So….of course,…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

730. [Arduino Sous-Vide Cooker](#)

Sous-vide cooking allows you to precisely control the temperature of cooked food (how "doneness" is measured) by immersing it in a carefully controlled water bath. It's possible, but seriously difficult, to do this just with a thermometer and a pot on the stove… but if…… Listed under: [Temperature Measurement Projects](#)

731. [Basic Projects using chipKIT Uno32](#)

Happy Tuesday, everyone! I tend to get excited about products that enable beginners to be really creative, and today's product highlight is one I think is worth getting excited about! [video width="380" height="285" id="_63Mq6QMxxM&" type="youtube"] A few things that I really like about the shield:…… Listed under: [How To – DIY – Projects](#)

732. [Arduino Laser Tag – Duino Tag](#)

Duino tagger- General introduction Duino tag is a laser tag system based around the arduino. Finally a laser tag system that can be tweaked modded and hacked until you have the perfect laser tag system for office ordnance, woodland wars and suburban skirmishes. Laser tag…… Listed under: [Game – Entertainment Projects](#)

733. [Wii Nunchuck Adapter](#)

This tutorial is for all those people who have an arduino and want to use there Wii nunchuck as an input device, but dont realy feel like cutting open the cord and ruining the nunchuck FOREVER!!!!!!!!well youve come to the right place! Step 1: Supplies…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

734. [Flamethrowing Jack-O'-Lantern](#)

A flamethrowing jack-o'-lantern keeps the trick-or-treaters a safe distance from your house and is a fine addition to any anti-Halloween arsenal. At the first sign of any sugar-obsessed imp, simply press the trigger button and wirelessly shoot a one-second burst of flames out of the…… Listed under: [Other Projects](#)

735. [Make a swimming Robo-Snake](#)

Sneel is the name of my snake / eel swimming robot. This is documentation of hardware, software and mechanical design of Sneel_003. urethane flex tubing, microcontrollers, Zigbee wireless radio, hose clamps, wires, servo motors, titanium servo brackets, silicon, marine grease, epoxy, pond pump Sneel is…… Listed under: [Robotics – Automation Projects](#)

736. [The EyeWriter 2.0](#)

The EyeWriter is a low-cost eye-tracking apparatus + custom software that allows graffiti writers and artists with paralysis resulting from Amyotrophic Lateral Sclerosis to draw using only their eyes. The original design, as shown here, featured a pair of glasses as the basis for the...... Listed under: [Development Board – Kits Projects](#)

737. [N: how to make a multi-layered acrylic and LED sculpture with variable lighting levels](#)

Here you can find out how to make you very own n as made for the exhibition www.laplandscape.co.uk curated by art/design group Lapland.More images can be seen at flickr This exhibition runs from Wednesday 26 November – Friday 12 December 2008 inclusive, and had a...... Listed under: [LED Projects](#)

738. [Arduino-Controlled Robotic Drum](#)

For years I have been telling anyone who listens that I was going to build a robotic drum. Most people kind of shrugged indifferently. Even as I built it, most people kind of glanced over at it and conveyed doubtfulness. It seemed like no one...... Listed under: [Robotics – Automation Projects](#)

739. [SITWAY](#)

You are never to old to learn and try new things. I think one of the best days in my life was the day I discovered the Instructables web site. It opened up a whole new world to me. This is my third instructable .... Listed under: [Robotics – Automation Projects](#)

740. [Arduino R/C Lawnmower (painted)](#)

What this is: This instructable will show you how to make your Arduino into an R/C interface that you can use for just about anything requiring remote control. I will also show you how I built an R/C lawnmower using my Arduino, a cheap R/C transmitter and...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

741. [Power Laces- the Auto lacing shoe](#)

Also, check out Power Laces: Version 2.0 Why wait until 2015? Inspired by 'Back to The Future II', this project is less 'Practical' than 'Proof of Concept', but hopefully it'll tide you over until Nike comes out with something more polished. This was also the...... Listed under: [Other Projects](#)

742. [Sigh Collector](#)

Sigh v. i. [imp. & p. p. {Sighed}; p. pr. & vb. n. {Sighing}.] 1. To inhale a larger quantity of air than usual, and immediately expel it; to make a deep single audible respiration, especially as the result or involuntary expression of fatigue, exhaustion,...... Listed under: [Other Projects](#), [Phone Projects](#)

743. [On The Fly – Prototype II Final Report: Home Automation Framework](#)
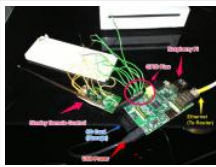
Introduction: The Home Automation Framework project is a web application that can remotely control the electronic devices in one's home using a web interface on a smartphone, tablet or desktop computer. The project facilitates ease of access and remote control of electronic devices for those...... Listed under: [Home Automation Projects](#)

744. [LED Cube 8x8x8](#)

Create your own 8x8x8 LED Cube 3-dimensional display! We believe this Instructable is the most comprehensive step-by-step guide to build an 8x8x8 LED Cube ever published on the intertubes. It will teach you everything from theory of operation, how to build the cube, to the...... Listed under: [LED Projects](#)

745. [Cloud Sensor Base-Station](#)

What I want to do I want to create a platform with the capacity to control a large number of sensors and actuators necessary for the hydronponics system outlined in this wiki, and to serve as the central gateway to a cloud-enabled dashboard. The basis...... Listed under: [Sensor – Transducer – Detector Projects](#)

746. [Drawing on a 7×5 LED matrix with Arduino in C](#)

In my component drawers I have a LTP-7357AG, which is a matrix of 35 green LEDs conveniently packaged in a 12-pin display. I wanted to play with it so I began to hook it with my Arduino Uno. This post is part of a series about programming Arduino......
Listed under: [LED Projects](#)

747. [DIY wattmeter with an Arduino](#)

DIY wattmeter with an Arduino It is difficult or sometimes even impossible to measure power and energy with ordinary multimeters. To carry out such a measurement reliable and accurate, a special wattmeter is required. Because these meters are very expensive, a cheaper solution is presented...... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)

748. [The Viciously Simple Clap-ON Clap-OFF Circuit For Arduino](#)

Hi Everyone! I've had a few people ask about creating a simple clap-on/clap-off circuit using Arduino. Well those who are interested are now in luck. The software in this instructable is simple and well commented. The schematic is simple, and the components are easy and...... Listed under: [LED Projects](#)

749. [Arduino car LCD display](#)

Here is a project I made a couple of years ago for my father's car. The original dashboard's info-panel which displayed current time, date and temperature was working only partly – and that only after a good cleaning and connector fastening. In other words –...... Listed under: [Car Projects](#), [LCD Projects](#)

750. [Arduino Tiny Temperature Shield Project](#)
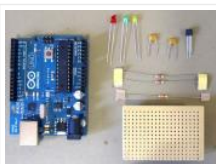
In this Arduino project, you will build a small shield that measures temperature and will switch on one of three LEDs depending on the current temperature measurement. Each LED can be set to switch on in a predefined temperature range. The PC software for the...... Listed under: [Shield](#), [Temperature Measurement Projects](#)

751. [Automatic Home surveillance system using arduino(simple and cheap)](#)

The goal of my project is to achieve Automatic home surveillance system without any manual interference. In general other surveillance system it is necessary to power ON TV and camera receiver every time. And also it needs to any user input to view who is...... Listed under: [Home Automation Projects](#)

752. [GESTURE VOCALIZER FOR DUMB PEOPLE INTERACTIn ION](#)

To establish a communication or interaction with Deaf and Mute people is of utter importance nowadays. These people interact through hand gestures or signs. Gestures are basically the physical action form performed by a person to convey some meaningful information. Gestures are a powerful means...... Listed under: [Other Projects](#)

753. [Solar Panel Battery Charge Controller Using Arduino](#)
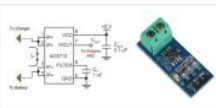
This is an updated version of Solar Panel Charge Controller Using Arduino. Solar Panel Battery Charge Controller Using Arduino Pictures of Power box and Arduino solar charge regulator: Charge Regulator with Power Box Connections to Regulator Inside the Box The output voltage of the ACS712...... Listed under: [Solar energy projects](#)

754. [LED firefly Jars](#)

There's a nice charm to fireflies in a jar—except for, you know, all the dead bugs afterwards. I decided to make a bunch of fake fireflies in real jars for decoration at an outdoor event. The fireflies are yellow LEDs controlled by a small ATtiny45...... Listed under: [LED Projects](#)

755. [Accelerometer Controlled Robot](#)

Most of industrial robots are still programmed using the typical teaching process, through the use of the robot teach pendant. In this paper is proposed an accelerometer-based system to control an industrial robot using two low-cost and small 3-axis wireless accelerometers. These accelerometers are attached...... Listed under: [Robotics – Automation Projects](#)

756. [Bluetooth Controlled Robot](#)

In this proposed system we going to construct a basic DC motored robot which we are going to control with android app easily available on google play store named bluecontrol. With Basic mobility of robot like forward, Reverse, left, right we try to implement four...... Listed under: [Bluetooth Projects](#), [Robotics – Automation Projects](#)

757. [Arduino Project: Intervalometer for Fuji cameras](#)

This post is about an arduino-based intervalometer I built for my camera, a Fuji S9600 dSLR. I decided to go for a very simple interface: a rotary switch in the middle of a plastic box which would allow me to select 12 pre-defined intervals. I...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Video – Camera – Imaging Projects](#)

758. [Automatic Garden Watering Device – Arduino](#)

As part of the Content Creation course for my MLIS degree (Our class blog: http://scumakers.wordpress.com/), I needed to come up with a final project and wanted to learn to use an Arduino. In the end I came up with this device to automatically sense...... Listed under: [Home Automation Projects](#)

759. Arduino Hygrometer
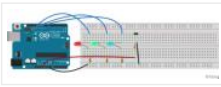
I am building an automated irrigation system for my vegetable patch. This will be a system that monitors the soil moisture level and then turns on a pump to send water to my garden according to the detected moisture level. The water is coming from…… Listed under: LED Projects

760. Make a Web Connected Robot (for about $500) (using an Arduino and Netbook)

This Instructable will show you how to build your own Web Connected Robot (using an Arduino micro-controller and Asus eee pc). Why would you want a Web Connected Robot? To play with of course. Drive your robot from across the room or across the country,…… Listed under: Robotics – Automation Projects

761. Arduino Motor Party

In this instructable I will show you how to throw an Arduino motor party. I will also be giving away an Arduino Mega, Arduino Uno, and an Arduino Pro Mini. (Details at the end) Step 1: Assembly + Code You'll need a handful of motors…… Listed under: Motor Projects

762. Send SMS from Arduino over the Internet using ENC28J60 and Thingspeak

This Instructable explains how to send an SMS from an Arduino using the Internet. There are many ways to approach this and I will explain one of the different methods used to accomplish this task. Some major points needed for my project: I have a…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

763. Washer Dryer Laundry Alarm using Arudino & SMS Text Messaging Alerts

Have you ever wished there was a better way to be notified when your laundry was done? Have you ever forgotten a load in the washer because you couldn't hear the buzzer and your clothes became smelly and moldy from sitting there for too long?…… Listed under: Home Automation Projects, Wireless Projects

764. Converting infrared to RF signals with Arduino

In this project we will show you how to switch on and off the power sockets box with an IR remote. Not only the power sockets box, but other RF receivers can be switched on and off with the same IR remote as well. We…… Listed under: Wireless Projects

765. How to Make a Wireless Path Tracking System Using Mouse, XBee and Arduino

The applications of microcontroller are not limited to control simple electrical or electronic device but they are widely used in robotics and automotive industries nowadays. From simple rear view mirror control to complex engine control functions are done by the microcontroller. The microcontroller can even…… Listed under: Wireless Projects

766. How to Transmit Mouse Data Using Xbee with Arduino

The PS2 mouse is an input device which can communicate with a host device using the PS2 protocol. It can be connected to a host device using the 6 pin mini DIN connector. The mouse will continuously give output which can be decoded to get…… Listed under: Development Board – Kits Projects

767. How To Save a Text In The EEPROM of The Arduino

A microcontroller might need to store its data like sensor value, or a particular count or image data for a long period of time. The most common type of memory used with the microcontroller based systems is EEPROM. The EEPROM stands for Electrically Erasable Programmable…… Listed under: [LED Projects](#)

768. [Drawing an Arduino Circuit Diagram](#)
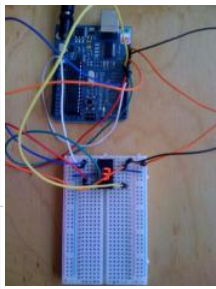
I've had an Arduino Duemilanove now for a couple of weeks. If you're not familiar with the Arduino, it is "an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software". It has a small microcontroller, a USB port to connect to your computer…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

769. [Generate Random Number using Arduino](#)
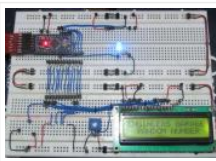
A random number generation is very important in computing devices which helps them to do task in random manner. The applications of random number generation can be found in shuffling the audio files in an audio player, in almost all kind of digital games, generating…… Listed under: [Development Board – Kits Projects](#)

770. [Augment a Moog Etherwave Theremin](#)

I'm going to go through my process of hacking a Moog Etherwave Theremin. I created a new acrylic top, partially sanded to be translucent in certain areas, and created my own circuit around an ATMega168 Arduino Bootloaded microcontroller which is stealing a control voltage from…… Listed under: [LED Projects](#)

771. [Project Suite Bros: Voice Activated LED Friendship Photoset (Arduino, Bluetooth, Crafts)](#)

(and partner-in-crime, Abbie). Now, I'm off to the next stage of my life, so I decided to build this friendship photoset for Kevin and Briton to remember our golden era. We called ourselves: "The Suite Bros". This project is actually an extension of the "Voice…… Listed under: [LED Projects](#)

772. [Arduino Garage Controller](#)

Although there are many garage door projects on Instructables using Arduinos, I needed/wanted something different. Last year, we had a warm summer and when I would come home after work, I would leave the garage door open about 1 foot so it could cool off……. Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

773. [Arduino based Drone Quadricopter](#)
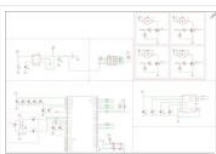
[gallery ids="19920,19921,19922,19923,19924,19925,19926,19927"] arduino based Drone Quadricopter It's a tiny quadrotor helicopter! Update Feb 25 2012: Warning, I may have discovered a bug inside the CadSoft EAGLE 6.1.0 software that may make the PCB look slightly different. My design files are meant for 5.11 so use…… Listed under: [Drone](#)

774. [Project: Cleaner robot using Magician Chassis, Arduino, distance sensor and hand sweeper](#)

This is a cleaner robot so you can give to your mommy or just use to clean your bedroom =P. Material List: 1x Arduino UNO R3 1x Magician Chassis 1x Shield Motor Driver (Shield 4Power) 1x Distance Sensor 1x Servomotor 1x Hand Sweeper 1x Battery 1……. Listed under: [Robotics – Automation Projects](#)

775. [Arduino-Based Shadow Alarm](#)

Shadow alarms are usually used for protection against theft. A shadow alarm is a device that sounds an alarm when a shadow falls on it.Described here is a simple circuit of an arduino based shadow alarm.This compact shadow alarm unit is capable of sensing a...... Listed under: [Security – Safety Projects](#)

776. [Arduino Bicycle Alarm and Lights](#)

This alarm is a good way to alert you if somebody messes with your bike. I had a bicycle stolen a while back and decided there had to be a better way to keep my bike secure. When I searched for bicycle alarms, all I...... Listed under: [Security – Safety Projects](#)

777. [How to Use IR Remotes with Arduino (Current and Updated)](#)

I'm tired of these complicated tutorials on how to use certain things. I like simple, easy to understand, step by step instructions. My biggest problem was with IR and POV*. I've finally mastered how to control my project with any TV remote in a few...... Listed under: [Wireless Projects](#)

778. [ARDUINO Burglar Alarm Using Infrared Emitter-Detector pair](#)
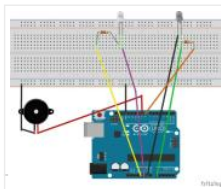
In this tutorial i will show you , how to make a simple Inexpensive Intrusion Detection(Burglar alarm) using an Arduino Uno board . This project uses the Infrared Emitter-Detector pair to detect intrusion and triggers an alarm as soon as the object crosses the infrared...... Listed under: [Wireless Projects](#)

779. [Arduino for Photographers: Building a Universal Intervalometer](#)
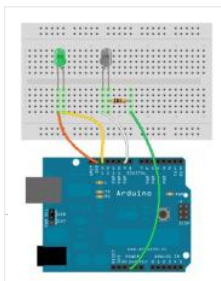
Practicing the art of time-lapse photography without an intervalometer is doable, but not particularly efficient. And while any decent photo equipment store will be happy to sell you one, you can go the DIY way and build your own intervalometer based on the excellent Arduino platform. Theoretically, building...... Listed under: [LED Projects](#)

780. [Connecting the ADXL337 to the Arduino](#)

Today I'll write about the ADXL337 accelerometer. The ADXL337 measures the acceleration of the x, y and z axis. This means it measures the force acting on any of the axes at a specific moment in time. Because it's an analog device the measurement intervals are as short...... Listed under: [Other Projects](#)

781. [Arduino Accelerometer mma7361](#)
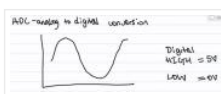
Hey guys, I am a teaching assistant for an introduction to engineering class for biomedical engineering majors at Vanderbilt University this semester. I created this video to explain analog-to-digital conversion to them because time ran out during class and I did not get to this...... Listed under: [Interfacing(USB – RS232 – I2c - ISP) Projects](#), [Sensor – Transducer – Detector Projects](#)

782. [Arduino Automatic Watering System](#)

INTRODUCTION & OBJECTIVES: I is a simple system, using Arduino to automate the irrigation and watering of small potted plants or crops. This system does the control of soil moisture, doing indications via LEDs and in case of dry soil emitting a alarm beep. In......
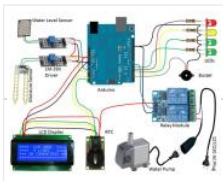
Listed under: [Home Automation Projects](#)

783. [Arduino Compatible apc220 Wireless rf Module with Graphics LCD](#)

16 node mesh, up to 1000m between nodes, sample two analog voltages per node, link any node to any other node, display data on any node with either graphics or text display, turn on relays based on data at any node, fault tolerant with data...... Listed under: [RFID – NFC projects](#), [Wireless Projects](#)

784. [Arduino DS1307 Clock](#)
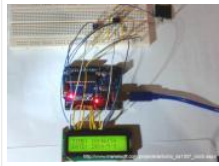
1) Introduction and Images Hello friends, today I am going to build a Digital Clock using Arduino UNO and famous DS1307 Real Time Clock IC. Before we begin, here are some images of the completed project. You can find the YouTube video at the bottom...... Listed under: [Clock – Timer Projects](#), [LCD Projects](#)

785. [MCP41100 an Arduino Controlled Potentiometer](#)

We know the analog potentiometer , is a three-terminal resistor with a sliding contact that forms an adjustable voltage divider . MCP41100 an Arduino Controlled Potentiometer: 1)volume controls on audio equipment. 2) Control the amplifier Gain and offset . 3) Transducer " displacement transducers "....... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sensor – Transducer – Detector Projects](#)

786. [Arduino Bipolar Stepper Motor](#)
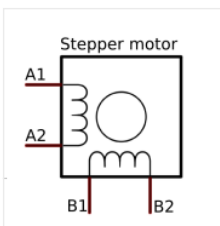
It is a well known fact that Stepper motors are awesome! The only downside is that they can be a bit trickier to get going than servos and plain old DC motors. If you are interested in the inner mechanics and theory of stepper motors, check this...... Listed under: [Motor Projects](#)

787. [How To Generate Square Wave Using Arduino](#)

Any AVR microcontroller based board which follows the standard Arduino schematic and is flashed with the Arduino bootloader can be called an Arduino board. The Arduino is refered to as open source hardware and the Arduino IDE is also open source and anybody can contribute...... Listed under: [Development Board – Kits Projects](#)

788. [Arduino and Transistors Question – RE: School Musical Production](#)
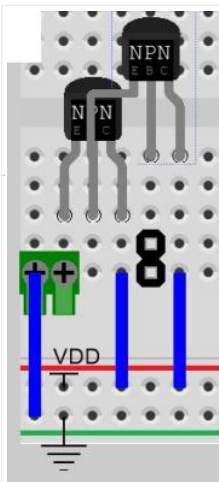
One of the directors has asked me to create a special backdrop for our college musical. This particular backdrop has a particular design (see below) that includes LED strip lighting to give the feel of a 1920s casino sign – similar to what is seen...... Listed under: [LED Projects](#)

789. [Build Arduino Based Home Security System Using PIR Motion Sensor](#)

PIR sensors are widely applied in wireless residential security systems, home alarms systems and many more security circuits as motion detector sensors. A typical PIR sensor detects the infrared red (IR) waves from human body and so it is also known as 'human sensor'. It...... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)

790. [Temperature Sensing with Arduino](#)

As part of the CanSat Primary Mission, we need to measure temperature. For this our starter kit has given us an Arduino Uno R3 micro-controller, as well as some resistors and an NTCLE101E3 NTC Thermistor. The thermistor is a special kind of resistor that changes...... Listed under: [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)

791. [Arduino Basics #5 – Add SD storage to Arduino](#)

Arduino Uno's microcontroller board is great, but the one thing it's not overly generous with is storage. Having 32KB of program flash storage, 2KB of RAM and 1KB of programmable EEPROM space at your disposal is fine for many Arduino projects, but it's not enough...... Listed under: [Arduino Programmer Projects](#)

792. [GSM Based Wireless Notice Board](#)

ABSTRACT: There are several places which require vital notice to be displayed like colleges, railway stations, share-market, restaurants, hospitals etc. Looking into the present trend of information transfer, it is seen that vital notice take time to be displayed on the displaying boards. This latency...... Listed under: [Wireless Projects](#)

793. [How to Make Phonecall From GSM Module Using Arduino](#)

One can use a cell phone with any cellular networks around the globe if the proper SIM card is inserted in it. This is possible because there is some device inside the cell phone which follows a global standard enabling them to connect with different...... Listed under: [Phone Projects](#)

794. [Sinewave Inverter Circuit Using Arduino](#)

The post explains how to build a simple sinewave inverter circuit using PWM feed from an Arduino Uno board, the article also discusses a sinewave 3 phase inverter using the same input from an Arduino. The idea was requested by Mr. Raju Visshwanath The Design...... Listed under: [PWM Projects](#)

795. [Arduino Digital Voltmeter 0V to 30V](#)

Here is a useful circuit for Arduino lovers and experimenters. It is a simple digital voltmeter, which can safely measure input dc voltages in 0 to 30V range. The Arduino board can be powered from a standard 9V battery pack, as usual. As you may...... Listed under: [Metering – Instrument Projects](#)

796. [Pololu Dual VNH5019 Motor Driver Shield for Arduino (ash02a)](#)

Get your Arduino moving! This shield makes it easy to control two high-power DC motors with your Arduino or Arduino-compatible board. Its dual robust VNH5019 motor drivers operate from 5.5 to 24 V and can deliver a continuous 12 A (30 A peak) per motor, or a continuous...... Listed under: [Motor Projects](#)

797. [Arduino Programming For Beginners: The Traffic Light Controller](#)

Last week, we learnt about the basic structure of an Arduino program and took a closer look at the 'blink' example. Hopefully you took the opportunity to experiment with code, adjusting the timings. This time, we'll be writing something from scratch. In fact, let's make...... Listed under: [LED Projects](#)

798. [Tutorial 14: Arduino LCD Thermometer](#)
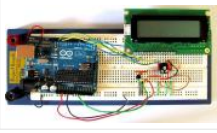
In this tutorial, a temperature sensor (MCP9700 linear active thermistor IC) and LCD are connected to the Arduino. The Arduino reads the temperature from the MCP9700 on analog pin A0 and displays the temperature on the LCD. This video shows the circuit operating. When touched...... Listed under: [LCD Projects](#)

799. [Arduino Project 5: Digital audio player](#)
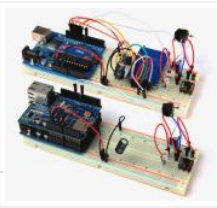
So far in this series we've had a diverse look at how Arduino can interact with a range of real-world devices from servo motors to ultrasonic range finders TVs to humidity sensors. Now we'll see if we could get the Arduino to make a few...... Listed under: [Sound – Audio Projects](#)

800. [Arduino Project # 1 – Make an Ultrasonic Distance Calculator](#)

Arduino Project – The distance calculator I have been playing with Arduino (micro-controller) for about 2 years now and I am becoming more and more passionate about circuits. For those who are not aware of Arduino, check out my article "Arduino – A Guide for...... Listed under: [Calculator Projects](#)

801. [Arduino Project 4: Enhancing your mini robot](#)

You'll need these: HC-SR04 – Get this ultrasonic sensor from eBay.com.au for $2. SG90 Servo Motor – We've seen this servo selling for around $4 on ebay. Motor drive shield – You can get this expansion board for $5 online. If you're new to APC...... Listed under: [Robotics – Automation Projects](#)

802. [Capacitive Touch Sensor on Arduino](#)
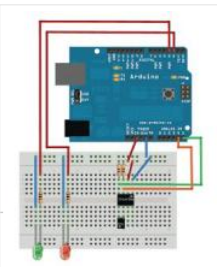
If you ever wanted to integrate touch sensitivity into your project, this board could just do the trick. It's a capacitive touch sensor. These sensors are used in our everyday consumer electronics like notebook trackpads, video game consoles, touchscreens...just to name a few. They work...... Listed under: [Sensor – Transducer – Detector Projects](#)

803. [PID Thermostat](#)
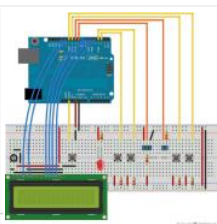
PID Thermostat This is a PID thermostat for the arduino. It supports independent tuning parameters for multiple hardware 'profiles', and includes an autotune mode to estimate the PID parameters for a given setpoint. Installation Hardware DS18-series (I'm using the DS18B20) temperature sensor Solid-state relay rated...... Listed under: [Sensor – Transducer – Detector Projects](#)

804. [Wireless Arduino Oscilloscope](#)
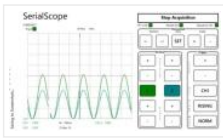
In this guide I will explain how to use a Windows 8.1 phone, Arduino Uno board, and HC-05 Bluetooth module to build a wireless oscilloscope. The phone application has the critical functions of an oscilloscope, although the bandwidth is a measly 300 Hz. Still, if...... Listed under: [Wireless Projects](#)

805. [Simple Arduino Wireless Mesh](#)

Build a low cost simple wireless mesh using arduinos and long range APC220 radio modules. Wireless mesh networks can handle individual nodes not working and are tolerant to environments such as forests and hills where data may not be able to go directly from one...... Listed under: [Wireless Projects](#)

806. [Arduino 3.3V](#)

This Lazy Old Geek (L.O.G.) loves Arduinos. I have noticed that a lot of sensors, like GPS, LCDs, magnetometers are 3.3Vdc sensors. But the standard Arduinos, Uno, RBBB are 5Vdc modules. So I decided I'm going to make more of my Arduino projects with 3.3Vdc...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

807. [Arduino Fridge Magnet](#)

Do you have a habit of leaving notes on the fridge, now take it digital and add an Arduino to it. In this instructable I'm going to show you how to do just that. All you need is an Arduino, an LCD screen and a...... Listed under: [LCD Projects](#)

808. [Ultrasonic Range detector using Arduino and the SR04 Ultrasonic sensor](#)
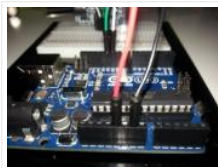
his is a preliminary instructable that will take you through the steps I took to get the SR04 ULTRASONIC SENSOR connected and working to the Arduino. It will then be incorporated to my mini environment monitor. Eventually, if it all fits, it will end up...... Listed under: [Sensor – Transducer – Detector Projects](#)

809. [Kid-friendly PuppyDuino 0.31](#)

OK, this is not a fully autonomous "get you a beer, open it for you and then tweet about it" robodog (yet 😊) but if you're itching to get past the blinky lights on a breadboard stage with your Arduino and you're ten or know...... Listed under: [LED Projects](#)

810. [The Arduino Mothbot](#)

The purpose of this project is to design and build a simple light-following robot using an Arduino Duemilanove microcontroller board. I really wanted to share a robot project that was cheap, simple to build, and had a complete set of instructions for all of the...... Listed under: [Robotics – Automation Projects](#)

811. [David Bynoe works in progress](#)

For an upcoming project I needed a pneumatic ram with a closed loop control system so I could position it accurately. Didn't have the budget for an off the shelf solution, so I bodged one together with an ardunio, a couple air solenoid valves, and...... Listed under: [Other Projects](#)
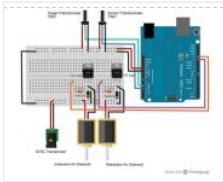
812. How to Build an H-bridge Circuit with an Arduino Microcontroller
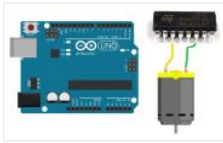
An h-bridge is a chip that allows DC motors to be run versatile, with bidirectional capability. With an H-bridge, motors can go forward or backward, left or right, up or down, etc, depending on the use of the motor(s) in the circuit. Without a microcontroller,…… Listed under: Motor Projects

813. Arduino passive IR trigger for Canon EOS

The other day I wanted to experiment with external triggers for my Canon EOS 550D camera. I stumpled upon a nice open source project called Arduino Camera Control from Oleg Mazurov, the creator of the USB Host Shield library for Arduino. The Arduino Camera Control…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

814. ARDUINO RF power & SWR meter

This sketch will readout RF power and SWR from any SWR bridge (for example 'monimatch' type). As this 'monimatch' type of bridge is frequency dependant, the meter must be calibrated for every band. Because my primary interest was for VHF/UHF/SHF, I have foreseen positions for…… Listed under: Metering – Instrument Projects

815. Internet connection indicator box with restart button

THE SETUP For an interface I thought 3 LEDs would be simple enough: Blue for everything is fine (as blue LEDs are cooler than green ones); red for something is wrong; and yellow for the modem and router are being restarted. I added a button…… Listed under: Internet – Ethernet – LAN Projects

816. Arduino Security Alarm with Reed Switch
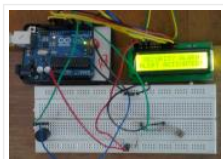
How does the security alarm circuit works? When power is turned on, the circuit goes into standby mode, and this condition is indicated by "SECURITY ALARM" in the LCD screen.Note that here a N/O reedswitch + bar magnet combination is used to detect any mishaps,…… Listed under: Security – Safety Projects

817. Line Follower Robot using Arduino

A line follower robot using 8051 microcontroller is already published here and this time the same thing is done using arduino. This line follower robot is basically designed to follow a black line on a white surface. Any way the same project can be used…… Listed under: Robotics – Automation Projects

818. HOW TO MAKE CUSTOM GEAR FOR LINEAR MOTION

In the manufacturing industry, a wide variety of devices used at home or in the garden has been experiencing challenges in automating linear displacement of any of the items used. For instance, For example, an automatic opening of gates, automatic unlocking and changing positions of…… Listed under: Metering – Instrument Projects

819. Arduino Platform – SIMON Game Implementation

Introduction Having been a CodeProject member for several years, and not having got round to ever publishing an article, left me feeling a bit disappointed in myself. I have thought many a time on what kind of article I can produce. Then after coming across...... Listed under: Game – Entertainment Projects

820. Arduino Based Security System using GSM & PIR Sensor

In present time Home/Office and many other place security is most important. In our absence these places are not secure. For make these palaces secure many peoples keep guards and many people prefer electronic security systems. In present time many types of security systems are...... Listed under: Security – Safety Projects

821. Interface single and Dual IR Infrared sensor with Arduino and LCD

Interface single and Dual IR Infrared sensor with Arduino and LCD Introduction- Multiple Sensor Interface to Arduino In this another tutorial on sensors for beginners, we are going to interface single and multiple Infrared IR sensors with Arduino Uno development board, working simultaneously and have the...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sensor – Transducer – Detector Projects

822. Getting Started with Arduino – LED Blinking

 Arduino Uno is the best development board for beginners in the field of embedded systems. We can program Arduino board with less technical knowledge and programming skills. This tutorial is intended to beginners in the field of Arduino. Hope you already have an Arduino board. Then...... Listed under: LED Projects

823. 26-Way MIDI DRUMS
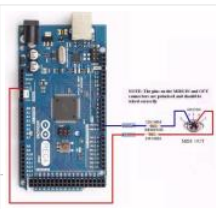
his design is a 26-way MIDI/USB drum pad system with the velocity byte fixed for 10 input drum switches and a 16-way velocity sensitive circuit, providing a full (0-127) velocity range using piezo sensors. The drums are pre-selected to the MIDI outputs 35-50 for the...... Listed under: Other Projects

824. LPD8806 SD/LCD Digital Light Wand! (Last Update – 20 September 2014)
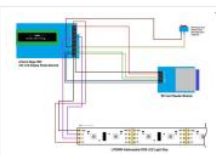
I have gathered the information from the HL1606 Digital Light Wand Blog and brought it all over to this new page so that there would be a page dedicated to the LPD8806 Digital Light Wand created by IS0-MICK. Mick took my original design and turned...... Listed under: LCD Projects

825. Interfacing LCD with Arduino Uno
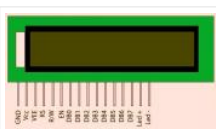
16×2 character LCD display is a very basic LCD module which is commonly used in electronic projects. 16×2 means it can display 2 rows of 16 characters (columns). Its other variants such as 16×1, 16×4 etc are also available. These LCDs are usually made using...... Listed under: LCD Projects

826. Analog to Digital Conversion in ARDUINO

Analog to digital conversion module of ARDUINO UNO has 6 input ports. The number of the port varies with your ARDUINO model but the coding remains the same. The analog reading in the analog inputs are converted into corresponding 10bit(0-1023). ARDUINO developers have made such an option that you...... Listed under: Other Projects

827. How to Convert an Arduino into an AVR Flash Programmer

In case you don't have an AVR programmer but you do have an arduino, the arduino can be converted into an AVR flash programmer, meaning it can program bare AVR microcontroller chips. Say if you have an AVR chip and you want to program the...... Listed under: [Arduino Programmer Projects](#), [How To – DIY – Projects](#)

828. [How to Build an Infrared Distance Sensor Circuit](#)

An infrared (IR) distance sensor is a sensor that can measure distance from a solid or physical object. An infrared distance sensor does this through light waves. It sends out infrared light and waits to receive it back at the receiver end. If it receives...... Listed under: [How To – DIY – Projects](#)

829. [How to Build an HC-SR04 Distance Sensor Circuit](#)

An ultrasonic distance sensor is a sensor that can measure distance from a solid or physical object. An ultrasonic range finder does this through sound waves. It sends out high-frequency sound waves and then waits to listen back for these sound waves. If it has...... Listed under: [Sensor – Transducer – Detector Projects](#)

830. [How to Build a Servo Motor Circuit (with Arduino)](#)

In this project, we will go over how to build a servo motor circuit using an arduino. This is a circuit which can control and rotate a servo motor to rotate a certain amount of degrees. Specifically, in our circuit, we will make it so...... Listed under: [Motor Projects](#)

831. [How to Build an Ohmmeter Using an Arduino](#)

In this project, we will show how you can build an ohmmeter using an arduino. An ohmmeter is a device that can measure resistance. Most of the times now, ohmmeters aren't standalone devices but appear as one of type of measuring device amongst many in...... Listed under: [Metering – Instrument Projects](#)

832. [MQ-7 Carbon Monoxide Sensor Circuit Built with an Arduino](#)
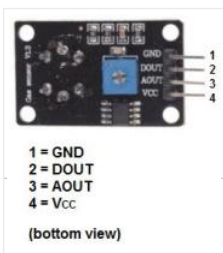
In this project, we will go over how to build a carbon monoxide sensor circuit with an arduino. The carbon monoxide sensor we will use is the MQ-7 sensor. This is a sensor that is sensitive to effects of CO. Carbon monoxide (CO) is a...... Listed under: [Sensor – Transducer – Detector Projects](#)

833. [MQ-3 Alcohol Sensor Circuit Built with an Arduino](#)

In this project, we will go over how to build an alcohol sensor with an arduino. The alcohol sensor we will use is the MQ-3 sensor. This is a sensor that is not only sensitive to alcohol, particularly ethanol, which is the type of alcohol...... Listed under: [Sensor – Transducer – Detector Projects](#)

834. [MQ-2 Smoke Sensor Circuit Built with an Arduino](#)

In this project, we will go over how to build a smoke sensor circuit with an arduino board. The smoke sensor we will use is the MQ-2. This is a sensor that is not only sensitive to smoke, but also to flammable gas. The MQ-2...... Listed under: [Sensor – Transducer – Detector Projects](#)

835. [How to Build a Liquid Level Gauge Circuit with an Arduino](#)

In this project, we will build a liquid level gauge circuit with an arduino. This is a circuit in which a liquid level can be monitored through a gauge. We read the liquid level from the gauge (low, medium, or high), just as you see...... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)

836. [Arduino Light Meter Circuit](#)

In this project, we will go over how to connect an analog volt panel meter to an arduino so that it can measure and give us a readout of light striking the circuit. In this way, the circuit will function as a light meter. When...... Listed under: [Metering – Instrument Projects](#)

837. [How to Build a Soil Moisture Sensor Circuit with an Arduino](#)

In this project, we are going to build a soil moisture sensor with an Arduino microcontroller. A soil moisture sensor, also called a hygrometer, measures the amount of moisture, or water, in the soil. Therefore, we can tell whether the soil has enough moisture or...... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

838. [How to Build a Night Light Circuit Using an Arduino](#)
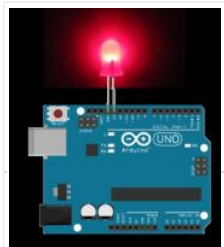
In this project, we will go over how to build a night light circuit using an arduino. A night light circuit is a circuit which will turn on when nighttime comes, which is when it gets dark and the place could use some illumination. It...... Listed under: [How To – DIY – Projects](#), [LED Projects](#)

839. [How to Build a Heat Detector Circuit Using an Arduino](#)

In this project, we will go over how to build a heat detector circuit using an Arduino. A heat detector circuit is a circuit, of course, which can detect the presence or absence of heat. This could be useful for a wide range of circuits...... Listed under: [Sensor – Transducer – Detector Projects](#)

840. [How to Build a Color Sensor Circuit](#)

In this project, we are going to build a color sensor circuit with an Arduino microcontroller. A color sensor is a device that can detect and differentiate between certain primary colors. This sensor can detect and differentiate between the colors white, blue, green, and red....... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

841. [Visual / Aural Guitar Tuner "The Tune Trainer" using arduino](#)

Build a strobe tuner with an integrated tone generator to teach tuning by ear. -=Background=- I have always dabbled in instruments. Over the course of my life, I've attempted (with varying success) Piano, Guitar, Banjo, Penny Whistle, Ocarina, Panpipes, Great Highland Bagpipes, Smallpipes, and Didgeridoo…… Listed under: [Sound – Audio Projects](#)

842. [How to Build a Light Detector Circuit Using an Arduino](#)

In this project, we will go over how to build a light detector circuit using an arduino. A light detector circuit is a circuit which can detect the presence or absence of light, depending on how we write our code to respond to the varying…… Listed under: [How To – DIY – Projects](#)

843. [Arduino-Based Optical Tachometer using arduino](#)
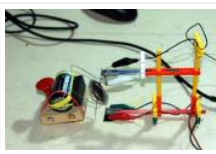
Over ten years ago, I put up a web page with detailed instructions on building a simple electric motor based on one from the Beakman's World TV show. I called it the "Beakman's Electric Motor" page and over the years it has had hundreds of…… Listed under: [Metering – Instrument Projects](#)

844. [How to Build an Infrared Proximity Switch Circuit Using an Arduino](#)

In this project, we will build an infrared proximity switch circuit using an arduino. This is a circuit in which a switch activates when the infrared sensor detects an object in its proximity. The infrared proximity switch sensor is a reflection-type photoelectric snesor which sends…… Listed under: [How To – DIY – Projects](#)

845. [Ultrasonic Batgoggles](#)

Wish you were bat? Want to Experience Echolocation? Want to try to "see" with your ears? For my first Instructable, I will show you how to build your own ultrasonic batgoggles using an Arduino microcontroller clone, Devantech ultrasonic sensor and welding goggles for around $60…… Listed under: [Game – Entertainment Projects](#)

846. [How to Build a Simple Force Sensing Resistor (FSR) Circuit](#)

In this article, we will go over how to connect a force sensing resistor, or force sensitive resistor, (FSR) to a circuit to build many different types of useful circuits with them. Force sensing resistors are variable resistors which change resistance according to the pressure…… Listed under: [How To – DIY – Projects](#)

847. [How to Install the Arduino to the Lithium Backpack using arduino](#)

The Arduino is an open source hardware input and output circuit and the Lithium Backpack is a Ardino accessory that will power the Arduino when it is away from a computer or a wall power. These products are sold at Liquidware for under $34 each……. Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

848. [How to Connect a Microphone to an Arduino](#)
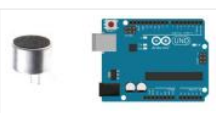
In this project, we will go over how to connect a microphone to an arduino so that the arduino can detect whether there is sound in the environment or not. This circuit is only capable of detecting whether there is sound in the environment or…… Listed under: [How To – DIY – Projects](#)

849. [Spectrographic Auroral Indicator – A Northern Lights Warning Device using arduino](#)

3/16/2011 EDIT: The Wing Kp Predicted Geomagnetic Activity Index model is now deployed and operational. Costello is now considered non-operational and will be discontinued on 23 Mar 2011. Comments and questions are welcomed at SWPC.CustomerSupport@noaa.gov The Wing Kp Predicted Geomagnetic Activity Index model is known…… Listed under: [Security – Safety Projects](#)

850. [How to Integrate a Temperature Sensor Circuit to an LCD](#)

In this project, we will go over how we can build a temperature sensor circuit and integrate it to an LCD so that we can get a readout of the temperature on the LCD. In previous projects with temperature sensor circuits, we built the circuit…… Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)

851. [How to Build a LM335 Temperature Sensor Circuit](#)

In this project, we will demonstrate how to build temperature sensor circuit using a LM335 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay this temperature to us back in degrees Kelvin. The difference between an LM335…… Listed under: [Sensor – Transducer – Detector Projects](#)

852. [How to Build a TMP36 Temperature Sensor Circuit](#)

In this project, we will demonstrate how to build temperature sensor circuit using a TMP36 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay the temperature to us back in degrees fahrenheit. The IC we will use…… Listed under: [Sensor – Transducer – Detector Projects](#)

853. [Hard Drive Persistence of Vision (HDPOV) using arduino](#)

The platter of a hard drive spins well over sixty times a second. If a narrow slot was cut into the platter to allow LEDs to shine through, we can achieve flicker fusion and trick the eye into seeing a stable image. This phenomenon is…… Listed under: [Memory – Storage Projects](#)

854. How to Drive a 7 Segment LED Display with an Arduino

In this project, we will show how to drive a single 7 segment LED display with an arduino microcontroller. A 7 Segment LED Display is an electronic device housing 8 individual LEDs. Using this device, we can display all numerals and many alphabetical characters and many more…… Listed under: LED Projects

855. Low Cost Water Flow Sensor and Ambient Display using arduino

Water is a precious resource. Millions of people do not have access to clean drinking water, and as many as 4000 children die from water contaminated illnesses every day. Yet, we continue to be wasteful with our resources. The overarching goal of this project is…… Listed under: Home Automation Projects

856. How to Build an RGB Full Color LED Module Circuit
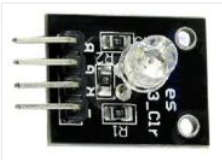
In this project, we are going to build an RGB Full Color LED module circuit. A full color LED module is a circuit in which an LED can be lit to any color. This is why it is called a full color LED module. By…… Listed under: LED Projects

857. Control Your Robot Using a Wii Nunchuck (and an Arduino) using arduino

After wearing myself out playing Wii Boxing I got to thinking wouldn't it be great if I could use this to control my robot, (looking to my left hand). Looking around the internet I found a bevy of people doing similar things, (links to everyone…… Listed under: Robotics – Automation Projects

858. How to Connect and Read a Keypad with an Arduino

n this project, we will go over how to integrate a keyboard with an arduino board so that the arduino can read the keys being pressed by a user. Keypads are used in all types of devices, including cell phones, fax machines, microwaves, ovens, door…… Listed under: Development Board – Kits Projects

859. Super Simple Beginners Robot! using arduino
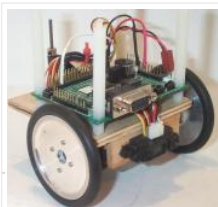
I created this Instructable for the absolute n00by robot wannabe. I have noticed a huge jump in the number of beginners getting into the hobby and the number of "how do I" questions seem to be mounting. Maybe this humble little Instructable will help one…… Listed under: Robotics – Automation Projects

860. How to Interface GPS with Arduino
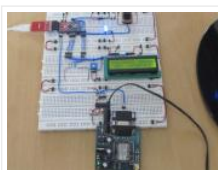
Every single location in the entire globe can be specified in terms of geographical coordinates. The geographical coordinate is a system which specifies any given location on the earth surface as latitude and longitude. There are devices which can read the geographical coordinates of a…… Listed under: GPS Based Projects

861. Touch-less Switch

Arduino Project – Touch Me Not I modified the Arduino project from the Arduino Starter Kit (Touch Sensor Lamp). Now it lights up an LED when your hand is close on the aluminium foil (without even touching it). This can be used as a 'Touch-less…… Listed under: Sensor

– Transducer – Detector Projects

862. Create an Applescript/Arduino Alert flag. using arduino

Have you ever felt like the mail sound on your Mac just wasn't enough? Simple sounds and alerts just don't cut it for you? You want something more apparent and rewarding? If so, this is the Instructable you've been looking for. In this Instructable, I'll...... Listed under: How To – DIY – Projects

863. How to Build a Motion Sensor Light Circuit with an Arduino

In this project, we will go over how to build a motion sensor light circuit with an arduino. A motion sensor light circuit is a circuit in which a light turns on when motion is detected. With a PIR motion sensor integrated with an arduino,...... Listed under: Sensor – Transducer – Detector Projects

864. Time Sensing Bracelet using arduino

The Time Sensing Bracelet is a fabric potentiometer. You select your desired time of day by making contact in the corresponding position on your wrist – where your watch would normally be. There is no point to it but fun. Update: Using some wire wrapped...... Listed under: Sensor – Transducer – Detector Projects

865. YAHMS: Temperature Probes

My wireless temperature probes work by using an Xbee module to transmit readings from a TMP36 down to the Arduino base station. The XBees aren't too cheap, coming in around £19 or $23 so I tried to be cheap and ordered mine from Sparkfun, I...... Listed under: Temperature Measurement Projects

866. Simple mass storage for your microcontroller project using arduino

Do you want gigabytes of storage for your microcontroller? Would you like a simple way to tranfer files from your PC to your picaxe or arduino or other micro project? This little projects demonstrates the uDrive that can be set up as an extra drive...... Listed under: Memory – Storage Projects

867. How to make a solar iPod/iPhone charger -aka MightyMintyBoost using arduino

I wanted a charger for my iPodTouch and the MintyBoost was definitely my first choice. I wanted to take it a bit further and make it not only rechargeable but also solar powered. The other issue is that the iPhone and iPodTouch have large batteries...... Listed under: Solar energy projects

868. Make an Ultrasonic Distance Calculator

Arduino Project – The distance calculator I have been playing with Arduino (micro-controller) for about 2 years now and I am becoming more and more passionate about circuits. For those who are not aware of Arduino, check out my article "Arduino – A Guide for...... Listed under: Calculator Projects

869. TV-B-Gone Kit using arduino

Tired of all those LCD TVs everywhere? Want a break from advertisements while you're trying to eat? Want to zap screens from across the street? The TV-B-Gone kit is what you need! This ultra-high-power version of the popular TV-B-Gone is fun to make and even…… Listed under: Video – Camera – Imaging Projects

870. Arduino Police Flasher Kit
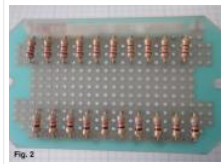
After reading about the famous Arduino programmable microcontroller using the "Getting Started with Arduino Kit (Jameco P/N 2121121) I was eager to try my hand at some real live electronic programming. The Arduino platform is a great place to start for a novice like me. After learning…… Listed under: LED Projects

871. Tweet-a-watt – How to make a twittering power meter… using arduino

Tweet-a-watt – How to make a twittering power meter… This project documents my adventures in learning how to wire up my home for wireless power monitoring. I live in a rented apartment so I don't have hacking-access to a meter or breaker panel. Since I'm…… Listed under: Metering – Instrument Projects

872. Arduino Circuit to Dim LED with Potentiometer
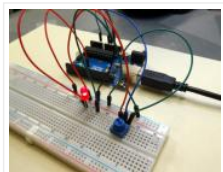
In Lesson 8 you learned to write analog voltages on the Arduiono, and in Lesson 10 you learned to read analog voltages from the arduino. In this lesson we will combine what you did in lessons 8, 9, and 10 to create an LED with…… Listed under: LED Projects

873. LED Sunrise Alarm Clock with Customizable Song Alarm using arduino

My Motivation This winter my girlfriend had a lot of trouble waking up in the morning and seemed to be suffering from SAD (Seasonal Affective Disorder). I even notice how much harder it is to wake up in the winter since the sun hasn't come…… Listed under: Clock – Timer Projects

874. Arduino Lab 2 – Morse Code Generator

Introduction An excerpt from OmniGlot.com about the origin of Morse Code: Morse Code was invented by Samuel F. B. Morse (1791-1872), a painter and founder of the National Academy of Design. He conceived the basic idea of an electromagnetic telegraph in 1832, and produced the…… Listed under: Development Board – Kits Projects

875. Arduino robot kit – Wiring Diagram

I have created this wiring diagram for the connections between the motor controller, motors, and sensor shield. I'll update it later to include other components. And here is an update that includes the servo motor and the range sensor. And here are the detailed pin…… Listed under: Robotics – Automation Projects

876. How To Communicate With An Alien Artifact or using arduino

Close Encounters of the Curiously Minty Kind. This Instructable will show you how to build an Altoids version of the 'Close Encounters' mothership, and how to interact with it. This may be vital training for that day when the Bright White Beam comes to suck…… Listed under: Game – Entertainment Projects

877. Isolated mains power monitoring (Arduino)
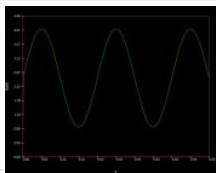
All about power today.. For a while now, I've been looking around for a mains (220-240VAC) power monitoring circuit that I might be able to interface with an Arduino. There is of course the OpenEnergyMonitor solution, but they seem to use a transformer to isolate and measure…… Listed under: [Metering – Instrument Projects](#)

878. [How to build an 8x8x8 LED cube and control it with an Arduino using arduino](#)

There are a lot of LED cubes on Instructables, so why do another? Most are for small cubes consisting of 27 or 64 LEDs, rarely larger since they are limited to the number of outputs available on the microcontroller. This cube will be 512 LEDs,…… Listed under: [LED Projects](#)

879. [Arduino automatic watering system](#)

[caption id="attachment_19540" align="alignright" width="210"] Fig. 1: Author's prototype[/caption] During summers, most people are too lazy to water the potted plants on their rooftop gardens every day. Explained in this section is a simple and exciting plant watering system that you can build yourself in just…… Listed under: [Home Automation Projects](#)

880. [Bar Graph](#)

Introduction This project explores a couple of ways of simulating and using a bar graph with the Arduino. Bar graph components like the following one can be used, This type of bar graph is basically just 10 LEDs in a row with anodes on one…… Listed under: [Other Projects](#)

881. [Solderless Breadboard Layout Sheets (plug and play electronics) using arduino](#)

Here's a fun system designed to take care of some of the headaches involved in breadboarding a circuit. It is is a simple set of template files drawn to scale with real world electronic components. Using a vector drawing program you simply move the components…… Listed under: [Development Board – Kits Projects](#)

882. [Arduino-Based Optical Tachometer](#)
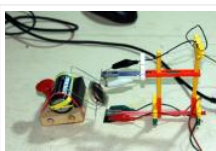
Over ten years ago, I put up a web page with detailed instructions on building a simple electric motor based on one from the Beakman's World TV show. I called it the "Beakman's Electric Motor" page and over the years it has had hundreds of thousands, if…… Listed under: [Metering – Instrument Projects](#)

883. [USB NES controller with an arduino! using arduino](#)

UPDATE 22-12-2014 Instructables user mattpbooth has updated the code and is hosting it on github: https://github.com/mattpbooth/ArduinoNESController… Thanks Matt! UPDATE 03-12-2011 Replaced a println with print (derp). UPDATE 01-12-2011 Remade all code from scratch. Remade 'ible code section; Now includes a 'Processing COM port config for…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

884. [How to Build a LM35 Temperature Sensor Circuit](#)

In this project, we will demonstrate how to build temperature sensor circuit using a LM35 sensor. As a temperature sensor, the circuit will read the temperature of the surrounding environment and relay thi temperature to us back in degrees celsius. The IC we will use…… Listed under: [How To – DIY – Projects](#), [Temperature Measurement Projects](#)
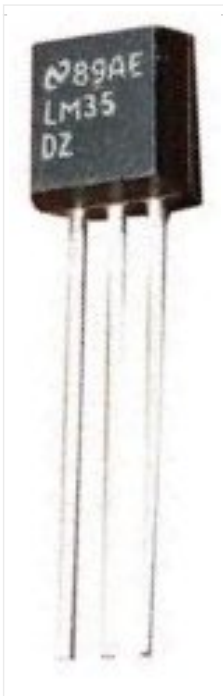
885. [Tilt Sensor Tutorial using arduino](#)

What is a tilt sensor? Tilt sensors allow you to detect orientation or inclination. They are small, inexpensive, low-power and easy-to-use. If used properly, they will not wear out. Their simplicity makes them popular for toys, gadgets and appliances. Sometimes they are referred to as…… Listed under: [Sensor – Transducer – Detector Projects](#)

886. [RFID with Arduino](#)
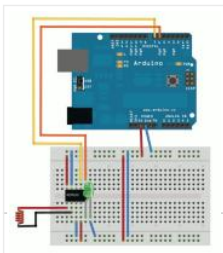
If you ever wanted to integrate RFID functionality into your project, this small tutorial might help you accomplish that. I used the RDM630 module from seeedstudio in its UART version. It comes on a small board with presoldered connectors which fits perfectly on a breadboard. You only…… Listed under: [RFID – NFC projects](#)

887. [Ceiling Fan LED Display using arduino](#)

Seeing so many persistence of vision ideas on the web was too tempting not to try one. After considering several different motors to drive a display, a ceiling fan seemed to run at just the right speed, is out of the way, and very quiet…… Listed under: [Home Automation Projects](#)

888. [Home Automation using Arduino and MATLAB](#)

n present time home office appliance controlling is common thing. Today for controlling home/offices appliances, machineries in companies/industries uses different types of automation systems like DTMF controlled, GSM controlled and many others. So here this project is made for interfacing MATLAB (Graphic User Interfacing) and Home/office/industries…… Listed under: [Home Automation Projects](#)

889. [AVRSH: A Command Interpreter Shell for Arduino/AVR. using arduino](#)

Ever wanted to be "logged in" to your AVR microcontroller? Ever thought it would be cool to "cat" a register to see its contents? Have you always wanted a way to power up and power down individual peripheral sub-systems of your AVR or Arduino in…… Listed under: [Arduino Programmer Projects](#)
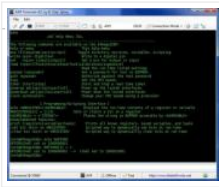
890. How to Build a Vibration Motor Circuit

In this project, we will show how to build a vibration motor circuit. A vibration motor is a motor which vibrates when given sufficient power. It is a motor that literally shakes. It is very good for vibrating objects. It can be used in a...... Listed under: How To – DIY – Projects, Motor Projects

891. Acorn Chime using arduino

By: Charlie DeTar, Christina Xu, Boris Kizelshteyn, Hannah Perner-Wilson A digital wind chime with hanging acorns. Sound is produced by a remote speaker, and data about chime strikes is uploaded to Pachube. Step 1: Brainstorming for a device that would represent ourselves Our goal was...... Listed under: Game – Entertainment Projects

892. Arduino Chandelier from Jars

E-Edit: Thank you very very much for voting for me in Featured Author, Glue and Battery Powered Contests! Cheer up and wait for my project so special is coming... Edit: If you really like this project, you can vote for me on the top right corner, forFeatured...... Listed under: LED Projects

893. Using Push Button Switch with Arduino Uno
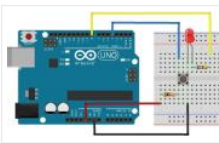
In this tutorial you will learn how to read the status of a digital pin of Arduino. I hope that you already go through our first tutorial, Getting Started with Arduino Uno – LED Blinking. In this example, a push button switch and an LED is connected to Arduino...... Listed under: LED Projects

894. Use Arduino to Interface with a Remote Controlled Power Switch

Update: check out the RFToy — an easy-to-use standalone gadget to control remote power sockets. Also, support for remote power sockets have been added to OpenSprinkler firmware 2.1.1. For a while I've been looking for a way to switch household power line (110V) devices. One of the simplest...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

895. Two Wire Arduino Knight Rider

This tutorial shows how to interface eight LEDs to an Arduino using only two Arduino pins. This is made possible by using a PCF8574 I/O expander IC. A "Knight Rider" display is shown on the LEDs. Prerequisites Complete tutorial 4 – Arduino Knight Rider. Be able...... Listed under: LED Projects

896. Arduino Serial Thermometer
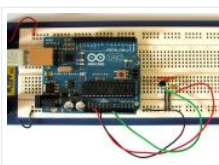
The Arduino reads temperature from a MCP9700 temperature sensor IC and displays the temperature in the Arduino IDE serial monitor window. Also see the Arduino LCD thermometer tutorial (tutorial 14). Prerequisites Complete Tutorial 9: Using the Arduino Serial Port before attempting this tutorial. Components Besides an Arduino Uno board,...... Listed under: Metering – Instrument Projects

897. Using the Arduino Serial Port

The Arduino Uno can send data (such as a text message) to the PC over the USB cable. The Arduino IDE has a serial monitor window that can be opened and will receive and display the data sent from the Arduino board. Data can also...... Listed under: Interfacing(USB

– RS232 – I2c -ISP) Projects

898. Dual LED Flasher

A two transistor circuit that flashes two LEDs on and off alternately. Prerequisites Complete tutorial two – Transistor Timer before attempting this tutorial. Components In addition to an electronic breadboard, wire links, a 9V battery and a battery clip, you will need: QTY PART DESIGNATOR NOTES TYPE...... Listed under: LED Projects

899. Arduino Melody

A very easy tutorial that uses only two components. The Arduino plays a short melody on a loudspeaker. The program to load to the Arduino is one of the programs that is built into the Arduino IDE. Prerequisites Complete tutorial 3 – Starting with Arduino...... Listed under: Sound – Audio Projects

900. Twitter Mood Light – The World's Mood in a Box using arduino

How's the world feeling right now? This box tells you. Powered by: an Arduino, a WiFly wireless module, an RGB LED, Twitter.com and a 9v battery. I'm a news junkie. I want to know everything that is going on in the world as soon as...... Listed under: Game – Entertainment Projects

901. Arduino Knight Rider
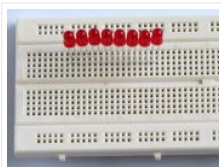
In this tutorial, eight LEDs are interfaced to the Arduino Uno board. This is not complicated – it is just like interfacing a single LED to the Arduino as done in tutorial 3, but eight times over. A program is then loaded to the Arduino...... Listed under: LED Projects

902. Arduino LCD

In this tutorial you will connect a LCD (Liquid Crystal Display) to the Arduino Uno and then run the Arduino LCD example programs that are built into the Arduino IDE. Prerequisites It is recommended for beginners to complete all the Arduino tutorials up to and...... Listed under: LCD Projects

903. Let's make an Arduino real time clock shield

Today we are going to make a real time clock Arduino shield. Doing so will give you a simple way of adding ... real time capability to your projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time...... Listed under: Clock – Timer Projects

904. Arduino LCD Thermometer
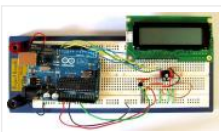
In this tutorial, a temperature sensor (MCP9700 linear active thermistor IC) and LCD are connected to the Arduino. The Arduino reads the temperature from the MCP9700 on analog pin A0 and displays the temperature on the LCD. This video shows the circuit operating. When touched...... Listed under: LCD Projects

905. Drive with PID Control on an Arduino Mega 2560

This example shows how to simulate a simple closed-loop control algorithm in Simulink and how to run it on an Arduino Mega 2560 board. Contents Introduction Prerequisites Required Hardware Task 1 – Build the Vehicle Task 2 – Build the Motor Controller Task 3 – ...... Listed under: Other Projects
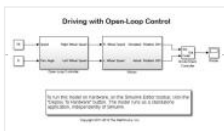
906. Musical MIDI Shoes using arduino

Like many people, I often find myself unconsciously tapping my feet, whether it's along to a song or out of some nervous habit. As fun as that is though, I've always felt as if something has been missing. If only I could trigger the sounds...... Listed under: Sound – Audio Projects

907. MIDI Linear Actuator

This project uses relays to control a Firgelli Automations linear actuator without feedback. The relays are controlled by the MIDI Volume (Control Change number CC7) command which is read by the microcontroller and converted into one of the only 3 states of operation: 1) The...... Listed under: Other Projects

908. LPG sensor using arduino
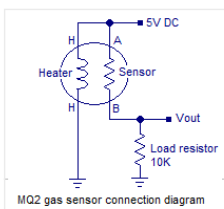
LPG sensor using arduino with alarm and cutoff. A simple LPG sensor using arduino is shown in this article. This circuit indicates the amount of LPG in the air. The circuit sounds an alarm and trips a relay when the concentration is above a predetermined...... Listed under: Sensor – Transducer – Detector Projects

909. Make a 8×10 L.E.D Matrix using arduino
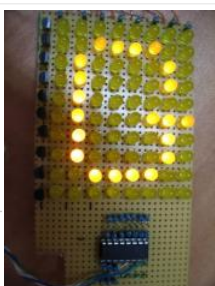
UPDATE 1: I HAVE ADDED THE CODE FOR CONWAY'S GAME OF LIFE UPDATE 2:
NOW YOU CAN SAVE SOME ARDUINO PINS WITH THE HELP OF 1 SHIFT REGISTER. In this instructable I will show you how to build a quite fancy 8 by 10 L.E.D matrix(with scrolling text and animations) using the Arduino and 4017 decade...... Listed under: LED Projects

910. The Lightning Simulator/Breathalyzer/Graphic Equalizer – Arduino Powered using arduino
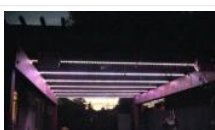
UPDATE: A portable version of the Talking Breathalyzer is here http://talkingbreathalyzer.com The LED strips are mounted on an outdoor trellace which functions as a lightning simulator, outdoor breathalyzer, graphic equalizer synced to music, and a few other effects with sound. Materials: 8 12v RGB Waterproof Flexible...... Listed under: LED Projects

911. Interfacing EM-18 RFID reader with Arduino Uno
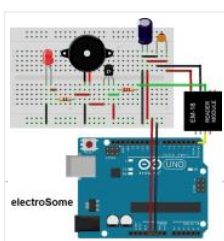
Arduino Uno is an opensource physical computing platform based on ATmega328 microcontroller and provides a development environment for writing software for the board. It can be used for a variety of projects. EM-18 RFID reader is one of the commonly used RFID reader to read...... Listed under: Other Projects

912. Arduino + WiFi, Music Responsive LED Light Fixture using arduino

This instructable gives instructions for constructing a Saiko5 WiFi enabled LED light fixture based on the Arduino hobbyist platform. It includes step-by-step instructions from board design to soldering to case integration, as well as instructions explaining how the

software and firmware can be used to…… Listed under: [LED Projects](#)

913. [Trinket Audio Player using arduino](#)

Overview We usually think of the Adafruit Trinket as a tiny subset of a "real" Arduino; less RAM, less code space, less I/O. But this little chip has a couple tricks up its sleeve, things its larger brethren can't do. One of these is a…… Listed under: [Sound – Audio Projects](#)

914. [Beatfly : Make an illuminating blimp and control it with your voice, Keyboard, MIDI Controller, Garageband file, iPhone, Flash, and more! [Mac OSX] using arduino](#)

[Mac OSX Only] Because I use Quartz Composer, my program works only on Mac OSX. I am now extending and improving it toward cross-platform. If you have knowledge of computer programming, you can make your own system that connects to the blimp. The communication protocol…… Listed under: [LED Projects](#), [Sound – Audio Project Ideas](#)

915. [Arduino Solar Radio](#)

Solar charging, via the panel on the back. * 12 position switch to select channel number * Seek up / seek down controls and 'store' button * RDS display of call sign * Frequency display * Battery voltage display * Solar charging current display The…… Listed under: [Radio Projects](#)

916. [Intelligent Letter Box using Arduino and GSM](#)

In the days of technology postman still comes to our house for delivering the letters, couriers and parcels. Because some things like courier, parcels can't sends via email and by using any other electronic media. So for getting notification of our letter delivery in our…… Listed under: [Other Projects](#)

917. [LED Umbrella with Arduino using arduino](#)

The LED Umbrella with Arduino combines an umbrella, an 8×10 LED matrix and an Arduino microcontroller to create a controllable, programmable LED experience in the privacy of your own umbrella. This project was inspired by the Electric Umbrella by sockmaster and a number of LED matrix instructables…… Listed under: [LED Projects](#)

918. [Project work3:Arduino code and the circuit diagram using arduino](#)
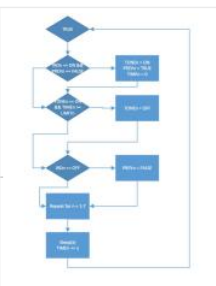
In order to realise the "music garden",the most important part is the Arduino code and circuit diagram. First of all,I will present my Arduino code:(I will show you the way I think as a flow chart at first) Flow Chart: Details:this flow chart is a…… Listed under: [Sound – Audio Projects](#)

919. [Hobbyduino Mini V1.0 using arduino](#)

Introduction The Hobbyduino Mini is a clone of the Arduino main-board. It contains a ATMega328 processor programmed with the Arduino bootloader. The Hobbyduino does not contain the circuitry for USB communication. I opted to rely on the FTDI232R serial boards to handle the USB-to-Serial protocol. Here…… Listed under: [Development Board – Kits Projects](#)

920. [Build Your Own Arduino & Bootload an ATmega Microcontroller – part 1](#)

 There are many reasons to build your own Arduino circuit on a protoboard or a custom-designed printed circuit board. At the heart of the Arduino platform is an AVR microcontroller, in usual way you need a special hardware programmer and suitable hex files to program…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

921. [High-speed Photography with Arduino and CHDK using arduino](#)

This project uses an Arduino microcontroller and a laser break-beam trigger to fire via USB remote a Canon camera modified with CHDK (Canon Hack Development Kit) firmware. Immediate influences are the high-speed flash photography triggered by sound or light project by Glacial Wanderer and the…… Listed under: [Video – Camera – Imaging Projects](#)

922. [Arduino PWM Led Control using arduino](#)
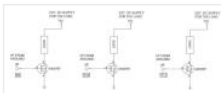
Looking for a simple circuit to control the light intensity of Light Emitting Diodes (LEDs) or similar lighting sources? Here is an Arduino based circuit with three independent pulse width modulated (PWM) channels to fulfil your requirements! Just follow the schematic diagram to complete the…… Listed under: [LED Projects](#)

923. [Simple Animatronics with Servos and Arduino using arduino](#)

Servos are surprisingly easy to use. Even more so than simple DC motors and steppers when you have a microcontroller. In this instructable we'll use a 'duino to drive five servos which will control a doll's limbs and neck. I bought the servos at HobbyPartz…… Listed under: [Game – Entertainment Projects](#)

924. [MIDI Bass Pedal Arduino Encoder using arduino](#)

MIDI BASS PEDAL ARDUINO UNIT The MIDI Bass Pedal circuit is capable of encoding any number of momentary action, push to make, single pole single throw (SPST), switches from 1 up to 30 to produce the equivalent MIDI note-on/note-off data commands. The encoded switches are…… Listed under: [Sound – Audio Projects](#)

925. [Electronic Circuit: photocell and LED](#)
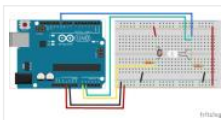
The cmd_response sketch is very general with respect to the ANALOG IN and DIGITAL I/O of the Arduino boards. We can use it to read a wide variety of sensors from remote computer systems. First, we demonstrate how the Arduino cmd_response sketch works, we construct…… Listed under: [LED Projects](#)

926. [Peggy2: High And Low](#)

First and foremost, big thanks to Damien for her time and effort on soldering 265 LEDs on peggy2 circuit board, which made my programming part possible to continue. Instead of soldering LEDs directly onto the Peggy2 board, we have to use Ethernet cables as "extensions"…… Listed under: [LED Projects](#)

927. [Rechargeable Battery Capacity Tester using arduino](#)

Do you have a pile of AA rechargeable batteries in your drawer? Some are old, some are new, but which sets would you bring with your camera on your next trip, and which ones are past their useful life? I like using rechargeable batteries, but…… Listed under: [Battery Projects](#)

928. [CMUcam3: Working Module But Not Working CMUcam3-Arduino System](#)

After over spending nearly 20 hours extra on fixing peggy2 board I mentioned in the previous post, there is only a few hours left for me to work on CMUcam3-Arduino system and its facial-recognition driven motor system. The basic programming architecture is shown below. When in…… Listed under: [Video – Camera – Imaging Projects](#)

929. [Camera controller](#)

Intervawhat? An intervalometer is a camera controller that signals the camera to take a picture after some set interval. This is really useful for creating timelapse videos. For a long time, I used my TI-89 calculator to create timelapse videos with my Canon digital Rebel XTi. It…… Listed under: [Video – Camera – Imaging Projects](#)

930. [New Arduino WiFi Shield (Testing) usign arduino](#)

The WiFi Shield was delivered by Amazon. The Arduino UNO Rev 3 was found at RadioShack… First you need to load the last Arduino IDE (Ver 1.0.2) it has the necessary library to use the WiFi shield. Tried the examples "Scan for available networks" and …… Listed under: [Wifi – WLan Projects](#)

931. [Yet Another Daft Punk Coffee Table (5×5 LED Matrix) using arduino](#)
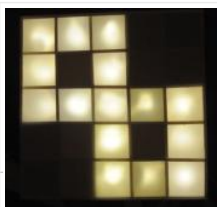
Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built…… Listed under: [LED Projects](#)

932. [Review – Maxim MAX7219 LED Display Driver IC using arduino](#)

 Today we are going to examine the Maxim MAX7219 LED display driver IC. The reason for doing so is to show you how something that used to be quite complex can be made very simple – and that is what all this technology is for,…… Listed under: [LED Projects](#)

933. [Brushless DC (BLDC) motor with Arduino. Part 3 – The Stroboscope Project](#)

 It has been all dry theory in the Brushless DC (BLDC) motor with Arduino series up to this point. This is where it gets to be more fun. If you've just arrived, please check out the previous two installments: Driving a three-phase brushless DC motor…… Listed under: [Motor Projects](#)

934. [The Wordclock Grew Up! using arduino](#)
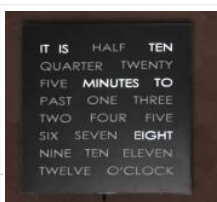
Well, It had to happen. I first published my WordClock project in September 2009. It was a Microchip PIC based clock, using a PIC16F877A microprocessor. In the last year and a half, I have been constantly improving it, and have adapted it to the Arduino,…… Listed under: [Clock – Timer Projects](#)

935. [Light Meter Using I2C Level Converter, LCD, and TSL2561using arduino](#)
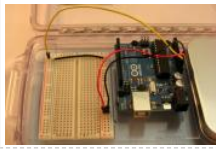
I recently needed to measure how different materials affect light transmission for a gardening project. I decided this was the perfect opportunity to try out the new logic level converter to run both a 5v LCD and a 3.3v light sensor on a single i2c...... Listed under: [LCD Projects](#), [Metering – Instrument Project Ideas](#)

936. [Make a simple platform and give mobility to your computer using arduino](#)

A computer is a very handy thing to use in your robots. If you start listing all the features that can be used for robotic purposes you'll find that it is cheaper to buy a netbook than buying LCD, wifi and bluetooth modules, cameras, speech synthesizer...... Listed under: [RTOS – OS Projects](#)

937. [Tutorial – Arduino and the MAX7219 LED Display Driver IC using arduino](#)

Use the Maxim MAX7219 LED display driver with Arduino in Chapter 56 of our Arduino Tutorials. The first chapter is here, the complete series is detailed here. Update – 4/1/15 – This article is pending a re-write, please refrain from comments and questions until the new version is published. Introduction...... Listed under: [LED Projects](#)

938. [Arduino Binary Die using arduino](#)
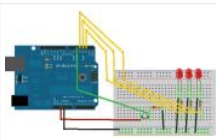
After buying a Nanode (an Arduino-compatible board with ethernet built-in) last weekend, we've been trying to work it out by making a couple of simple examples, the 'Binary Dice' is the first one with input and outputs. A note, this code example is based on...... Listed under: [LED Projects](#), [Other Project Ideas](#)

939. [Boozeduino using arduino](#)

Now with more LED. Arduino mega powered breathalyser using the MQ-3 sensor. A relative gauge for judging how intoxicated you are. NOT TO BE USED AS MEANS OF BREATHALYZING NEVER DRINK AND DRIVE. This is more of a device to encourage one to drink...... Listed under: [LED Projects](#)

940. [Analog Sensors using arduino](#)
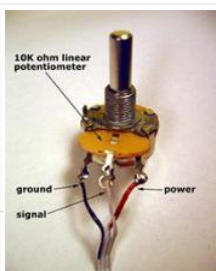
Analog sensors produce an analog (continuous) voltage that typically varies from 0 to 5 volts. They have three wires – ground, power, and signal (typically red, black, and white, respectively). Examples shown below include: Potentiometers Proximity Accelerometers Ribbon Bend Pressure Light Temperature Sound Multi-touch Touch...... Listed under: [Sensor – Transducer – Detector Projects](#)

941. [Flash trigger using arduino](#)

his project is mainly based in this one from Glaciar Wanderer. I just liked his idea and worked it on my own. (I think this guy and me would be friends, as the projects he has in his photography category are things I've been wanting...... Listed under: [Video – Camera – Imaging Projects](#)

942. [Using the tymkrs "Turn Me" with an Arduino](#)

Here is a quick write up on how to use the tymkrs "Turn Me" rotary encoder. This supports the "push down" feature of the tymkrs kit. Fritzing Rotary Encoder Part: Rotary Encoder with Knob bth.fzpz Fritzing Project: RotaryEncoderDemo.fzz Arduino (1.5) project: RotaryEncoderDemo.ino 1 2 3 4 5 6 7 8…… Listed under: [Sound – Audio Projects](#)

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943. [Boost Converter Intro with Arduino](#)
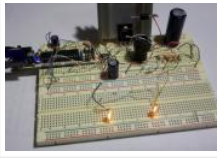
Let's say that you're trying to drive a few Nixie clock tubes, or you want to make a strobe light. A variable high voltage DC power supply from 50-200+ volts may be required. Transformers are terrific, but difficult to find the right one and a…… Listed under: [PWM Projects](#)

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944. [Arduino Circular Cylon!](#)

This is a quick arduino project that is great for beginners. Enjoy! There is a video on the last step! Step 1: What you Need To build this project you will need: 10 LEDs, any color will do. Some wire, I used a ribbon cable…… Listed under: [LED Projects](#)

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945. [Car No. 06 Programmed Automatic Driving Car using arduino](#)

Hi! Kaeru no Ojisan is back with Car No.06. Car No.06 is a Programmed Automatic Driving Car with following procedure; – Simulate the Car Trajectory based on the Target Passing Points. – Drive automatically as simulated using Reflective Photosensor and Gyro Sensor . – Adjust…… Listed under: [Car Projects](#)

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946. [8 LED Chaser with 74HC595 8 Bit Shift Register using arduino](#)

Have you wanted to make a sweet Cylon/Knight Rider (Larson) Scanner effect? But you don't want to use up all of your Arduino IO pins? Well, you can make a nice 8 LED Scanner with a shift register IC. In this tutorial we'll be using…… Listed under: [LED Projects](#)

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947. [3D LED Cube using arduino](#)

The 3D LED Cube is a really cool device that enables you to see in three dimensions, get some depth perception and has 512 LED's or 512 pixels. It is based on an arduino uno which is an Atmel AVR microcontroller on a development board…… Listed under: [LED Projects](#)

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948. [TiDiGino Contest using arduino](#)

The project TiDiGino We developed a new GSM remote control called TiDiGino. The name recalls the initials (TDGxx) of our previous GSM remote control and is also based on the Arduino project. All the details of this circuit can be found below, but no the sketch, because this is your assignment. The contestYou have to write…… Listed under: [Wireless Projects](#)

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949. [Control Ikea Dioder LED Strip with Arduino + 16X PWM LED Fader Board using arduino](#)

We're going to show how to wire up and control an Ikea DIODER LED strip with an arduino, using a 16X PWM LED Fader board as an intermediary. The 16X PWM board is basically a bunch of mosfets under PWM control (switches that turn on…… Listed under: [LED Projects](#)

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950. [Secret Knock Final using arduino](#)
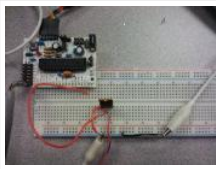
Secret Knock Description – My final project is a door lock that listens for your personalized knock. The lock uses an arduino board and a piezo speaker and will not unlock the door unless the specific pattern is used as a knock. Arduino Program -...... Listed under: [Home Automation Projects](#), [Security – Safety Project Ideas](#)

951. [Display Live Txts on Costume at Party w/ Scrolling LED Belt Buckle using arduino](#)

This project shows how to send SMS text messages to a cheap scrolling LED display via an Android app and arduino with USB host shield. The project was originally inspired by a friend wanting to make a "sexting themed" costume, with a scrolling LED display...... Listed under: [LED Projects](#)

952. [Voice Recognition System using arduino](#)
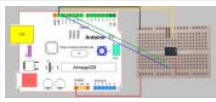
Contents 1 Team Members 2 Mentor 3 Concept 4 Softwares Used 5 circuits 5.1 Pre Amp circuit 5.1.1 Circuit Diagram 5.1.2 Working 5.2 EEPROM circuit 5.3 Led Matrix display circuit 6 Algorithm for silence & noise removal 6.1 Pre-Emphasis 6.2 Silence and Noise Removal 6.2.1...... Listed under: [Sound – Audio Projects](#)

953. [A Makers Wedding – Photo booth usnig arduino](#)

This Instructable is about: building an automated photo booth. The total build cost was around $150 as I re-used a lot of the components and materials I already had in my garage – in addition to what I could salvage from scrap yards. Why? -...... Listed under: [Video – Camera – Imaging Projects](#)

954. [Extending PWM output pins with a Texas Instruments TLC5940 LED driver using arduino](#)
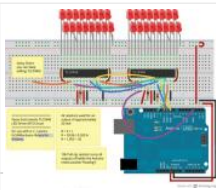
Introduction Microcontrollers like the Arduino were designed to facilitate the use of electronics for designers and DIY enthusiasts. The interface provides a great starting points for a variety of elecronic circuit designs. However, as the microcontroller is standardized, it is also limited in its use....... Listed under: [PWM Projects](#)

955. [Human Body Infrared Smoke Temperature Alarm System with Arduino](#)

Web site: http://www.instructables.com/id/Human-Body-Infrared-Smoke-Temperature-Alarm-System/ Project Summary: The Human Body Infrared Smoke Temperature Alarm System works under the DC 5v voltage and uses the DH11 Temperature Module to detect the room temperature. When the module detects the temperature is higher than the maximum, the buzzer alarms and...... Listed under: [Security – Safety Projects](#)

956. [1RE45 Non contact digital thermometer using arduino](#)

Contents 1 Introduction 2 Components Used 3 Description 4 Idea 5 Plan Of Action 6 1st week: 7 2nd week: 8 3rd week: 9 4th week 10 5th week 11 Expenses(In Rupees) 12 Videos, Photos 13 Code 14 Team Members 15 Resources: Introduction Temperature is...... Listed under: [Temperature Measurement Projects](#)

957. [How to build an Arduino energy monitor – measuring mains voltage and current arduino](#)

Including voltage measurement via AC-AC voltage adapter and current measurement via a CT sensor. This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with...... Listed under: [How To – DIY – Projects](#), [Temperature Measurement Project Ideas](#)
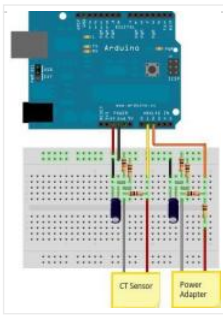
958. VOICE CONTROL CAR USING ARDUINO AND ANDROID

Hello friends,Welcome to ElectroPLUS . This is a post to show how to make voice control car using arduino and android. COMPONENTS REQUIRED: 1.Arduino uno or Induino R3 board. Hello friends,Welcome to ElectroPLUS . This is a post to show how to make voice control...... Listed under: Car Projects, Sound – Audio Projects

959. A new board for the 3Drag: there's more than Sanguinololu using arduino

 When we first released our 3D printer, we tried to use some parts that were already available and tested, in full respect of the open source philosophy. In particular, we decided to use the electronic card Sanguinololu. The "open" firmware we chose, the Marlin firmware...... Listed under: Blog, Motor Projects

960. Temperature Detecting Heating Control System with Arduino Mega2560
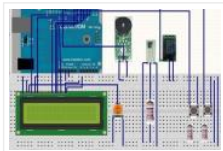
Web site: http://www.icstation.com/product_info.php?products_id=3517 Project Summary: To help electronic DIY hobbyists, will show you how to use Temperature Detecting Heating Control System with Arduino Mega2560. Full Project: The temperature detecting heating control system works with DC5V voltage. This system uses DS18B20 temperature detection chip as the...... Listed under: Temperature Measurement Projects

961. Camera and flash trigger module using arduino

Here we go again, here is a picture of the camera and flash trigger module I made for my arduino photographic projects: It includes three 4N26 optocouplers. One (first one from the left side) to trigger a flash, as I did in the arduino controlled...... Listed under: Video – Camera – Imaging Projects

962. 3x3x3 LED cube shield using arduino

What should be in your kit: 1 – PCB 27 – LED's 2 – 6 Pins for Arduino 2 – 8 Pins for Arduino 3 – Resistors 1 – Foam Guide 1 – Small Wire 1 – Medium Wire 1 – Large Wire You will...... Listed under: LED Projects

963. MQ-8 Hydrogen Gas Sensor Circuit Built with an Arduino
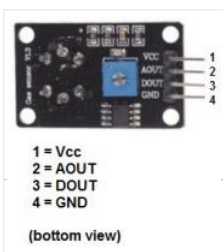
In this project, we will go over how to build a hydrogen gas sensor circuit with an arduino. The hydrogen gas sensor we will use is the MQ-8 sensor. This is a sensor that is sensitive to effects of hydrogen gas. Hydrogen gas (H2), at...... Listed under: Sensor – Transducer – Detector Projects

964. Simple Solar Power using arduino
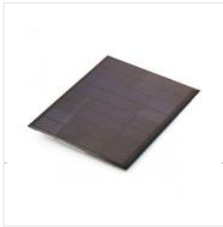
Simple Solar Power Light contains energy. When light hits a conductor (or semiconductor) some of the energy is translated into moving electrons, creating current. We can harness the current using solar cells (aka photovoltaic cells). When the sun shines on a solar cell, the current...... Listed under: [Battery Projects](#)

965. [Arduino-enabled Patron Interaction Counting using arduino](#)
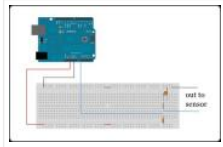
Using the Arduino development board (http://arduino.cc) has become a very popular way to create hardware prototypes that bridge the divide between the physical world and the Internet. This article outlines how to use an Arduino, some off-the-shelf electronic parts, the Processing programming language, and Google...... Listed under: [Internet – Ethernet – LAN Projects](#)

966. [Using an RGB LED to Detect Colours using arduino](#)

I am going to show you how you can use an RGB LED and a Cds photocell as a colour sensor for a micro-controller. I will illustrate the method to retrieve a colour using Arduino, and I will show you a how you can verify the...... Listed under: [LED Projects](#)

967. [Reviving a dead arduino](#)

Well I managed to kill my arduino. It no longer accepted uploads with the classic out of sync error. After asking on the arduino forum I was told I would need a high voltage programmer to rectify, so I decided just to buy a new...... Listed under: [Development Board – Kits Projects](#)

968. [Cosmic ray detection from vertical and horizontal directions using three Geiger counters using arduino](#)

Research Group: Ryan Mountcastle, Minh Trang Nguyen, Nathan Ranno, and Ryan Ward Launch: Whitworth Fall 2012 This experiment was designed to examine cosmic ray activity in the Earth's atmosphere as altitude increases. The previous group's project utilized three Geiger counters stacked vertically to eliminate false...... Listed under: [Other Projects](#)

969. [Using the Parallax RFID Reader with an Arduino](#)
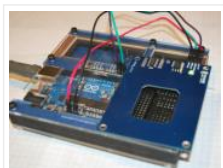
f you've ever wanted the ability to use some form of hardware-based authentication in your projects then this is the board to do it with. The Parallax RFID (Radio Frequency Identification) reader is super easy to configure. It only takes four wires! It uses serial...... Listed under: [Projects](#), [RFID – NFC projects](#)

970. [Build a network clock (NCLK) with Microduino-RTC](#)

The resolvent of clock synchronization over internet. by PKJ, The web–based clock management system allows you to monitor clock status from wherever they are and centrally change settings. and this small device is built with PoE technology, thus IP clocks get their time, data and power...... Listed under: [Clock – Timer Projects](#), [Internet – Ethernet – LAN Projects](#)

971. [TFT Display with microSD breakout board using arduino](#)

128X160 pixels in 18 bit color with a microSD breakout board courtesy of Adafruit Industries You can purchase the 18-bit color TFT LCD display with microSD card breakout kit (part# ST7735R) from Adafruit Industries This tutorial from Adafruit is for a 1.8″ diagonal TFT display...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LCD Projects](#)

972. [SPI Interfaces using Arduino](#)
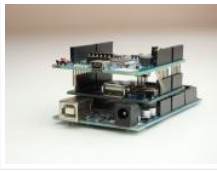
Update (6/7/2012) – I've had to disable comments on this post, because it is being targeted by spam bots for some reason. Please use the contact page if you have a question about this topic. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

973. [Awesome button, and then some. usnig arduino](#)

Many of you have probably seen the Awesome button done by Matt Richardson of Make Magazine. If not here is his video which was very well done and was the inspiration of my project. I liked the idea of having a button to press for...... Listed under: [LED Projects](#)

974. [Secret Knock Detecting Door Lock using Arduino](#)

Protect your secret hideout from intruders with a lock that will only open when it hears the secret knock. This started out as a bit of a joke project, but turned out to be surprisingly accurate at judging knocks. If the precision is turned all...... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

975. [The Soil Temperature Sensor using arduino](#)

You are building a soil temperature sensor. We need a waterproof thermometer that we can burry in the soil. The sensor is made up of a small circuit enclosed in a piece of heat shrink (to waterproof it). Supplies: (see the parts page) an LM335...... Listed under: [Home Automation Projects](#), [Temperature Measurement Projects](#)

976. [Arduino RFID Card Reading](#)

Finally! It's been about 3 months since my last arduino tutorial – I've been keeping busy as usual. I've been working on this one for some time. I got the parts months ago, made an outline a few weeks ago, prototyped the circuits and wrote...... Listed under: [Projects](#), [RFID – NFC projects](#)

977. [Arduino – One Wire Digital Temperature Sensor – DS18B20](#)
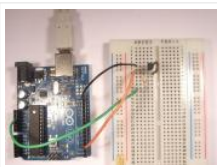
The one wire Digital Temperature Sensor – DS18B20 from Maxim (formerly Dallas) is a great chip for measuring temperature in your projects. Luckily, there is a Dallas Temperature library for the arduino which makes using this sensor very easy. The most recent version of this...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [Temperature Measurement Projects](#)

978. [Traffic Light Stoplight LED Scarf – Safety Scarf of Righteousness using arduino](#)

Multipurpose like a traffic light, this one keeps you warm and blinks to make you more visible in the night. Stop traffic with this fun scarf worn around your neck. Repurpose a dollar-store bicycle safety flasher to embed in the scarf. Simulates the light changing...... Listed under: [LED Projects](#)

979. [Soldering an SMT MOSFET Driver with a hotplate](#)

Soldering SMD components isn't as hard as you might think. In fact it's easy. If you follow this instructables you'll soon see just what great results you can obtain at home using just a hotplate. It's not just being able to make small circuit boards...... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#)

980. [3D AIR mouse | Arduino + Processing](#)

3D AIR mouse | Arduino + Processing I'm an Industrial design student, and last year as part of a course called "Technology as RAW materiel" I built this project as my final work. I work most of the time with SolidWorks, a CAD software for…… Listed under: [Arduino Programmer Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

981. [Twitter Poem Box](#)

This is a project that was inspired by Marc de Vinck's Kitty Twitty Cat Toy http://makezine.com/22/kittytwitty/ . It incorporates an RFID reader and the BlinkM, a programable RGB LED. The lamp tweets random colored poems when it detects one of the three RFID cards which…… Listed under: [Internet – Ethernet – LAN Projects](#)

982. [BennyP's Light Contraption using arduino](#)

Introduction Disclaimer: I am not an expert in any of this. There is lots of information online regarding such designs. Although this setup worked for me, do not trust any of my calculations. Please work all this out for yourself and consult many other sources,…… Listed under: [Home Automation Project Ideas](#), [PWM Projects](#)

983. [ST7565 LCDs: Graphical LCDs](#)

What it is… Type: Graphical (128×64) monochrome LCD with LED backlight Interface: Serial / SPI This is a good time to read the datasheet Available from: Adafruit, of course! Introduction: This mini-tutorial will go through the process of setting up a ST7565 LCD. These LCDs…… Listed under: [LCD Projects](#)

984. [Standalone Arduino chip on breadboard](#)

If you're like me, after I got my Arduino and performed a final programming on my first chip, I wanted to pull it off my Arduino Duemilanove and put it on my own circuit. This would also free up my Arduino for future projects. The problem…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

985. [Making 1×10 LED Array with Random Patterns](#)
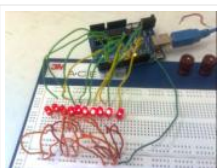
This will teach you how to make a very simple 1×10 array of LEDs on a breadboard controlled by an Arduino Uno to make the LEDs blink and flash in 10 different patterns. Link to notebook for project: https://docs.google.com/document/d/1YP4p11SbDNOnM7mDn-sRjJLnxGPj6o0DkrFZnznVMvk/edit Link to YouTube video of LEDs…… Listed under: [LED Projects](#)

986. [Arduino lets you play Atari 2600 and ZX Spectrum using a NES controller](#)

This instructable shows you how to use NES controller in Atari 2600 or ZX Spectrum (with Kempston Interface) with the aid of an Arduino. Step 1: Background talk I have recently acquired a couple of Atari 2600s and a bunch of joysticks. Both consoles were working…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

987. [Yet Another Arduino 110v Power Controller](#)

This Instructable shows you how to build a four-gang outlet box in which each outlet is controlled via an Arduino (or any other TTL level signals). It differs from the other relay boxes in that it uses no circuit boards and has very few parts (one…… Listed under: [Projects](#), [Solar energy projects](#)

988. [Pololu Dual MC33926 Motor Driver Shield for Arduino](#)

This shield makes it easy to control two brushed DC motors with your Arduino or Arduino-compatible board. Its dual MC33926 motor drivers operate from 5 to 28 V and can deliver a continuous 3 A per motor. These great drivers also offer current-sense feedback and accept ultrasonic…… Listed under: [Motor Projects](#)

989. [Displaying Twitter feed without a PC! using Arduino](#)

There are a lot of Twitter feed readers around the Web that use Arduino AND a PC to display twits on LCD displays or whatsoever. Then, I decide it was the time to design a solution for performing the same job WITHOUT A PC, and…… Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#)

990. [Geiger counter triggered LED decorations using arduino](#)

Bored of blinky lights that blink in response to time? Make them blink with space instead! This instructable shows a quick method for connecting LED tree decorations to a Geiger counter via arduino, so that the lights blink between different strings each time radiation is…… Listed under: [LED Projects](#)

991. [Arduino ISP (In System Programming) and stand-alone circuits](#)
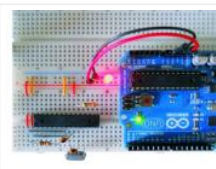
We use an Arduino to program other ATmega without bootloader . This technique allows you to use all flash memory for code and make boards using new ATmega, cheaper than those with bootloader. The qualities that have made the success of Arduino are undoubtedly the open-source…… Listed under: [Arduino Programmer Projects](#)

992. [Digispark RGB LED Fader](#)

Forward: This instructable was roiginally posted at http://www.instructables.com/id/How-to-make-LED-Fader-using-Digispark/ My students and I developed it into this exemplar, for wich they received a very good mark. Viewing the following video may leave you with a sense of too much too fast. Please continue to read this…… Listed under: [LED Projects](#)

993. [pedalSHIELD Arduino Guitar Pedal](#)
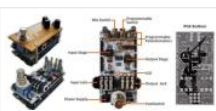
Web site: http://www.electrosmash.com/pedalshield Project Summary: pedalSHIELD is a programmable Arduino Open Source & Open Hardware guitar pedal made for guitarists, hackers and programmers. Users can program and share their own effects in C/C++. Full Project: pedalSHIELD is a programmable Arduino guitar pedal. It is Open…… Listed under: [Sound – Audio Projects](#)

994. [World's Smallest Stepper Motor with Arduino and EasyDriver](#)

This little wonder of electromechanical engineering came from inside a laser diode sled of an HP CT10L Bluray drive I've opened some time ago. The device on the picture consists of several parts, all easily fitting on a dime coin: a bipolar stepper motor with……

Listed under: [Motor Projects](#)

995. [Telemetry with solar cell using an Arduino](#)

NOTE THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC. Telemetry – Solar Cells Our project is using Arduino with the ZigBee to transmit and receive data from the solar cell. Data will be shown in the LCD and the software called...... Listed under: [Battery Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Solar energy projects](#)

996. [An I²C Bus powered Arduino IO Expander Board controlled via Bluetooth and Android](#)

Today we'll expand Arduino's digital resources thanks to an I2C bus equipped shield and we'll allow the management of the board via a bluetooth connection RN-42 through an Android systems. All Arduino boards feature a number of digital I/Os. For the simplest projects, such resources...... Listed under: [How To – DIY – Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

997. [Linking an Arduino to a Radiometrix NTX2B Transmitter](#)
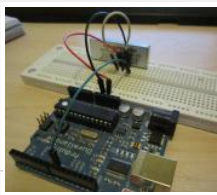
Part 1 – Test Circuit and Test Code Introduction Getting your Arduino to transmit via the radio initially may seem daunting but its actually pretty simple. Please freely substitute the word "Arduino" for any micro-controller you wish to use. The example below works for 5V...... Listed under: [Wireless Projects](#)

998. [Solar USB Charger 2.0](#)

Everyone has USB gadgets. It's pretty much a fact of life. Another fact of life is that these USB gadgets also continually run out of power when you most need them. No need to fear, solar power is here! Ditch those crazy wall adaptors, throw...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Solar energy projects](#)

999. [0 to 99 Light display](#)

this circuit will take a light reading then display a number between zero and 99 please leave constructive comments Step 1: Parts you will need [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] to make the 0-99...... Listed under: [LED Projects](#)

1000. [PS/2/You: Go-anywhere, LED digital message board using Arduino microcontroller](#)

Combine three inexpensive LED matrix display panels, an Ardweeny microcontroller and a standard PS/2 computer keyboard into your own go-anywhere, instantly updatable 768-pixel digital message board. The code can hold up to six lines of text with a maximum of 100 characters each. Pressing a...... Listed under: [LED Projects](#)

1001. [Solar Tracker Relay circuit using Arduino](#)

I've reached the point where I need to think how I'm going to control the motor & linear actuator for my solar tracker. Things to consider – Must be able to go forwards and backwards – so that makes 4 channels, 2 for each motor....... Listed under: [How To – DIY – Projects](#)

1002. [BARC Jeep – An XBOX Controlled Power Wheels](#)

Make a power wheels jeep that is controlled by an XBOX controller. This particular build is using Power Wheels® Jeep® Hurricane with Monster Traction™ but should be usable across many different types of power wheels with small adjustments. I wanted to do this project so I could...... Listed under: [Car Projects](#), [Game – Entertainment Projects](#)

1003. [Nick Smith – Magical Music Box using arduino](#)

This is my Magical Music Box which converts music into a light show. When i was daydreaming what to make for my final project, i wanted something that would make a light show for any song simply by hearing it. Materials used: 1x arduino 8x...... Listed under: [Game – Entertainment Projects](#)

1004. [Interactive LED Lab Coat using Arduino](#)

This is an instructable for the Interactive LED Lab Coats, showcased at Autodesk University. Check out the videos below! The first is a demo of the colors actuated by the buttons. The second is a demo of the breathalyzer! (this will be explained later) Tools ...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1005. [Sleep Tracking using an Arduino](#)

Background and motivation This project was motivated by two things: my almost complete inability to get out of bed in the morning, and my fondness for recording data from routine activities and making graphs with that data. My main problem with waking up in the...... Listed under: [Home Automation Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1006. [Arduino Controlled RGB LED Dot Matrix Board](#)

This project is a relatively straightforward and simple DIY music board. The Dot Matrix Board will allow any aged person to create their own music and beats. All you need to have is an understanding of Arduino and circuitry. Step 1: Gather Parts Needed [box...... Listed under: [LED Projects](#)

1007. [5×5 rgb lpd6803-led matrix arduino controlled](#)

what: a 5*5 rgb led matrix, made with arduino and lpd6803 based leds from adafruit. with an pir sensor, it goes on if it detects movements and a ir distace sensor, 1 animation shows the distance you have from the sensor :). why: because its...... Listed under: [LED Projects](#), [Projects](#)

1008. [An Open Source, hackable Digital Clock](#)
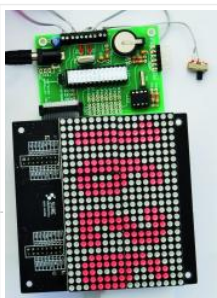
Andrew O'Malley, an amazingly creative maker, created this fanstastic Open Source Arduino-based clock that can display the time in many different ways: if not enough, one can also add his own personal animation. Compared to other clocks based on Arduino, this one has two distinctive...... Listed under: [Clock – Timer Projects](#)

1009. [Tiny Wearable LED kit – 12 PWM LEDs from a reprogramable ATtiny85](#)

This instructable covers the assembly and use of a Tiny Wearable LED kit. The kit is useable immediately but is desigend to be hackable and can be reprogrammed to your liking using an ISP programmer or Arduino board and the Arduino IDE. There are not...... Listed under: [LED Projects](), [Projects](), [PWM Projects]()

1010. [Infinity Mirror – Tony Stark Arc-Reactor thing using arduino]()

I'm creating a robot, but am finding that it's better if I break the build down into smaller projects. This is one of those projects, and it seems to have a look that could be used for other things as well. Step 1: Destroy a lady's...... Listed under: [Battery Projects]()

1011. [Ultraviolet nightlight, ingredients and setup]()

This simple instructable will show you how to make a nightlight out of a translucent container, a bottle of tonic water, an Arduino, and ultraviolet LEDs. If you've ever played with a black light, you've noticed that some substances glow brightly under these lights. In...... Listed under: [LED Projects]()

1012. [LCD & Keypad Shield Quickstart Guide using arduino]()

The 16×2 LCD And Keypad Shield is very simple to use because it's fully compatible with the Arduino "LiquidCrystal" library. You can initialise the LCD and display messages on it with just a few lines of code, but it also gives you the flexibility to...... Listed under: [LCD Projects]()

1013. [Arduino Esplora Light Calibrator]()

This sketch shows you how to read and calibrate the Esplora's light sensor. Because light levels vary from one location to another, you need to calibrate the sensor for each location. To do this, you read the sensor for a few seconds, and save the...... Listed under: [Development Board – Kits Project Ideas](), [LED Projects](), [Projects](), [Sensor – Transducer – Detector Projects]()

1014. [MultiMovEDIA]()

The title "MultiMovEDIA" does not mean much – if anything – at first sight. However, looking at more carefully, we can see it is a composition of two words: "Multimedia", referring to the information content and the channels it uses (text, image, sound), and "Move",...... Listed under: [Sound – Audio Projects]()

1015. [[Team PGH] – Prototype I Final Report: [Motion RC Car] using arduino]()

Introduction: Give a brief description of what you are trying to solve. Include a high-level overview of what you made, why you made it, what parts you used, and what it does. In today's growing technology, it seems every little electronic is becoming touch or motion sensored....... Listed under: [Car Projects]()

1016. [Python Meets the Arduino]()

Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. Python is our favorate programming language that allows you to integrate systems more effectively. Learn how to use Python to ... Listed under: [Internet – Ethernet – LAN Projects](), [Projects]()

1017. [Alarm Clock with Tetris to Prove You're Awake using Arduino](#)

This is an Arduino powered alarm clock that after hitting snooze twice the alarm will not cancel until the user has cleared 4 lines in the game Tetris. You physically turn the clock sideways, so the screen is vertical, to play Tetris. It's never fun…… Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#), [Projects](#)

1018. [Arduino Mobile Processing](#)

How the mobile sketch works: The brain of the system is really on the arduino or the web page the phone requests. . . The phone just passes any data it sees back and forth. . . For the phone app to run, it needs…… Listed under: [Phone Projects](#)

1019. [Localizer with SIM908 module using arduino](#)

The device is based on a GSM/GPRS module with included GPS. Its main function is to detect and communicate its own geographical position using, on the choice, the cellular phone reference system or the GPS. Its small dimensions are due to the use, for the…… Listed under: [GPS Based Projects](#), [Phone Projects](#)

1020. [Lego Spybotics with Arduino](#)

A friend gave me his old Lego Spybotics robot, however, the programming environment that goes along with it is a bit too orientated to the younger user. So why not control it using an Arduino? Step 1: Open up! In order to get this robot…… Listed under: [Home Automation Projects](#), [Robotics – Automation Projects](#)

1021. [Arduino animatronics- make your awesome costumes more awesome](#)

Here's how to add lights, sound and action to your favorite Halloween project using the open source Arduino microcontroller. Arduino is easy to learn to use and it opens up a whole new world for costume builders and creature creators. If you want to learn…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1022. [Custom Large Font For 16×2 LCDs using arduino](#)

A couple of years ago i was learning to use the Ardiuno and started playing around with an Hitachi HD44780 based 16×2 LCD screen. I soon learned that the screen has 8 customizable character slots. I had found a project where someone used those slots…… Listed under: [LCD Projects](#)

1023. [CARduino – Arduino-Powered, LabVIEW-Controlled Vehicle](#)

The CARduino is a remote-operated vehicle which is controlled by a controller attached to a computer running LabVIEW. The vehicle is powered by the Arduino, and can be expanded upon through the addition of sensors or other devices. Using LabVIEW, one can easily modify the…… Listed under: [Car Projects](#)

1024. [Read analog data directly in Processing using arduino](#)
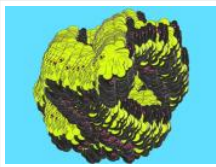
This instructable presents a fast an easy way to use data received from an analog sensor in Processing. You will learn to utilize the Arduino and prototype electronic boards to read meaningful data from the environment. The sensors can be affected by the light, the...... Listed under: Arduino Programmer Projects

1025. The Arduino Noise Machine

Okay, okay, I know you all were wondering what I am up to now. I love synths and so, I built this. There are three things that can catch my attention: Synthesizers, Amplifiers and free. The other day (Actually it was just Thursday) I was...... Listed under: Projects, Sound – Audio Projects

1026. The Soil Moisture Sensor using arduino

You are building a cheap soil moisture sensor so the brain can read the amount of moisture in the soil. The version we are building is very low tech, but it is also very cheap and easy to build. It consists of a block of...... Listed under: Home Automation Projects, Temperature Measurement Project Ideas

1027. Arduino theremin like musical instrument

When I got my Arduino protoshield from sparkfun, I wanted to make something cool with it. And since I had seen a few Theremin projects before, and already thought about making some, I finally made one, using the Parallax PING sonar sensor. Here are some...... Listed under: Projects, Sensor – Transducer – Detector Projects

1028. Mouse Control With Pushbuttons using arduino

Overview In this lab, you'll build an alternative computer mouse using an Arduino Leonardo using pushbuttons to move the mouse left, right, up and down. You'll see the difference between reading a digital input continually and reading for a change of state. (:toc Table of...... Listed under: Interfacing(USB – RS232 – I2c - ISP) Projects

1029. G Meter using arduino

I have a late 80's VW and the gauge cluster has 5 dummy LED locations underneath the other warning lights. Well I was tired of the m not doing anything, so I decided to do something about it. I came up with the idea to...... Listed under: Metering – Instrument Projects

1030. Xbox 360 RF module + Arduino
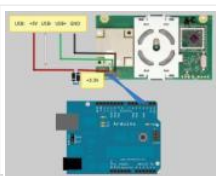
I was going to make a huge write-up on this, but I can't be bothered right now. I'll probably do something about it later. Until then, have an Arduino sketch. If you don't know what you're doing with it then chances are you don't have...... Listed under: Radio Project Ideas, Wireless Projects

1031. Robotic Talking Turret using Arduino

Here I will show you an overview on how to make a robotic talking turret, loosely based off of the turrets from the popular game, Portal. This instructable should help anyone wanting to do an animatronics project. For more detailed pictures, go to: http://razorconcepts.net/turret.html This...... Listed under: Projects, Robotics – Automation Projects

1032. New Textiles 2012 using arduino

Twist Switch by ttseng Through the action of twisting, swatches of conductive fabric are folded in upon each other, completing a circuit that then turns on LEDs. On each face of stretched spandex are swatches of conductive fabric. Before choosing which swatches to designate as...... Listed under: [LED Projects](#)

1033. [Demystifying 4 pin RGB LEDS (Radio Shack 276-0028) using arduino](#)

RGB LEDs are fairly useful in projects allowing for a wide range of color from a single unit. However they can be a pain in the neck to work with and they too often come with little or no documentation. I searched for some time...... Listed under: [LED Projects](#)

1034. [Connect the arduino and make the speaker play](#)
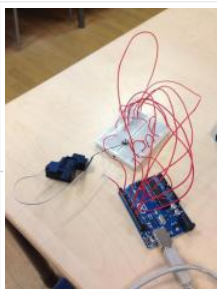
To make your Arduino to play a melody you need thes accessories. One 5 ohm speaker One Arduino uno board One Push buttom One 10 kohm resistor 8 leds And a lot of core wires Step 1: Connect the arduino and make the speaker play This...... Listed under: [Sound – Audio Projects](#)

1035. [Team 1 Final Project Report & Video: Arduino Video Game System using arduino](#)

Introduction We built a video game system that can play either Snakes or Pong. We saw a project called "Arduino Pong" and wanted to recreate it with our own twist. Description Parts Needed: Arduino Uno Video Game Shield 2 LEDs 2 non-latching push buttons 2...... Listed under: [Game – Entertainment Projects](#)

1036. [Arduino Morse Code Flaher using arduino](#)

I am a big fan of programming but I like to keep it down to 555 timer but when it comes to complex functions like flashing a LED in a certain pattern programming is necessary.One day while surfing through the I came across something known as Morse code.I decided...... Listed under: [Arduino Programmer Projects](#)

1037. [Arduino Robotic Arm](#)

In this instructurable I will show you how to make a simple robotic arm controlled by 4 servos , 2 analog joysticks, and an Arduino UNO. It is very similar to my "2 Servos + Thumbstick" instructurable. This tutorial is in particular to help out another...... Listed under: [Robotics – Automation Projects](#)

1038. [Rear Wheel Tachometer using arduino](#)

One of the goals of Movable Party is to provide an interactive experience for audiences/participants. Since power will be generated from a hub motor attached to the rear wheel of each bike (see this post), the speed of the rear wheel directly translates to the...... Listed under: [CNC Machines Project Ideas](#), [Temperature Measurement Projects](#)

1039. [Time-Lapse Camera Controller using Arduino](#)

Simple digital cameras can produce remarkably good quality photos and are now cheap enough that it doesn't hurt the wallet too much to buy one with the intention of modifying it for use in a project. You may even already have an old digital camera…… Listed under: [Video – Camera – Imaging Projects](#)

1040. [A useful and simple IO Shield for Arduino](#)
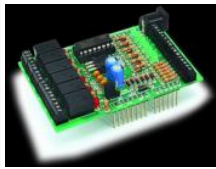
In order to "visually" highlight the behavior of Arduino programs you must connect a device to the I/O pins, which gives you tangible signals. Normally, if you want to check if a program changes a level of an output pin, answering a command or executing…… Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#)

1041. [Laser cut gear clock with ChronoDot using Arduino](#)

This summer, my hackerspace LVL1 (in Louisville, Ky) got an awesome laser cutter http://fslaser.com/40w-deluxe-hobby-laser-engraver-and-cutter. LVL1 is an awesome community of creative folks that like to build stuff. You can always check out what we are up to at http://www.lvl1.org. If you like instructables and making…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1042. [Using an Arduino to Control or Test an SPI electronic device](#)

There are many electronic devices that use the SPI bus, or Serial Peripheral Interface bus, for communications (e.g. various sensors, LCD displays, digital potentiometers, D/A and A/D converters, wireless transmitters and receivers, audio volume controls). The devices receive data serially from a microcontroller using a…… Listed under: [Battery Projects](#)

1043. [Solar Powered LED/Ultracapacitor Arduino Regulated Light](#)

This instructable primarily shows how to control the charging voltage from a solar panel to an energy storage device (capacitors in this case). I showed how to construct the light previously http://www.instructables.com/id/Human-Powered-Light-from-my-book-Doable-Renewab/ Step 1: This solar panel can produce up to 18 volts, but my…… Listed under: [LED Projects](#), [Projects](#)

1044. [Arduino – based camera trigger unit](#)

I developed the camera trigger unit in order to synchronize various events and actions during free-flight experiments with hawkmoths in the wind tunnel described in a previous post. More specifically, the goal was to trigger multiple high-speed cameras and have LEDs that indicate the exact…… Listed under: [Home Automation Project Ideas](#), [Video – Camera – Imaging Projects](#)

1045. [Bouncing Multicolored LED line](#)
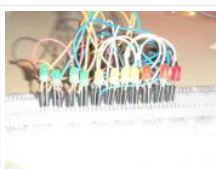
This is an arduino controlled project and uses leds, jumper wires, and a breadboard. This is one of my first attempts on programming arduino and I am pleased with the outcome. I'm ten years old and I just started programming 2 weeks ago. Step 1:…… Listed under: [LED Projects](#)

1046. [Airmonica – a free-air musical instrument](#)

improvise + harmonize + customize The airmonica is a easy-to-learn tweakable musical instrument that you can use to perform harmonic musical ditties by accompanying a tri-tone arpeggiator. There are endless opportunities to expand the airmonica in any way that will make it your your own...... Listed under: [Sound – Audio Projects](#)

1047. [Controllers and Sensors using arduino](#)
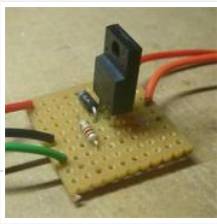
Intro The Arduino microcontroller board is able to supply a current of 40mA from its output connections. These digital outputs are fixed at 5V "ON" or 0V "OFF". This is adequate for working with LEDs but devices such as motors, solenoids, high brightness LEDs etc....... Listed under: [Motor Projects](#)

1048. [Programming Arduino in C++11 — ROM dumping](#)

In this tool-assisted education video I show how to program an Arduino Atmega2560 board in C++11 to dump a ROM chip, such as a 386sx BIOS or a Famicom cartridge ROM. I also make a ZMODEM sender and a LED blinker in this video. Sorry...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1049. [Arduino Automatic Watering System For Plants Sprinkler](#)

Last month, Elecrow have left from the original office and moved to a new office. We will miss our original office where we worked so hard for more than two years, we will miss everything here, the desks, the windows, and those potted plants, that...... Listed under: [Home Automation Projects](#)

1050. [The iButton garage-door opener using an Arduino](#)

I've made an iButton garagedoor opener and logger. On a Dutch (kind of) eBay (www.marktplaats.nl) I found some iButtons and readers very cheap. I had no idea what to do with them, but I bought them anyway. My garage opens with a push on a...... Listed under: [Home Automation Projects](#), [LCD Projects](#), [Projects](#)

1051. [RFM12B – Part 1 – Hardware Overview](#)

To see how RFM12B wireless compares to other similar wireless options (e.g Xbee, XRF etc..) check out this well compiled comparison overview by Stuart Poulton: http://blog.homelabs.org.uk/wireless-connectivity/. Overview Made by Hope RF, re-branded by RFsolutions in the UK. Sometimes called 'Alpha RF' Low cost RF transceiver (from Rapid, Farnell,...... Listed under: [Radio Project Ideas](#), [Wireless Projects](#)

1052. [Arduino Throttle Body Syncronization Shield](#)

A common Motorcycle maintenance task is to synchronize the throttle bodies on the engine to smooth out any rough idle. This is done by monitoring the vacuum on each throttle body and using the idle screw to make the adjustment. While this sounds rather advanced,...... Listed under: [Car Projects](#), [Projects](#)

1053. [Ardusumo: an Open Source Platform for Fighting Robots using Arduino](#)

The idea Ardusumo is a universal platform to build robots on wheels that can move around avoiding obstacles using infrared sensors and follow routes marked with dark lines on a white background. We have created Ardusumo to bring young students to the world of

robotics:...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1054. [BUILD YOUR OWN LASER HARP using Arduino](#)

The laser harp is a musical instrument made of light. A fan of beams shoots up from the floor into the night sky. The performer can create music by placing their hands in the beams. Not only does "breaking" the beam produce notes, but sliding...... Listed under: [Game – Entertainment Projects](#)

1055. [Touch Control Panel using Arduino](#)
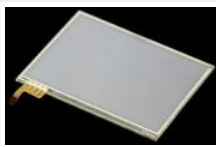
Small 4-wire resistive touchscreens are now amazingly cheap: they are produced in such enormous quantities for mobile phones, PDAs, and particularly handheld games such as the Nintendo DS that they can be bought brand new for under US$10. Larger touchscreens are also rapidly falling in...... Listed under: [Sensor – Transducer – Detector Projects](#)

1056. [Arduino + 2 Servos + Thumbstick (joystick) using arduino](#)
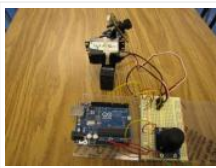
In my other 2 Arduino tutorials I have help new users to play tones and making 2 servos move with a mouse. This time I will help you move the same 2 servos with a thumbstick. And again I have surf the internet to see If there...... Listed under: [Motor Projects](#)

1057. [Stepper Motor drive from Arduino](#)
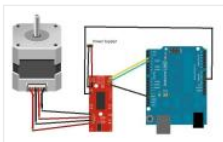
Stepper Motor drive from Arduino In this tutorial we will show you how to connect a bipolar stepper motor to an Arduino Uno board. The stepper motor we are using is the Sparkfun Stepper Motor but you can use any other 4-wire bipolar stepper motor....... Listed under: [Motor Projects](#)

1058. [UVic Quadcopter using arduino](#)
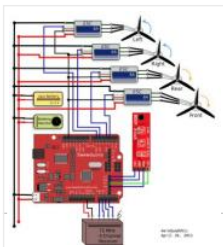
Hardware Controller The Arduino platform is selected for this project, mainly due to its open software and hardware nature which has resulted in availability of extensive technical information. As a result there are many tutorials and example project available for this platform. A list of...... Listed under: [Car Projects](#), [Robotics – Automation Project Ideas](#)

1059. [How to: Use Arduino to Generate Glitchy Audio VGA Visuals](#)

This post is a guide for people that are interested in my previous posts about dual monitor VGA hacking (see 1, 2 and 3). You will need: • A laptop or a computer with a VGA output • A breadboard (optional) and some wires or...... Listed under: [Sound – Audio Projects](#), [Video – Camera – Imaging Projects](#)

1060. [Hacked Pan and Tilt Camera Mount](#)

So my sister managed to break a pan and tilt camera mount and naturally thought daddy can fix this. After sitting on my dads workshop bench for a while he had a go at it and couldn't work out how to fix it so it...... Listed under: [Video – Camera – Imaging](#)

[Projects](#)

1061. [Adafruit Arduino Motor Shield Build](#)

Overview The Arduino Motor Shield is based on the L298 (datasheet), which is a dual full-bridge driver designed to drive inductive loads such as relays, solenoids, DC and stepping motors. It lets you drive two DC motors with your Arduino board, controlling the speed and...... Listed under: [Motor Projects](#), [Projects](#)

1062. [How to make fist pumping with LED animation using Arduino](#)
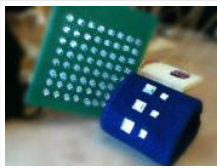
It's to make a fist pumping LED controller. What is it? Have you noticed yourself fist pumping to the music at a party or a club? That's exactly for that. You would wear a band with a accelerometer/gyro mounted. As you move your hand around...... Listed under: [LED Projects](#), [Projects](#)

1063. [Developed on Hackaday: First Version of the Hardware](#)
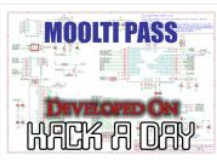
The Hackaday writers and readers are currently working hand-in-hand on an offline password keeper, the mooltipass (click to see the project description). Next in our Developed on Hackaday series, we present the first version of our schematics. There's already been a lot of discussions going on in...... Listed under: [Security – Safety Projects](#)

1064. [DIY Teagueduino](#)

What is Teagueduino? Teagueduino is an open source electronic board and interface that allows you to realize creative ideas without soldering or knowing how to code, while teaching you the ropes of programming and embedded development (like arduino). Teagueduino is designed to help you discover...... Listed under: [How To – DIY – Projects](#), [LED Projects](#)

1065. [Automatic blind hooked up to existing projector screen using Arduino](#)

Hello my name is Chipsy, I'm French, reading instructables since at least 2 years, it is the first entry i make on this website. Why i made this project : I have a small homecinema system in my living room, with a projector and a...... Listed under: [Home Automation Projects](#), [Projects](#)

1066. [MenZ-DECK](#)

About a year ago, we drunk beer in The-MenZ Lab. When Zagan said "I want PCDJ controller, So next project is make controller!". The project began at this time. ***MenZ-DECK featured by Maker Faire UK Blog.*** http://www.makerfaireuk.com/maker-faire-tokyo/ (Continue with broken English) Components for make controller: Arduino...... Listed under: [Development Board – Kits Projects](#)

1067. [Arduino Watch Build Instructions](#)

Update: New version out that works with Arduino 1.0 and higher! The Arduino Watch provides augmented sensing of temperature and range, 16-bit color drawing program, Breakout game, and also tells the time in your choice of digital, binary, or analog. Additional

sensors, devices, and programs…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1068. [GSM Remote Control – GSM Module](#)

 This GSM Mobile is used for our Remote Control (for example Gate Control, Temperature Control….). We use the word 'module' because, unlike what we did in our remote control projects, this time around the mobile phone is not mounted on a printed board, but rather on…… Listed under: [Phone Projects](#)

1069. [Interface a rotary phone dial to an Arduino](#)

 An old rotary phone can be used for a number of purposes in your Arduino projects – use it as a novel input device, or use the Arduino to interface a rotary phone to your computer. This is a very basic guide describing how to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Phone Projects](#), [Projects](#)

1070. [Arduino Controlled Can Crusher With LCD Readout](#)

 I have always wanted to do an instructable, but I never had a somewhat original idea that hasn't been done a million times, or something that had no means of building. I have some friends who recycle aluminum for money and after seeing the large bags of an unknown…… Listed under: [Home Automation Projects](#), [LCD Projects](#), [Projects](#)

1071. [Arduino ATmega328 – Hardcore](#)
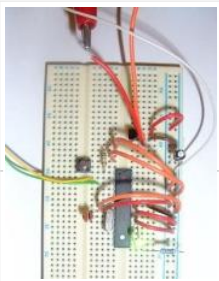
 Ok, you've completed your prototype using an Arduino Uno board, perhaps using a shield or a breadboard for any additional components, but now you want to finalise your design and construct it using your own pcb. Well, that is fairly straightforward, as we have made…… Listed under: [Arduino Programmer Projects](#)

1072. [Computers are Dumb](#)

 Objective: Overcome your fear of computers! If you can count to two, then you can master the basics of computers. If you think computers are smarter than you, you are wrong and I will prove it. For normal people, just follow the LOG: comments. Computers…… Listed under: [RTOS – OS Projects](#)

1073. [Bicycle North Indicator using Arduino](#)

 Magnetoception is the ability of some animals to detect magnetic fields as a means of orienting themselves. Although humans do not seem to posses the same biological mechanisms that allow other animals to sense magnetic fields, there are still many ways that we can improve our…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

1074. [SPI interface to the FlySky/Turnigy 9x](#)

Interfacing a RC radio to a microcontroller is a bit of a pain, especially if you want a lot of channels, because you have to time each channel's output individually. An AVR only has one 16 bit timer with two compare channels, so either you…… Listed under: [Radio Projects](#)

1075. [Arduino powered 7seg led display with Port Manipulation](#)

Time for something a little more advanced. Direct Port Manipulation. Normally when using Arduino software, the actual logic behind changing the values in pins is abstracted away with digitalRead and digitalWrite. Now, for most people that's just fine. But it has some limitations. For one,...... Listed under: [LED Projects](#), [Projects](#)

1076. [Arduino controlled animatronic wooden head (reading lamp) usnig arduino](#)

This head is a reading lamp which can be adjusted for direction of lighting, and dimmed as required. This Instructable combines Arduino programming, some simple electronics, carving with hand and power tools, mechanical control and a bit of woodwork. Apart from the Arduino and a...... Listed under: [Home Automation Projects](#)

1077. [High Power RGB LED Moodlamp which syncs with Philips Hue](#)

In this instructable the main focus lies on the software which I've created – not so much on the hardware side. You needn't to use a high- power led for this, you can use every RGB- LED you like. The "High Power RGB LED Moodlamp"...... Listed under: [LED Projects](#)

1078. [Buggy Wheelchair Robot using an Arduino](#)

This is a Modification of an electric wheelchair. I called it "Buggy" for two reasons. #1 My kids can still ride it around because I left the seat intact. #2 I haven't programmed anything for a long time. I plan to create "jobs" for it...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1079. [Precision Fermentation: Arduino-Controlled Crock Pot Yogurt Maker](#)

A homemade thermostat attachment for a crock pot (or other electric heating device). It can be used to precisely control the temperature of the crock pot for things like yogurt fermentation. Why Making yogurt is fun. It is also way cheaper than buying it. You...... Listed under: [Home Automation Projects](#)

1080. [BLU-BOARD, control your home with blue tooth!](#)

Big thanks to the fine people at Hack-A-Day for sharing this with the world! if you'd like to donate to the project: https://www.suprmasv.com/projects/167/blu-board This project has been in the works for along time, three months if I reckon Correctly, but anyways, this device will allow you...... Listed under: [Development Board – Kits Projects](#), [Home Automation Projects](#)

1081. [CatBot: Automated Cat Laser using an Arduino](#)

The CatBot is an autonomous laser toy for your cat. You may say "But Joe, isn't the laser pointer the best toy for the lazy cat owner?" I'd have to say no, the CatBot takes one step further. Using two servos, an Arduino and a...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1082. [Nerd++: Controlling Dioder RGB LED Strips with Arduino, Pt. 1 – Getting Started](#)
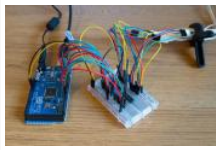
A few weeks ago, it came to my attention that IKEA do a set of colour-changeable LED strips. I've been looking for a decent way of providing some lighting behind my computer to reduce eye-strain for a long time, and these seemed perfect: I was...... Listed under: [LED Projects](#)

1083. [Arduino compatible Luna Mod Looper](#)

The Luna Mod Looper, basically lets you record a sequence using a potentiometer to control the pitch of the note, and then play it back and add affects. Ever since I saw videos of the Luna Mod being played, I wanted to build my own....... Listed under: [Projects](#), [Sound – Audio Projects](#)

1084. [Glowing Color-Changing Guitar](#)

In the kingdom of rock and roll it is important to set oneself apart. With millions of people in this world who can play the guitar, simply playing well is just not going to cut it. You need something extra to rise up as a...... Listed under: [Sound – Audio Projects](#)

1085. [LED matrix using shift registers using arduino](#)
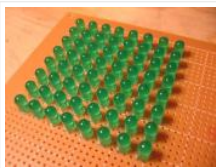
This instructable is meant to be a more complete explanation than others available online. Notably, this will provide more hardware explanation than is available in the LED Marquee instructable by led555. Goals This instructable presents the concepts involved with shift registers and high side drivers....... Listed under: [LED Projects](#)

1086. [Athena: The Global Car Tracking System(3D Images)](#)

Bring out your 3D glasses and enjoy viewing in a novel way! I have added a new dimension to my instructable. If you do not have 3D glasses, then you can make one yourself. The following link explains how to make 3D glasses (link). Please...... Listed under: [Car Projects](#), [Sensor – Transducer – Detector Projects](#)

1087. [Piano Stairs with Arduino and Raspberry Pi](#)

Who doesn't love music? These Piano Stairs are an interactive, relatively portable, musical installation that can be applied to basically any stairwell. I built them for HackPrinceton and won 2nd place in the hardware track. I've had requests to share my code and diagrams, so...... Listed under: [Sound – Audio Projects](#)

1088. [Addressable Milk Bottles (LED Lighting + Arduino) using arduino](#)

Make PPE milk bottles into good looking LED lights, and use an Arduino to control them. This recycles a number of things, mainly the milk bottles, and uses a very low amount of power: the LEDs apparently dissipate less than 3 watts but are bright...... Listed under: [LED Projects](#)

1089. [Make your own cellphone from scratch](#)

The DIY Cellphone is a working (albeit basic) cellphone that you can make yourself. It can make and receive phone calls and text messages, store names and phone numbers, display the time, and serve as an alarm clock. It connects to GSM networks (like AT&T and T-Mobile...... Listed under: [How To – DIY – Projects](#), [Phone Projects](#)

1090. [LED Cube Spectrum Analyzer](#)

In this project we'll create a small add-on PCB containing the a MSGEQ7 spectrum analyzer circuit and show how it can drive the RGB LED cube kit from Freetronics. This allows the cube to display the seven bands over four horizontal planes. There is a small amount...... Listed under: [LED Projects](#)

1091. [High Speed Outdoor Photography](#)

High speed photography is generally carried out in a dark room with dedicated equipment (controlled remote flash for example)... The instructable proposed here enables to make high speed photography outside (and enjoy the sun!), in less than 2 hours with some generic DIY basic tools. The principle is the following...... Listed under: [Video – Camera – Imaging Projects](#)

1092. [DIY Sensors Workshop using arduino](#)

The Arduino offers the advantage that a lot of people are using it so it is usually quite easy to get help or information via the internet. The main website for the Arduino is: http://www.arduino.cc/. The Arduino can also be programmed to behave in many...... Listed under: [Sensor – Transducer – Detector Projects](#)

1093. [Troubleshoot your car battery with ATtiny](#)

Last winter I experienced some problems with my car battery. I knew that it was about time to replace it so off I went to buy a new one. This fact reminded me of an old article about a car battery/charging system diagnostics kit I...... Listed under: [Battery Projects](#), [Car Projects](#)

1094. [STEAMPUNK STEAM GAUGE, POWERED BY ARDUINO](#)

This was created to be some eye-candy for my kitchen. I wanted something unique for a special blank space on my wall, and adding movement, blinky lights and interesting mechanical "guts" made it even better. Ultimately, this project ended up requiring the following range of...... Listed under: [Metering – Instrument Projects](#), [Sensor – Transducer – Detector Projects](#)

1095. [Arduino Laser Engraver](#)

I started this project because I wanted to make something that had mechanical, electrical and software components. After looking around on Instructables, I figured that an Arduino based laser engraver would be an interesting machine to make, and that the machine itself could make interesting...... Listed under: [Other Projects](#)

1096. [Google Docs and the Arduino Yún](#)

Introduction This is the second in a series of tutorials examining various uses of the Arduino Yún. In this article we'll examine how your Arduino Yún can send data that it captures from the analogue and digital inputs and a real-time clock IC to an online Google...... Listed under: [Internet – Ethernet – LAN Projects](#)

1097. [Multitouch Music Controller](#)

This project is an Arduino-powered infrared touchscreen / coffee-table interface that I've been using to control various music and graphics applications on my computer. This is an old project that I've recently had time to go back and document/fix up; this project is a little...... Listed under: [LCD Projects](#), [Sound – Audio Projects](#)

1098. [Controlling Cubase with Arduino based MIDI](#)
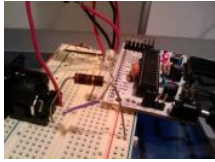
A friend of mine wanted to control Cubase, his audio recording software, with a push button so that he could stop and start recordings remotely without having to go over to the computer and type on the keyboard. You may be able to do this...... Listed under: [Projects](#), [Sound – Audio Projects](#)

1099. [Plugduino – Arduino based 120 Volt outlet controller](#)

give your Arduino a 120 volt kick in the pants! The Arduino is a great tool for anyone interested in learning microcontroller programming, but after blinking some LEDs, what's next? This project enables your Arduino to control real-world 120 Volt electrical appliances you have in...... Listed under: [LED Projects](#)

1100. [Arduino Masterclass Part 2: Build an LED weather station using arduino](#)
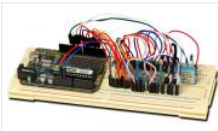
Project-specific parts You'll need the standard parts (Arduino board breadboard wires pliers and so on) along with these extras: DHT11 temperature/humidity sensor 7 x 330-ohm/0.5W metal film resistors 3 x 4.7k-ohm/0.5W metal film resistors 2 x BC337 NPN transistors 2 x LTS543R or FND500 common...... Listed under: [LED Projects](#)

1101. [Proximity Sensing Origami Flower using Arduino](#)

Origami is the traditional Japanese art of paper folding. In this project, with a little help from an Arduino, you can bring your origami into the 21st century and make it an interactive art! The result shown here uses Bare Conductive paint to give an...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1102. [Worms in Space Board Game](#)

Story: NASA has taken worms to the ISS on their own special capsule. There was an accident aboard the station and the worm astronauts have to navigate to the escape capsule to return to Earth. The airlock to the escape capsule has been damaged but...... Listed under: [Game – Entertainment Projects](#)

1103. [FireHero: Turn Guitar Hero into an extreme sport by adding flamethrowers! using Arduino microcontroller](#)

So, long ago I had read about propane fire poofers. They're pretty cool... I mean, who doesn't love fire?! But, no matter how awesome, they could get pretty boring after a while of seeing the same large fireball. I never built one because I wanted...... Listed under: [Game – Entertainment Projects](#)

1104. [How to Display Text on an HD44780 LCD with an Arduino](#)

In this article, we will go over how to connect an HD44780 LCD to an arduino in order to display any text that we want to show on the LCD. To do this, first, we must make the appropriate physical connections from the arduino board...... Listed under: [LCD Projects](#)

1105. [DIY Antique Phone Doorbell using Arduino](#)

Bryan Zimmer emailed us this fantastic retro-themed DIY hack, a most timely submission as we just revisited the noir art deco-science fiction classic Dark City and we think this would have perfectly fit in the world (or in Adama's quarters on BSG). Bryan gives step-by-step…… Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Phone Projects](#)

1106. [Arduino Touch Screen iTunes control (ATSIC) using arduino](#)

What I'm going to show you is how to make an iTunes control device using an Arduino and a touch screen. The iTunes Control works by reading area's of the touch screen and send a letter to the computer via the serial port, which is…… Listed under: [Phone Projects](#)

1107. [Building an Arduino Robot, Part II: Programming the Arduino](#)

Welcome to the second article in the tutorial series in which I'm building a remote controlled Arduino based vehicle robot. Here is the list of articles I have published: Part I: Hardware Components Part II: Programming the Arduino (this article) Part III: Assembling the Robot…… Listed under: [Robotics – Automation Projects](#)

1108. [Color changing display](#)

Custom made Multiple color display. Have you ever wanted a display that is a little larger then one you can buy? Have you ever wanted to make a display the way you wanted it? Me too! This is how I made a custom multiple color…… Listed under: [LED Projects](#)

1109. [DMX Ardweeny Node using Arduino](#)

I've settled on the lighting industry standard of DMX as my overall control protocol as I explore the world of blinky lights. This universal control method is electrically robust, radio transmissible, and flexible enough for my needs (not to mention the needs of major concert,…… Listed under: [Development Board – Kits Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1110. [Control a Relay with Arduino](#)
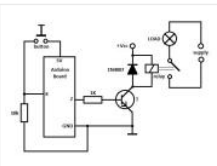
In this quick Arduino tutorial I will explain how you can control a relay using the Arduino Board, one 1K and one 10K resistors, 1 BC547 transistor, one 6V or 12V relay, one 1N4007 diode and a 12V fan. When the button is pressed the…… Listed under: [Sensor – Transducer – Detector Projects](#)

1111. [Easily control your iPod using Arduino](#)

Easily control your iPod with Arduino using serial commands. This instructable includes the schematic, the code and some extra info; everything you need to make this work. USB,battery or wall power supply powered. Step 1: What you need Parts: 5x 1K ohm resistors 2x 1M…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Phone Projects](#), [Projects](#)

1112. [Make an Arduino timer](#)

Hi, so me and my pal are setting up so we can make PCB´s. We are currently making a UV exposure box (possibly another instrucable) and for this box, we needed a timer, so this is what we have done so far, and what we…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1113. [Easy 4×6 LED Matrix, Arduino!](#)

In this inst'able, I will show you how to create your very own 4×6 LED matrix as well as show you how to write code for it! There is an animation creator program in step 4! Here is one ANIMATION to get you excited about the project! ***Wave...... Listed under: [LED Projects](#), [Projects](#)

1114. [Pulse Width Modulation : PWM using Arduino](#)

Pulse Width Modulation or PWM is a method of Digital to Analog Conversion. It helps in delivering analog average voltage using digital pulses of variable pulse width. By controlling the on time and off time, we can generate an analog average voltage using the digital...... Listed under: [PWM Projects](#)

1115. [Robot arm from a desk lamp (IKEA Tertial hack)](#)

This project answers to a need I had: a third hand that holds a camera while I perform a test and takes photos/videos (useful when you're stuck at the lab late at night, and suddenly need a photographer). The downside to a robotic arm was...... Listed under: [Robotics – Automation Projects](#)

1116. [Breadboard Arduino](#)
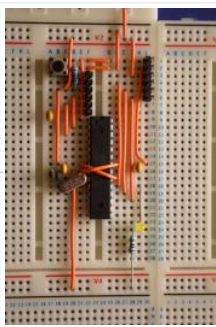
Received a couple of nice big bread boards for Christmas and decided that one of them needed an arduino to use with it. After some thought I decided that the best option was to build the required parts of an Arduino circuit direct on the...... Listed under: [Development Board – Kits Projects](#)

1117. [The MAX7219 and MAX7221 Led drivers](#)
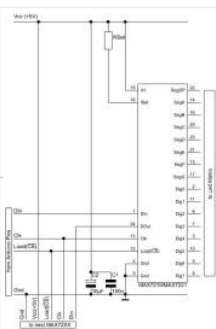
These two integrated circuits from Maxim are for driving either 64 individual Led's, or up to 8 digits of 7-segment displays. The drivers implement a SPI compatible slave interface that can be controlled from the Arduino using only 3 of the digital output pins. An...... Listed under: [LED Projects](#)

1118. [Arduino Time & Temp Display Shield](#)

Another project I'm working on required a good timer, but the more I read about Arduino, I realized that I couldn't make an accurate timer using an Arduino that was already devoted to other tasks. The Arduino will always lose time if you perform other...... Listed under: [Temperature Measurement Projects](#)

1119. [Measuring Battery Capacity With an Arduino](#)

I needed a couple of AA batteries and found the display at the supermarket where they were all arrayed. Normally when I'm shopping in the supermarket, I tend to look at the price/kg or price/l when comparing similar products. In the case of the batteries,...... Listed

under: [Battery Projects](#), [Projects](#)

1120. [Sunflower Automaton using arduino](#)

This was a 6 week project created for the Spring 2012 Things That Think course at the University of Colorado at Boulder. Our project is an autonomous Sunflower. As in nature, the highest priority for our flower is sunlight, necessary for photosynthesis. Our Arduino controlled…… Listed under: [Video – Camera – Imaging Projects](#)

1121. [Charlieplexing LEDs with an Arduino](#)

Charlieplexing is an ingenius method for controlling many LEDs without using many microcontroller pins. You can turn on or off one LED at a time. To light more than one LED at a time, you can scan the LEDs by turning a sequence of them…… Listed under: [LED Projects](#), [Projects](#)

1122. [Minimal Arduino with ATmega8](#)
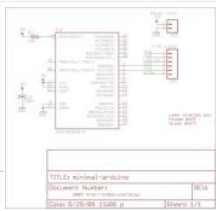
Like me, you may have a few old Arduino boards or ATmega8 chips (in the boards) laying around from when you were first playing with Arduino. Those chips can still be really useful as the heart of a tiny "Minimal Arduino" setup. A normal Arduino…… Listed under: [Other Projects](#)

1123. [Nocturnal Emissions: My Arduino Powered Internet Enabled Dream Generator](#)
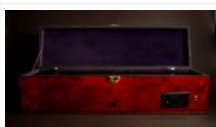
We all need to dream more so I've created this Arduino Powered "dream generator" to help plant the seeds for some big thinking craziness. When you approach the generator a Maxbotix ultrasonic sensor triggers lights and music that draw you in so you can stare…… Listed under: [Internet – Ethernet – LAN Projects](#)

1124. [Light Seeking R.C Car Hack (with Arduino) using arduino](#)

Creating a robotics platform from scratch takes allot of work and a few dollars. Buying a ready built one is easy but costs allot of money (at least for me). So instead I decided to piggy back off of the companies who make remote control…… Listed under: [Car Projects](#)

1125. [Appliance Remote Control using Arduino](#)

One of the basic tasks in many home automation systems is controlling power to appliances. They could be lights, or a heater, or an exhaust fan, or just about anything else that runs on mains power. The problem of course is that it's dangerous to…… Listed under: [Home Automation Projects](#), [Robotics – Automation Projects](#)

1126. [Arduino Wireless Programming with XBee Series 1 or 2](#)

Hi. This Instructable will guide you through the process of wirelessly programming your Arduino using two XBees. I just finished designing a wireless EEG system with the XBee modules, so I've become quite fluent in their programming and have just now been able to accomplish this. It still amazes...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1127. [My Arduino Binary Clock](#)

Hi from Italy Although many watches are created binary, my project was inspired mainly to this: http:// http://www.instructables.com/id/LED-Binary-Clock-1/, very smart and funny. I tried to improve the design and to add something personal. I think it's a good result at the end. The project is...... Listed under: [Clock – Timer Projects](#), [Projects](#)

1128. [Cheap Arduino Controled Yogurt Maker](#)

These days I was reading an interesting post on how to make yogurt "by the gallon" (http://www.instructables.com/id/Yogurt-By-The-Gallon/). One thing needed was to maintain a rather constant temperature of 43ºC (110°F), so the bacteria can grow properly. Though you can buy commercial yogurt makers, they aren't...... Listed under: [Home Automation Projects](#), [Projects](#)

1129. [Low Cost LED Grid](#)
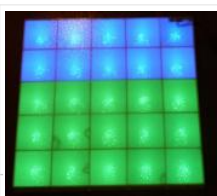
There are a number of great Instructables on LED grids out there. This is a low cost version – not quite as polished, but easy to make. This project uses a couple of sheets of foam core, a fluorescent fixture cover from the local home...... Listed under: [LED Projects](#)

1130. [Make an Attiny13 based IR proximity sensor](#)

This is an extremely cheap IR proximity sensor you can make with a few cheap parts and an AVR programmer. I use an Arduino as my programmer in this Instructable. This sensor only has a range of about 3 inches. You can easily add more...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sensor – Transducer – Detector Projects](#)

1131. [Google Weather on graphical display with Arduino](#)

In this project, I am using an Arduino board to show forecast of the weather from Google Weather service on a VGA screen. The display is obviously graphical one, with icons and some colorful text. It is one of those gadgets I wanted to have...... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#), [Projects](#)

1132. [Bluetooth plus Infrared Controlled Robotic Arm](#)

Hi. I'm Darren a 17 year old hobbyist, and this is the first Instructable I'm posting here, so I apologize if it kinda sucks! I hope it's good enough... So how did the idea of a robotic arm come to me? Well, the first thing...... Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#)

1133. [Intro to Arduino](#)

An Arduino is an open-source microcontroller development board. In plain English, you can use the Arduino to read sensors and control things like motors and lights. This allows you to upload programs to this board which can then interact with things in the real

world....... Listed under: [Development Board – Kits Projects](#)

1134. [Transforming Chandelier](#)

In this tutorial I will go over how to make a transforming chandelier. This project will be heavily CAD oriented (Solidworks and Illustrator), made by laser cutting/engraving acrylic sheets, and a little bit of Arduino coding and soldering. Step 1: Choosing materials. All the pieces...... Listed under: [Other Projects](#)

1135. [Sentriduino! Its the all new Sentry turret](#)

Hey guys, Today I would like to show you how to make a simple sentry turret out of household Items! You would only need to get an Arduino UNO or Mega, a Ping))) Ultrasonic Range finder, two servos, and an electronic water squinter! The rest of...... Listed under: [How To – DIY – Projects](#)

1136. [RGB / RFID Lamp](#)

We have taken this project down, due to vendor's request. Please wait till we get approval again...... Listed under: [Home Automation Projects](#), [RFID – NFC projects](#)

1137. [How to make a Ghost Knocker](#)

Step 1: Check the materials you need. Below is the list of stuff you need to make it: 1. Arduino I used an Arduino Pro Mini 3.3V. You also need USB-Serial tether to program it. 2. A battery box I used a AA x 4...... Listed under: [Game – Entertainment Projects](#)

1138. [Temperature-Sensitive Infinity Mirro](#)

As per an assignment in my digital multi-media class, I've combined two Arduino-related tutorials into a functional object! The result is a pair of infinity mirrors that flash red and blue depending on minute fluctuations in ambient temperature. This is my first experience with Arduino,...... Listed under: [Temperature Measurement Projects](#)

1139. [Wireless nunchuk controlled animatronic doll](#)

This instructable will attempt to show you how to make an animatronic doll controlled by a wireless nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make...... Listed under: [Game – Entertainment Projects](#)

1140. [The Word Clock Arduino version](#)

** Major updates – A much better enclosure for this clock has been designed – check out http://www.instructables.com/id/The-Wordclock-Grew-Up/

** Last month I wanted to build a special gift for my beautiful wife, Megan. She has a teaching background in English, so what better present to…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1141. [Arduino BlinkyBall Project](#)

I frequent a blog called hackaday.com which featured a project by "Nikolai", it was a 10cm LED ball that used shift registers. It seems like a really fun project to attempt but the cost of having the boards made & not having any experience sending…… Listed under: [LED Projects](#)

1142. [Educational colorimeter kit](#)

This instructable is a step-by-step assembly guide for the educational colorimeter kit we launched in April 2012 on Kickstarter. Assembly takes from 20-40 minutes. Once assembled the colorimeter can be used in a wide variety of science experiments to measure the absorbance and concentration of…… Listed under: [Metering – Instrument Projects](#)

1143. [Blinky Lights using Arduino and LumiGeek](#)

I used the Arduino UNO combined with three LumiGeek shields to run lighting. LumiGeek has dedicated shields to support 1 Watt RGB LEDs that require constant current, Addressable RGB LED Strip, and Non-Addressable RGB LED Strip. Step 1: 1 Watt RGB LEDs (2x) I wired…… Listed under: [LED Projects](#)

1144. [Servo 360 rotation mod (Parallax)](#)

In this instructurable I will expalin and show you how to make a Parallax servo rotate 360º. And againI have search the internet to see tutorials clear enough to make this posible with no luck. Don't get me wrong they are some how good but not…… Listed under: [Motor Projects](#)

1145. [Wu-Tang Can: Interactive Tipping](#)

Cash rules everything around me. C.R.E.A.M. Get the money. Arduinos are showing up everywhere. Even in space. But what about the lowly tip jar? No. Are Arduino projects giving the Wu-Tang Clan the proper respect they deserve? Not even close! Rectification. That's what this is…… Listed under: [Other Projects](#)

1146. [Hookup an LCD to an Arduino in 6 seconds with 3, not 6 pins](#)
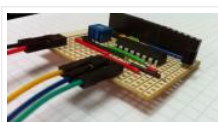
Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost – you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin…… Listed under: [LCD Projects](#), [Projects](#)

1147. [Arduino Based Four Legged Robot](#)

The name of our robot is FIER and here is a video of it saying hello to the world. In this instructable, I will try to show you the basic steps to making your own walking robot for the most bang for your buck. You…… Listed under: [Robotics – Automation Projects](#)

1148. [Analog audio panel for PC using Arduino](#)

Have you ever struggled with audio settings in control panel in middle of a VoIP call? Or, wondered if the other guy can hear you properly? I have. My work requires great deal of remote conference calls using PC. The first thing I wonder always...... Listed under: [Projects](), [Sound – Audio Projects]()

1149. [4X4X4 LED Cube w/ Arduino Un]()

As someone who is very new to digital electronics this LED cube was fun to make, challenging and a great lesson in soldering. If you have some patience (64 LED's to solder!) and steady hands, this project will be well worth it in the end!...... Listed under: [LED Projects]()

1150. [Vacation Pet Feeder from Recycled Materials]()

If you are a pet owner, going on vacation can be stressful. Usually, you need a friend or neighbor to come over every day and feed your pets. However, by enslaving robots you can keep your pet happy and enjoy a stress-free holiday. To save...... Listed under: [Home Automation Projects]()

1151. [HexiLogger, an Arduino based data logger]()

The purpose of this project was to create a simple, portable device that would periodically read sensors and then store the sensor data so it could be retrieved later. The result is the HexiLogger, "hexi" because it can support up to six different sensor inputs...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](), [Projects]()

1152. [Open Source Server Room Monitor using Arduino]()

This server room environmental monitoring system is a low cost high performance device with the same onboard features as commercial devices costing hundreds of dollars more. In addition to a low cost platform we will provide low cost sensors for many important devices to insure...... Listed under: [Internet – Ethernet – LAN Projects](), [Metering – Instrument Projects](), [Projects](), [Sensor – Transducer – Detector Projects]()

1153. [iTime clock in a Mac Mini box using Arduino]()

After the untimely death of my Mac Mini (the last thing Apple I never buy), I recycled her limping in a clock display LEDs. Technically, there is not rocket science: an Arduino reads the time from an external clock and displays a matrix of 8×6...... Listed under: [Clock – Timer Projects](), [Projects]()

1154. [The UCube: Design & Print 3D Objects by flipping switches]()

This instructable goes through how to design and print a variety of 3D models using a system called the 'UCube'. Note: I would love to eventually publish detailed instructions on how to make your own UCube, but since the design is still changing and improving,...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects]()

1155. [Open Source Hearing Impaired Alarm Clock using Arduino]()

Activities of daily living (ADL) are self-care activities that are usually taken for granted, since as the name implies they are performed on a daily basis. If you have ever ended up in a cast, or on crutches you can empathize how menial daily activities can suddenly be very difficult to...... Listed under: [Clock – Timer Projects](), [Projects]()

1156. [DIY Mod an Omnibot 80's Robot with Voice, Camera, Servos, Bluetooth](#)

*Check back for more updates on this build ☺ So, have you heard of the Omnibot? Well! Any kid from the 80's will remember how amazing this robot was. For you young kids, this robot was released in the early 80's by Tomy. The robot…… Listed under: [Internet – Ethernet – LAN Projects](#), [Motor Projects](#), [Robotics – Automation Projects](#), [Video – Camera – Imaging Projects](#)

1157. [LED Calculator with Rotary Quadrature Encoder for Target System Voltage Selection using Arduino](#)
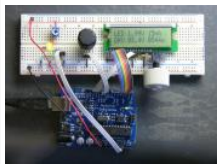
I'm still working on the LED calculator (original idea and most recent work) — I've finally got 'round to adding a rotary encoder to set the target system voltage. Now you can turn the potentiometer to set the LED brightness, turn the rotary encoder to set what…… Listed under: [Calculator Projects](#), [LED Projects](#), [Projects](#)

1158. [Arduino Lens Controller – Synchronized Zoom/Focus with Wii Classic Controller](#)

My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I…… Listed under: [Video – Camera – Imaging Projects](#)

1159. [Sensing Squeeze using Arduino](#)

I'm researching squeeze sensing as a mode of tactile interface. Here I will cover the process of developing a squeezeable sensor and the firmware/software concerns associated with interpreting the data from the sensor. This fulfills the "sensor project" for my class called Computational Principles in…… Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1160. [S.A.M. Spring Aided Machining (CNC with adhesive remover)](#)

S.A.M. Spring Aided Machining (CNC with solvent) is a school project designed by three architecture students at CCA, San Francisco: Matt Boeddiker, Abelino Robles, and Tim Henshaw-Plath. (www.cca.edu) The machine is capable of rapidly prototyping and creating subtractive formwork that can be used to cast…… Listed under: [CNC Machines Projects](#)

1161. [A Beginner's guide to making an Arduino Shield PCB](#)

 (This tutorial has gotten really popular recently, and I'm very pleased that so many people are interested. I learned all of this stuff while working on my first PCB. If you're interested, I've started to sell the most recent version of my Arduino ProtoShield. If…… Listed under: [Development Board – Kits Projects](#)

1162. [Arduino Color Sensor](#)

Here we will be learning how to make a color sensor. my model consists of three cardboard compartments containing an LED – one red, one blue, and one green – and an OP550B phototransistor. The LED's shine simultaneously on a solid colored card. The phototransistors…… Listed under: [Sensor – Transducer – Detector Projects](#)

1163. [Cat Repelling PIR motion sensor (covert) speaker box alarm using Arduino](#)

This is a PIR motion sensor device that works with the arduino uno. In order to make it covert enough to be placed in multiple settings and portable enough to fit most places, I decided to make the case for it appear as a speaker. The inspiration for...... Listed under: [Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#), [Sound – Audio Projects](#)

1164. [Arduino MIDI Volume Pedal](#)

I'm playing keyboards this fall in another rock concert to benefit the high school robotics team, and for some of the tunes I need to be able to fade an organ in and out over a period of a measure or two. My keyboards are...... Listed under: [Projects](#), [Sound – Audio Projects](#)

1165. [Arduino Stepper Motor Control](#)

Hardware Preparation Stepper Motor Driver Board   Arduino Board (UNO) If you have purchased the Arduino Board from ZTW, we have already uploaded the g-code library for you. If you are using your own Arduino Board, you can doawnload grbl Arduino library online and...... Listed under: [Motor Projects](#)

1166. [Arduino Thermostat with TC74 sensor](#)

Hello all! This is a quick guide on how to use an Arduino© to control whether a cooling fan and a heater is turned on depending on the detected temperature from a TC74 Arduino sensor. This is for a final project for an Electronics class...... Listed under: [Sensor – Transducer – Detector Projects](#)

1167. [Geiger Counter with Touch Interface!](#)

There are quite a few geiger counter instructables. The difference with this one is that I wanted to give it a modern interface, similar to smart phone touch screens, that anyone would feel comfortable using. The reason for this is that I want to use it as...... Listed under: [Calculator Projects](#), [Sensor – Transducer – Detector Projects](#)

1168. [Salvaging Liquid Crystal Displays (LCDs)](#)
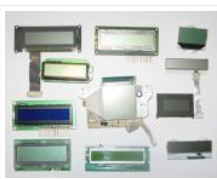
Almost all electronics have some sort of human interface, from blinking lights and beeping speakers to seven segment alphanumeric and Liquid Crystal Displays. This Instructable is about salvaging and testing Liquid Crystal Displays, and a couple tricks I know to make salvaging them more successful....... Listed under: [LCD Projects](#)

1169. [Digital Clock with Arduino and DS1307](#)

In this article you will learn how to make a digital clock using Arduino and the DS1307 RTC IC. What is DS1307 IC actually? Well, it is a Real Time Clock (RTC) IC that is simple to use, low cost and easy available. The IC...... Listed under: [Clock – Timer Projects](#)

1170. [Arduino Drawbot](#)

In some of my previous Arduino instructurables I have show to the Arduino beginers on how to control servos in different ways. And in my last instructurable I have show the modification of a Parallax servo for a 360º rotation. So in this one I will show Arduino...... Listed under: [Robotics – Automation Projects](#)

1171. [Arduino Led Dice](#)

This instructable will show you how to create a dice using Arduino and few components. It's an easy and fun project, suitable for beginners and those who want to start with Arduino; it also requires a minimal amount of components. This explaines how to create...... Listed under: [LED Projects](#), [Projects](#)

1172. [Arduino-Square with Color LCD](#)

B-Squares is a modular electronics platform that enables users to build, customize, and continuously update their own electronics applications. In this B-Squares App we will cover how to assemble a simple Color-LCD Application using the Arduino-Square. Hardware: 1. Arduino-Square. 2. Battery-Square 3. Color LCD Shield....... Listed under: [LCD Projects](#), [Projects](#)

1173. [Simon the Octopus](#)

Everyone loves the Simon game ! So we decided to take it to another level. This project was done for our Things That Think class where we had to make a PlushBot (a plush toy that thinks! "with computation") thus, kids were our target. We...... Listed under: [Game – Entertainment Projects](#)

1174. [The Traveling Geocache using Arduino](#)

This project and future projects can be found at my website http://revoltlab.com/ where you can also find my blog. UPDATE LOG: NOW SUPER SIMPLE TO REPROGRAM! Easy FTDI USB interface hardware explained in step 10 Easy FTDI USB interface programming explained in step 13 NEW...... Listed under: [GPS Based Projects](#), [LCD Projects](#), [Projects](#)

1175. [Arduino Button Activated Treat Dispenser](#)

For my Digital Multimedia class final, I created a treat dispenser that is activated by pulling a chain, which starts a servo motor that spins a wheel to dispense treats to my to African Grey parrots. Step 1: Gather Materials [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14...... Listed under: [Motor Projects](#), [Other Projects](#)

1176. [DIY Arduino Stepper Motor Driver Board](#)
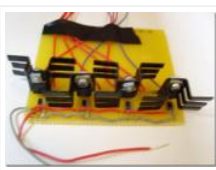
This page will show you how to put together a simple stepper motor driver board that can be controlled with an Arduino. I built mine to use with my heliostat projects, but it could be used for other things too. Update: I no longer use...... Listed under: [How To – DIY – Projects](#), [Motor Projects](#)

1177. [Giant LED bar graph](#)

For a recent project I needed to build a large and obvious bar graph display. This was to show the power generated from a bicycle generator. I came up with this design and was pretty pleased with the final results as it is relatively low...... Listed under: [LED Projects](#)

1178. [Drive with PID Control](#)

This example shows how to simulate a simple closed-loop control algorithm in Simulink® and how to run it on an Arduino® board. Supported Hardware: Arduino Leonardo Arduino Mega 2560 Arduino Mega ADK Arduino Pro Arduino Uno Available versions of this example: Arduino Mega 2560 board:...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)
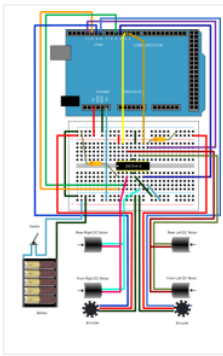
1179. [BLINKING AN LED USING AN ARDUINO UNO (EXPLAINED)](#)
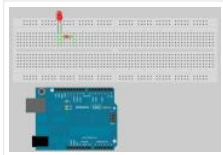
So you're here because you want to start learning some of the Arduino Basics... So let's start with THE most basics... no this "tutorial" is actually a little more basic than what you have in mind. It only requires that you: Have ANY Arduino Board....... Listed under: [LED Projects](#)

1180. [Easy Arduino Audio Annoyatron](#)

This simple device simple plays a small tune at a random interval, between 5 and 30 seconds when the lights in a room go off. It can be cleverly disguised inside a tissue box, or inside or under any number of household objects. This is a vary simple project (my...... Listed under: [Projects](#), [Sound – Audio Projects](#)

1181. [Blinky the one-eyed clock using Arduino](#)

In this tutorial you learn how to make a blinking clock with a difference! Updated 18/03/2013 Followers of my website would realise that I tend to make too many clocks in those tutorials. Well, I like making clocks... so here is another one. However this time...... Listed under: [Clock – Timer Projects](#), [Projects](#)

1182. [How to make your own Arduino board](#)
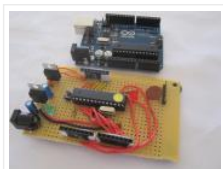
If your are like me which I am guessing you are, then ever since you got into doing stuff with arduino you have wanted to make your own arduino board. You may be surprised to find out that making the prototyping board is actually very...... Listed under: [Development Board – Kits Projects](#)

1183. [Arduino SOS signal with 8ohms speaker and LED blinking](#)

SOS is the commonly used description for the international Morse code distress signal (· · · — — — · · ·). [read more on wiki] Requirements: 1) Arduino 2*) 8 Ω speaker 3*) 150 Ω or similar resistor 4) 5mm RED LED 5) Hook-up...... Listed under: [LED Projects](#), [Projects](#), [Radio Projects](#), [Sound – Audio Projects](#)

1184. [Radio link between two Arduino boards](#)
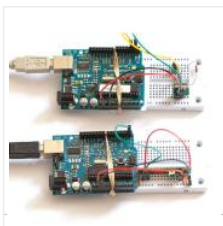
I was looking for a way to handle wireless communications between two Arduino boards. Other options like Xbee or Bluetooth were going to cost $50 to over $100. Then I found a cheap RF transmitter and receiver at Sparkfun. The total cost is only $9!...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [Radio Projects](#)

1185. [DIY Amp / Watt Hour Volt Meter – Arduino](#)

Major corrections and additions made 9/9/2014 For my off-grid Ham Radio and Solar projects, I needed a way to measure volts, amps, watts, amp hours and watt hours. There's a couple of commercial products that can do this, but not with the flexibility I wanted....... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#)

1186. [Pololu Motor Controller Testing and Troubleshooting](#)
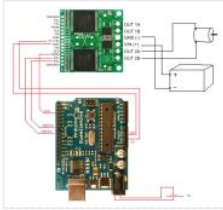
Finally, I finished reading the datasheet. It didn't give much information about how to connect the motor controller to a micro-controller. I used the simple circuit I found from a post in Pololu's forum: Using Dual VNH3SP30 Motor Driver with arduino @ http://forum.pololu.com/viewtopic.php?f=15&t=1923. Dual VNH2SP30…… Listed under: [Motor Projects](#)

1187. [Webster: A Geometric Pattern Weaving Machine](#)

We are three students from California College of the Arts in San Francisco in the Architecture program. This studio is called Creative Architecture Machines and is taught by Jason Johnson and Michael Shiloh. Webster is a geometric pattern weaving machine that takes inspiration from Islamic…… Listed under: [Calculator Projects](#), [PWM Projects](#)

1188. [Colorful Countdown Clock for tight timeline management using Arduino](#)

This is a funny looking clock that has that displays time on relatively large 32×16 Bi-Color LED Matrix. It includes also a countdown counter that I find very useful in many situations. Features: Date And time display Temperature display Countdown timer Buzzer notification Randomly changing…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1189. [Arduino Nano based Microbot](#)

This instructable was created to be entered in the Robot Challenge. If I win, the parts will of course, go into robots like this one. Notes on how to include some of the very components in the prize packages are given in the last step. I…… Listed under: [Robotics – Automation Projects](#)

1190. [Simple Arduino light meter](#)

This Arduino project is a simple light meter using a photo-transistor. An LDR would be more appropriate but the photo-transistor is what I has spare at the time. On the other hand the photo-transistor is sensitive to infrared, so its handy for testing remote controls……. Listed under: [Metering – Instrument Projects](#)

1191. [Arduino Based Automated Lighting Control](#)

This is my second instructable. i want to share some of the basic things i made using the arduino i am so busy lately. then i got the chance to have this spare time… inspired by my former student and a fellow co league to…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [LED Projects](#), [Projects](#)

1192. [Remote Control Door – Internet Your Thing](#)
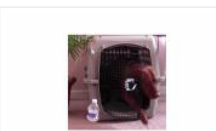
We can instantly open a door or control anything we can connect. It works from any iPhone, Android, or PC. After connecting something we want to control, download the free app to a PC, open a port, and control it remotely from anywhere. It's open…… Listed under: [Internet – Ethernet – LAN Projects](#)

1193. Minimal Arduino with ATmega8

Like me, you may have a few old Arduino boards or ATmega8 chips (in the boards) laying around from when you were first playing with Arduino. Those chips can still be really useful as the heart of a tiny "Minimal Arduino" setup. A normal Arduino…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1194. Control Arduino Wirelessly with MATLAB

Been seeing few DIYs on how to establish a communication between MATLAB application and Arduino that is hardwired to PC. However, I haven't encountered anything that control Arduino via MATLAB wirelessly using the ENC28J60 compatible Ethernet shield. In this ible', I'm going to show the…… Listed under: How To – DIY – Projects, Internet – Ethernet – LAN Projects

1195. Turn your Arduino into a 4 voice wavetable synth

Multiple synthesizer projects have been done for the Arduino, but few have been able to utilize the full power of the Arduino processor. DZL from GeekPhysical wrote a 4 voice wavetable synthesizer that is one of the more advanced software based synths for the Arduino……. Listed under: Sound – Audio Projects

1196. Perfboard Hackduino (Arduino-compatible circuit)

Never again will you have to dismantle a finished project just to reuse an Arduino board! This tutorial will go through the steps involved in fabricating your own Arduino-compatible circuit using just ~$8 of parts (this includes the ATMega chip!). This is perfect for installing…… Listed under: Development Board – Kits Projects

1197. Arduino Backlit LCD shield

In this tutorial learn how to make your own backlit-LCD Arduino shield. Updated 18/03/2013 Let's see how simple it is to make your own Arduino LCD shield. Sure – you can just buy one, but where's the fun in that? Getting Started Our LCD is…… Listed under: LCD Projects, Projects

1198. Knight Rider Rides Again using an Arduino

This a Knight Rider Style LED Chaser Done with a Arduino Duemilanove with an ATmega328 chip. Step 1: Things you'l need: 6 LEDs (any color) 1 Breadboard 1 100 Ohm Resistor 12 Breadboard Jumpers 1 Arduino Duemilanove "or" Decimila 1 USB cable with A-type connector…… Listed under: LED Projects, Projects

1199. Simple Buck LED Driver with PWM Input

High-power LEDs over 1W are now quite inexpensive. I'm sure many of you are incorporating LEDs as light sources in your projects. However I realize that the finding and configuring the power supply is still not as simple as it can be; commercially available LED…… Listed under: LED Projects, PWM Projects

1200. Breadboard and LEDs (lesson 3)

Introduction You've started modifying sketches, and played a bit with the onboard LED (or if you have an NG, an LED you added). The next step is to start adding onto the hardware component of the Arduino. We will do this by adding a solderless breadboard…… Listed under: LED Projects

1201. The Talking Breathalyzer using an Arduino

*** Additional info at http://droidalyzer.com/talkingbreathalyzer/index.html *** A customizable Breathalyzer that talks and tells you how much you've had to drink. It's also open source and can easily be modified with your own text on the LCD screen and audio MP3 files. When tethered to a PC with...... Listed under: Medical – Health based Projects, Projects

1202. FaceBooth – One button to facebook photobooth

I wanted to make a photbooth for a Christmas party. I wanted it to be simple to operate and only be one click easy so that even a guest who was chemically uncoordinated could even operate it.I wanted a solution that would take a photo...... Listed under: Internet – Ethernet – LAN Projects, Video – Camera – Imaging Projects

1203. Arduino-controlled, Aluminum Archangel Costume Wings

I have always loved the Marvel character Archangel. When my brother, (Shameless plug alert) budding comic book artist David Fernandez, showed me pics of a cosplay convention he went to I thought "wouldn't it be awesome if someone made life-size archangel wings?". The idea sank into the...... Listed under: Game – Entertainment Projects, Projects

1204. Arduino Breathalyzer

What is a breathalyzer you may ask? It is a device for estimating blood alcohol content (BAC) from a breath sample.In simple terms it is a device to test weather a person is drunk or not. As the title suggests it runs on the arduino.Our breathalyzer...... Listed under: Medical – Health based Projects

1205. Add a real-time clock to the Freetronics TwentyTen using Arduino
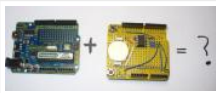
Let's add a DS1307 real-time clock to our Freetronics Arduino-compatible board. Updated 18/03/2013 Now and again I find myself making another kind of clock or timing device using the Arduino system, and each one has been making use of the Maxim DS1307 real-time clock IC. However...... Listed under: Clock – Timer Projects, Projects

1206. Arduino Masterclass Part 1: Make your own hardware

The world is going nuts over the Raspberry Pi single-board computer (SBC) for being a whole system under $50. In reality though the Pi isn't actually the cheapest computing device available. If you want really cheap how does $13.50 sound for a mini computer that...... Listed under: Development Board – Kits Projects

1207. Turn a pencil drawing into a capacitive sensor for Arduino
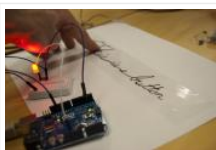
Did you know? You can make pencil drawings reactive to touch for use with your projects! It's really easy, and gives you a lot of flexibility in making interfaces for whatever microcontroller project you're making. I put this together as part of my UnoJoy project,...... Listed under: Sensor – Transducer – Detector Projects

1208. The Arduino Synthesizer

The Arduino is able to output sound through a library that has been developed called the Tone Library. By creating an interface and a program that can call certain values to be output to an audio out, the Arduino Synthesizer is a robust tool for...... Listed under: Sound – Audio Projects

1209. [Arduino Breathalyzer: Calibrating the MQ-3 Alcohol Sensor](#)
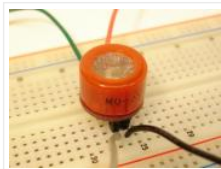
The MQ-3 is an alcohol gas sensor that is available for about $5 from Sparkfun, Seeed Studio, and others. It's easy to use and has sparked the imagination of anyone who has dreamed of building their own breathalyzer device for measuring the amount of alcohol…… Listed under: [Sensor – Transducer – Detector Projects](#)

1210. [SD Card Data Readable Anywhere](#)

This project started as many of mine usually do, as a honey-do. We have compiled an extensive list of our book and movie collections on our computer at home, but my wife wanted to be able to scan the list from the video store (yes,…… Listed under: [Memory – Storage Projects](#)

1211. [Arduino Powered Binary Clock](#)

This instructable will help you to build an Arduino Binary Clock. The orignial idea for this instructable was designed by Daniel Andrade. My instructable uses surface mount components, but can easily be adapted to through-hole components if you wish. You can follow my other Instructable…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1212. [PCB Quadrotor (Brushless)](#)

Quadrotors are the new Segways: a mesmerizing, somewhat magical, self-stabilizing platform that every tech person wants to have. You can't ride a quadrotor (well, maybe you can), but they do fly, and you can build one yourself from scratch! I helped with a previous quadrotor…… Listed under: [Robotics – Automation Projects](#)

1213. [Build Your Own Arduino Board](#)
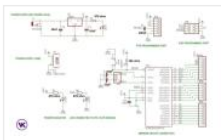
Need more Arduino board? Do not spend more money for another one. Why not try to build your own DIY Arduino board? It is easy and simple. DIY Arduino Step 1 Get an Atmega328–PU or Atmega328P-PU (with bootloader inside). atmega328p A brief introduction on the…… Listed under: [Development Board – Kits Projects](#)

1214. [Electronic Instrument](#)

This electronic instrument allows you to sequence and loop audio and MIDI data. Most of the time I use it to sequence drum samples so I can play around with different beats and rhythms. The really great thing about this instrument is that it is…… Listed under: [How To – DIY – Projects](#)

1215. [ANDROID+ARDUINOADK+RGB led](#)

this is a project which makes an android app, then configure it to use it with android debug bridge or android accessory development kit. for making the android app we use android mode of processing. For hardware, i always choose arduino. here i have a…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1216. [Arduino Uno – Programming With A Serial Port](#)

I'm working on an Arduino clone. The Arduino is essentially an ATMEGA328P development board with a bootloader pre-loaded. There are a lot of custom macros built into the programming interface that make it really easy to use, and even easy to build some powerful applications. ...... Listed under: Arduino Programmer Projects

1217. Arduino from Scratch Digital Thermometer

I have loved making projects with Arduinos, but at $30 a piece your projects can get expensive. So I want to show you how you can make your own Arduino from scratch and save money doing it. Make your own Arduino for around $8. For...... Listed under: Projects, Temperature Measurement Projects

1218. BrainTap: the interactive arthritis and memory exercise game

I built this project at at uni as a 3rd year project (with a couple of classmates) at the University of Technology, Sydney.It is aimed at Baby Boomers and targets a skill and level based memory and fine motor skills exercise game. The form is...... Listed under: Game – Entertainment Projects

1219. LeoStick Getting Started Guide
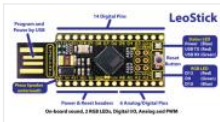
The Freetronics LeoStick is a handy break-out board for the ATmega32U4 microcontroller. The board has a convenient USB stick format, and is based on the pinout and connections of the Arduino Leonardo reference design for compatibility with the Arduino IDE. Before you plug in your LeoStick...... Listed under: How To – DIY – Projects

1220. Arduino Wall Lamp
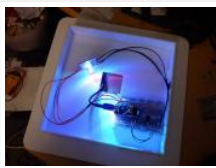
So, I have always wanted a nice lamp by the side of my bed, Something simple with out any buttons. Of course this would mean it had to be wireless.I also wanted to use it from my bed but not getting out of my bed to turn it off....... Listed under: Home Automation Projects, LED Projects

1221. Sensor Less 3d Printed Robot

Tyree (he wears a tie and he has tires) actually smiles after he bumps into something (see video). Using an Arduino motor shield, he detects obstacles using the "more current into the motor means something is in the way" principle. Tyree started out as a...... Listed under: Robotics – Automation Projects, Sensor – Transducer – Detector Projects

1222. Building an 8x8x8 LED Cube – The Driving Circuit

In this article we are going to take a detailed look at how to build the driving circuit for the 8x8x8 LED cube. In other words we are going to design and analyze the circuit which translates the signals coming from the Arduino to appropriate...... Listed under: LED Projects

1223. ArduSensor Fun Pack
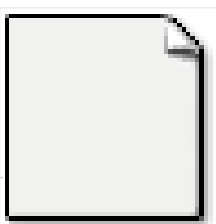
ArduSensors are open source plug-in-play sensors for Arduino. These were originally made for beginners to get started with Arduino, a very cool electronics prototyping platform, but anyone can use them. I still play around with them all of the time, and I bet a ton...... Listed under: Sensor – Transducer – Detector Projects

1224. TiDiGino, the Arduino-based GSM remote control

Using an ATmega 2560 and therefore the heart of Arduino, we have developed a universal remote control with GSM. This allows to control 2IN/2OUT, DTMF key, gate control and GSM thermostat activated remotely. We have already presented several remote control with different functions. But now…… Listed under: [Phone Projects](#), [Radio Projects](#)

1225. [UltraSonic Arduino Video instructions How To – Parking your car with an Arduino](#)

How To – Parking your car with an Arduino Code: // Back up Helper, by Kevin Darrah v4 #include <SoftwareSerial.h>// to read the data fron the range finder on any digital pin SoftwareSerial sonar(5, 6); // RX, TX //we're only using the RX pin (5),…… Listed under: [Car Projects](#), [Projects](#)

1226. [Hack Your Hasbro R2D2 With an IOIO Microcontroller](#)

My wife bought me a Hasbro Interactive R2D2 Astromech Droid for my birthday a few years ago after I said how much fun it would be to hack it and I've finally managed to get inside and start playing!Although the built-in voice control functions are…… Listed under: [Robotics – Automation Projects](#)

1227. [Clock One – Digital plus Analog Clock An Arduino](#)

For some strange reason I have a fascination with various types of electronic clocks (which explains this article). Therefore this project will be the start of an irregular series of clock projects whose goal will be easy to follow and produce interesting results. Our "Clock…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1228. [Ardu-Bot-Tom – RF Link Controlled Robot](#)
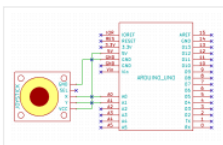
[box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] Ardu-Bot-Tom List of Materials Controller Parts: 1x – Arduino Uno 1x – 9V Battery 1x – 433Mhz TX Module 1x – SparkFun Joystick Robot Parts: 1x – Arduino Uno…… Listed under: [Robotics – Automation Projects](#)

1229. [Multiplexing with Arduino and the 74HC595](#)

The 74HC595 is an easy and inexpensive (at about 60 cents apiece) way to increase the number of digital out pins on your Arduino. In this tutorial I'll show you how to drive up to 16 LEDs with one 74HC595 using a technique called multiplexing……. Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1230. [Arduino punk console](#)

This is my first build using an arduino microcontroller. I wanted to create a simple tone output device along the lines of the 555-basedatari punk console, but using solely the mcu as the tone generator. Unfortunately, that was just too simple a task with a microcontroller to…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1231. [Perfduino: Build Your Own Arduino Microcontroller](#)

This how-to takes you through all the steps of making your own arduino on a perfboard or perfduino! Arduino microcontrollers are great for learning about physical computing and are very useful for rapid prototyping. Arduino's simple programming language makes it a favorite of hobbyists and…… Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
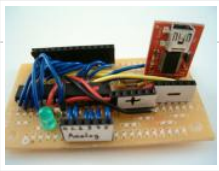
1232. [Arduino LED Flasher Circuit](#)
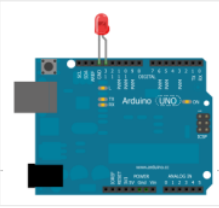
In this project, we will go over how to build an arduino LED flasher circuit. We will use a standard arduino board, doesn't matter which, and connect it so that it flashes an LED a certain amounts of times on and off repeatedly to create…… Listed under: [LED Projects](#)

1233. [Touche for Arduino: Advanced touch sensing](#)

Update: New interface – look at the last step. Credits: Arduino sensing done by DZL, Processing sketch and Instructable done by Mads Hobye. Disney Research lab designed a novel way to detect touch. You can see a video of their demo here: I had the honor to meet…… Listed under: [Sensor – Transducer – Detector Projects](#)

1234. [Clock Three – A pillow clock using Arduino](#)

Time for another instalment in my irregular series of irregular clock projects. In contrast with the minimalism of Clock Two, in this article we describe how to build a different type of clock – using the "lilypad" style of Arduino-compatible board and components designed for use in e-textiles…… Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#), [Projects](#)

1235. [Get Into the Kit Business: How to Build and Sell Your Own Arduino Shields](#)

The DIY industry is booming, despite the desperate blackmailing of society by finance capitalists. Companies like Adafruit and Makerbot are grossing well over a million dollars a year, and Evil Mad Science Laboratories just recently dedicated themselves to running a full-time kit business. Making kits…… Listed under: [Development Board – Kits Projects](#)

1236. [Arduino IR Transmitter & Receiver w/ LEDs Flickering Issue](#)
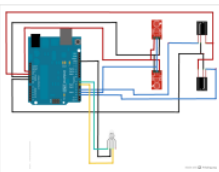
I have an Arduino Uno connected to two IR transmitters and respective receivers. Basically, when one of the receivers detects a beam break, I have a strand of LEDs display a pattern. This all works in principle, but the problem is that when the IR…… Listed under: [LED Projects](#), [Radio Projects](#)

1237. [Intro to Model Airplane Autopilot](#)

I am twenty years old. I picked up my arduino for the first time this Christmas, and I've been keeping busy on my arduino applications so that I can bring you this instructable. I hope that it helps!!! The purpose of this project was to…… Listed under: [Car Projects](#), [Game – Entertainment Projects](#)

1238. [Making the Good Night Lamp using Arduino](#)

Last March, Alexandra Deschamps-Sonsino registered a new limited company in London, and booked a booth at CES, the consumer electronics trade show, taking place 10 months later. She had no team, and only a dated prototype product that she had designed back

in 2005. "I...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1239. [Salvaging an LCD from a fax machine using an Arduino](#)

I acquired an old fax machine that looked like a ripe source of parts, like steppers, IR sensors, micro switches and things. As it turned out, it was. It also had a nice looking 2 x 16 character LCD. However, after taking everything apart, I...... Listed under: [CNC Machines Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LCD Projects](#), [Projects](#)

1240. [Arduino hardware hacking: Part 3](#)
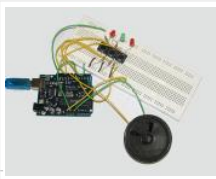
In our previous two tutorials (see here and here), we created a Simon-type game using the Arduino, a hardware platform for simple, and not so simple, electronics projects. We placed three buttons and three LEDs on to something called a breadboard, and wrote a small...... Listed under: [How To – DIY – Projects](#)

1241. [Arduino Solar Tracking Robot](#)

This is a simple solar tracker which automatically orients itself towards the sun or any bright source of light like the sun .If you place solar panels on this robot it can increase their productivity by 90 to 95 %. At first creating a solar...... Listed under: [Robotics – Automation Projects](#), [Solar energy projects](#)

1242. [Arduino Esplora Accelerometer](#)

This sketch shows you how to read the values from the accelerometer. To see it in action, open the Arduino serial monitor on your computer and tilt the board. You'll see the accelerometer values for each axis change as you tilt the board. Circuit Only...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

1243. [Arduino hardware hacking: Part 2](#)

In part 1 of our Arduino tutorial seres we covered the basics of how the Arduino works, and we're going to use that knowledge in a hands-on project and see how this open-source hardware programming environment works when we're actually trying to get something done...... Listed under: [How To – DIY – Projects](#)

1244. [The Revenge of the Yellow Drum Machine (Arduino)](#)
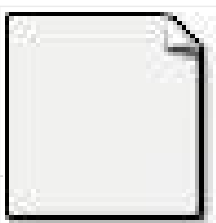
I was inspired by Frits Lyneborg's Yellow Drum Machine. Watching the videos, it has such personality! I have also been thinking recently about sound and robotics. I did some research looking for a version of the robot that used the Arduino as a brain, but...... Listed under: [Sound – Audio Projects](#)

1245. [Theremin with Zapper,laser,Arduino](#)

I created this Theremin like device after seeing this article in Make magazine: http://m-cdn.dashdigital.com/make/vol15/?pg=69#pg67 While this looked pretty straight forward it turned out to be a bit much for me at the time. But after much effort, I got it to work pretty good. I...... Listed under: [Other Projects](#), [Projects](#)

1246. [Arduino hardware hacking: Part 1](#)

Arduino is cool. It's cool because it's a tiny device – about three inches by two inches – that comes with a USB port and a programmable chip. It's cool because you can program it using a very simple programming language known as Wiring. But...... Listed under: [How To – DIY – Projects](#)

1247. [Fluid In.Flux_3D Wax Printing In Water](#)

Fluid In.Flux is a 3D printing experimental machine which prints wax in water. The Machine was a semester-wide exploration as part of the Advanced Architecture Studio called "Creative Architecture Machines" by Professor Jason Kelly Johnsonand Michael Shiloh at the California College of the Arts, in San Francisco....... Listed under: [CNC Machines Projects](#)

1248. [RC Rocket Launch System](#)

This instructable will show you how to make an RC launch system for your Estes rocket, which can be operated with a TV remote. What it does is it allows you to press the center button on your TV remote, and it'll automatically launch your...... Listed under: [How To – DIY – Projects](#)

1249. [Controlling your trains with an Arduino](#)

A quick introduction to the Arduino Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments. Arduino can sense the environment by receiving input from a...... Listed under: [How To – DIY – Projects](#)

1250. [Throwduino Basic – Light-Sensing Flashing Throwie](#)

Throwies are great. They have a minimal parts count – 2 or 3 depending on whether you use a magnet – and produce a great effect. They are very cheap and easy but not highly efficient: 1) They are on all the time, so on...... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)

1251. [Arduino Online Thermometer Project](#)

I have been researching a project which will help me with my understanding of electronics, networking, and programming. I decided to build an online thermometer which could be used in applications that need temperature monitoring. I currently work in a lab environment where I test, troubleshoot,...... Listed under: [Medical – Health based Projects](#), [Temperature Measurement Projects](#)

1252. [Graphing values in Arduino](#)

Sometimes when you're testing a sensor or debugging a value in an Arduino project, you want to see something other than numbers flying by in the Serial Monitor. However, you want to get the sensor working quickly, and you don't want to take the time...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1253. [RGB Color Sensor on Arduino](#)
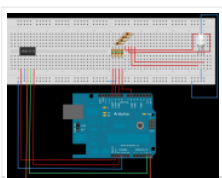
The next board I want to show you is the ADJD-S371 Color Light Sensor Evaluation Board from sparkfun. It emits light and analyses the reflected color spectrum. The board can be controlled via I2C. The sleep and xclk pins were not used in this example....... Listed under: [Sensor – Transducer – Detector Projects](#)

1254. [Paperduino 2.0 with Circuit Scribe – Paper Arduino](#)
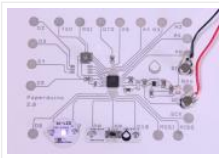
What if making an Arduino, or wiring up an Arduino was as easy as printing one out? In this tutorial we printed our own Arduino Pro Mini board using a pen plotter and the Electroninks Circuit Scribe (a rollerball pen with highly conductive ink). Within...... Listed under: [LED Projects](#)

1255. [Daft Punk LED Matrix Breakout Board](#)

I was always impressed by the Daft Punk Coffee Table. Being able to light up a bunch of LEDs and flash them in patterns has so many applications. It was one of the reasons why I bought an Arduino seeing how it could control a...... Listed under: [LED Projects](#)

1256. [LEARN! ARDUINO – A HANDS-ON APPROACH](#)

INTRODUCTION This manual will show you how to use each of the components in the kit, and give you software Sketch examples for each one. Then you can combine some components to make examples of Automatic Systems such as a lighting controller. You're probably...... Listed under: [How To – DIY – Projects](#)

1257. [Alarm Clock Overkill](#)

I don't get up at the same time every day, so I thought it'd be nice to have an alarm clock that would drag me out of bed at different times on different days. That was the initial idea: things got out of hand, of...... Listed under: [Clock – Timer Projects](#)

1258. [The Clamshell Stompbox](#)
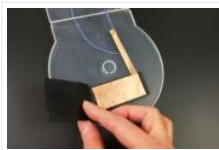
This is a DIY variable resistor I created as an interface for live performance– like astomp box. I designed it as a project my audio students could build with materials we already have in the classroom. The result is a variable resistor that can be...... Listed under: [LED Projects](#)

1259. [Arduino and CueCat barcode scanner](#)

I've had a cuecat barcode scanner sitting around for over 10 years. Basically it connects to a PS2 port (apparently there is a USB version) like a keyboard and spits out a barcode when scanned. Nice!. The annoying thing is that it is "encrypted". What...... Listed under: [Sensor – Transducer – Detector Projects](#)

1260. [Domotic arduino](#)

In this introduction I will show you a overview of this project whit Arduino Uno. The purpose of this instructable is move a electric roller shutter by Arduino Uno. The prototype that I made is my first electronic project with Arduino and I hope this...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

1261. [Cylon Pumpkin](#)

This has been done before. There are several good ways to do it: most use either a 555 timer chip and decimal counter chip, or an Arduino. Stefan and I used an Arduino (Boarduino, technically) which limited our scanner to 14 LEDs. No problem —...... Listed under: [Game – Entertainment Projects](#)

1262. [Build Your Own Programmable LED Matrix](#)

QR codes are addicting. Smartphones are smart enough to read them from virtually any angle or orientation. But imagine taking it a step further. I had dreams of a digital LED array that I could program with QR codes, and I wanted it really big!...... Listed under: [LED Projects](#)
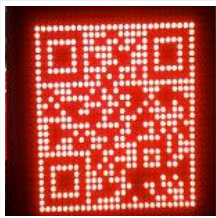
1263. Botanicalls Clone using an Arduino

During the past spring a good friend of mine bought me my first house plant, a Lady Palm, and I've found myself rather invested in keeping it alive. To that end I wanted to monitor the plant's environment so I could ensure that its needs...... Listed under: How To – DIY – Projects, Projects

1264. Arduino DDNS (Dynamic DNS) by Open-Electronics.org

This device captures the IP address of your network and it publish on site DynDNS.com. All without PC. It allow a remote access to your LAN even if the IP address of the connections changes. For logistics reasons the provider can not assign a IP...... Listed under: Internet – Ethernet – LAN Projects, Projects

1265. Visualize data from sensors using Arduino + coolterm
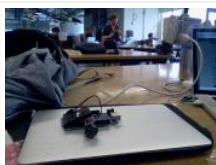
Once you're getting some values from sensors, for example using Arduino, (see my previous instructable), sometimes it's nice to see the sensor data in a graph. Here's how in only a few steps! I made this particular Instructables using a sonar sensor (XL Max Sonar...... Listed under: Sensor – Transducer – Detector Projects

1266. USB Game Pad With Tilt-accelerometer Mouse using an Arduino

Make a game pad with an accelerometer inside! This project tutorial will show you how you can convert a console game pad into a USB keyboard mouse for playing games on your PC. The USB game pad can be used with nearly any software, such...... Listed under: Game – Entertainment Projects, Interfacing(USB – RS232 – I2c -ISP) Projects, Metering – Instrument Projects, Projects

1267. Singing plant. Make your plant sing with Arduino, touche and a gameduino

This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Making a plant sing has been a trick since the Theremin was invented. Here I am going to teach you how to do...... Listed under: Game – Entertainment Projects, Home Automation Projects, Projects, Sound – Audio Projects

1268. BaW-Bot Part 2: Build the motor-controller & body

This is the second part of our BaW-Bot (Bells-and-Whistles Bot) build – 5 separate instructables that look into different Arduino-related technologies, combining to create a Bot with all the bells-and-whistles. Part 1: Build an Arduino on a Board Part 2: Build the motor-controller & body...... Listed under: Motor Projects, Robotics – Automation Projects

1269. Remote key-switch operation

One of my colleagues, Dr. Shane Mayor, has built a very nice LIDAR system for atmospheric research. It's located at a remote site, at the end of a dirt road, and everything about the system can be controlled remotely except the main pump laser power...... Listed under:

[Radio Projects](#)

1270. [Connecting a 12V relay to Arduino](#)

To connect a 12V relay to the Arduino you need the following things: – 1 Arduino – 1 diode for example 1N4007 – 1 NPN transistor for example 2N2222 (in the US) or BC548 (in Europe) – 1 relay for example one with coil voltage...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1271. [Arduino Flash Controller for Photography](#)

Being a broke amateur photographer isn't easy. Film, chemicals and paper aren't cheap and a budget for some studio lights is non existant. So, I decided to, with the help of my trusty arduino, create my own sync controller to use with disposable camera flash circuits. By using a...... Listed under: [Video – Camera – Imaging Projects](#)

1272. [Super Secret Lock Box w/ Capacitive Touch](#)

Hey everyone, I wanted to share a project I just finished up. I built a super secret locking box for my girlfriends little brother. He has a knack for creative lego building so I thought it would be a good idea to open him up...... Listed under: [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)

1273. [Driving multiple Sparkfun 7-segment displays with an Arduino](#)
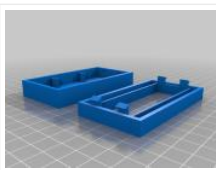
I'm currently helping a couple of engineering students finish a senior project that didn't get finished last year. Long story... Anyway, it's a bicycle brake tester being built for Paul Components. The mechanical design is great, but they had trouble with the electronics. Part of...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1274. [Aquameterduino: Water meter plus Arduino](#)

After a bad water damage (our cellar basically filled up whilst we were away for several days), I decided to monitor our water usage for anomalies. Enters Arduino... The idea of this project is to use an arduino to count every drop of water that...... Listed under: [Metering – Instrument Projects](#)

1275. [Wrap Beats – Capsense Arduino Instrument](#)

Wrap Beats is an instrument that lets you string together notes in order to create different melodies and visual patterns. I constructed it using the Capacitive sensing library for Arduino and combining that with the music abilities of processing to create a dynamic instrument that...... Listed under: [Sound – Audio Projects](#)

1276. [Arduino PCR (thermal cycler) for under $85](#)

This tutorial will show you how to make a thermal cycler from scratch for about $85. In short, PCR (polymerase chain reaction) amplifies bits of DNA, creating millions of copies of a target sequence. You can use it to test a DNA sample for a...... Listed under: [How To – DIY – Projects](#)

1277. ISP Clip for ATtiny44/84 (or others!)
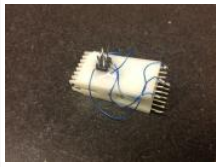
I got my start in microcontrollers with the Arduino, as many of us outside of electrical engineering did. (And still do!) The ease of programming that little board makes it a great gateway… and like any gateway, sometimes you go through. Most of my projects…… Listed under: Development Board – Kits Projects, Interfacing(USB – RS232 – I2c -ISP) Projects

1278. RFI-DJ: MP3 Playing RFID Thing

The RFI-DJ is a USB device for playing MP3 files from your computer. You have a set of RFID cards, each one with a song name written on it. You choose a card and place it on the RFI-DJ, and your computer will play that…… Listed under: RFID – NFC projects, Sound – Audio Projects

1279. RGB LED Color Selector

One Challenge with working with RGB LEDs is getting the right Red, Green and Blue values to match a color you are trying to display. You can start with web colors, and then sometimes need to adjust them since the LEDs don't look quite the…… Listed under: LED Projects

1280. Radioactive isotope decay simulation
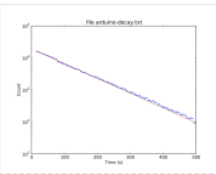
My students need to learn LabVIEW —I know, it's proprietary software, and expensive, but until a viable open-source equivalent comes along we're stuck with it— and one of the exercises I have them do is to make a program to analyze radioactive decay. This gives…… Listed under: Radio Projects

1281. Mood Lamp with Arduino
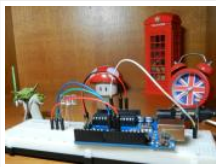
Hi! In this tutorial you will learn to make a mood lamp with arduino. I know that you may have seen a lot of mood lamp projects with arduino, but I wasn't very satisfied with them because they all change the color very abruptly. So,…… Listed under: Home Automation Projects

1282. Self-Contained 7x7x7 LED Cube using Arduino
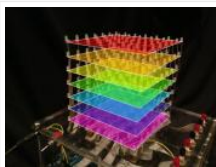
LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered…… Listed under: LED Projects, Projects

1283. Using a quadrature encoder (rotary switch) with Arduino

I've found several sites and posts explaining how to use a quadrature encoder with an Arduino, but wasn't completely satisfied with any of the methods used. Perhaps part of the problem is with the encoder I'm using: it's part #COM-09117 at Sparkfun.com. This encoder has…… Listed under: Arduino Programmer Projects

1284. Use xbees (series 2) to control a motor

Using two xbees, an arduino, an xbee explorer, and an h-bridge, wirelessly control a DC motor to spin in both directions (last video). Note: I used the xbee I linked to, but for a one to one communication, rather than a network of wireless devices,…… Listed under: Motor Projects

1285. Simple Datalogger
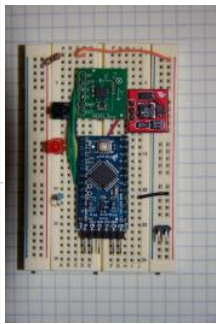
Here's a simple Arduino-based datalogger I'm currently developing: This test-of-concept model is based on the Arduino Pro Mini (ATMega168). It runs on a 1.5-V battery, using a voltage up-converter from Sparkfun.com. For a sensor, it's using a 3-axis accelerometer on a breakout board, also from...... Listed under: [Development Board – Kits Projects](#)

1286. [BaW-Bot Part 3: Adding Sight and Touch to the Bot](#)

This is the third part of our BaW-Bot (Bells-and-Whistles Bot) build – 5 separate instructables that look into different Arduino-related technologies, combining to create a Bot with all the bells-and-whistles. Part 1: Build an Arduino on a Board Part 2: Build the motor-controller & body...... Listed under: [Robotics – Automation Projects](#)

1287. [Building an Breathalyzer with MQ-3 and Arduino](#)
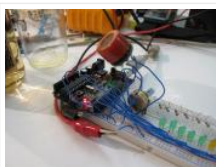
During the First Meeting of Electronic Arts in Florianópolis, we built a Breathalyzer using the Alcohol Gas Sensor MQ-3 and a Arduino Board to use in the last day of the meeting, in which we gave a party. You can see a quick video two...... Listed under: [Medical – Health based Projects](#), [Projects](#), [Sound – Audio Projects](#)

1288. [Simple Arduino data-collection](#)
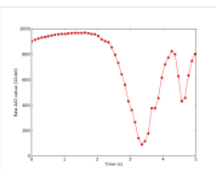
At this year's "Arduinos in the Physics Lab" workshop at the AAPT meeting, one of the participants asked for a simple way of using the Arduino as a tethered A/D converter for data collection direct to a computer. This is my quick & dirty demonstration...... Listed under: [Metering – Instrument Projects](#)

1289. [Energino: an Arduino-based energy consumption monitoring shield](#)
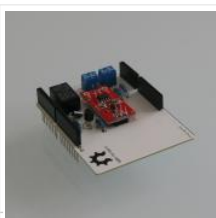
Energino is a plug-load meter that measures the amount of power consumed by whatever DC electrical appliance is plugged into its. It was originally designed to monitor the energy consumption of simple networking devices such as Ethernet switches and WiFi access points, but it can...... Listed under: [Metering – Instrument Projects](#)

1290. [More Humane Moisture sensor](#)

Recently I got a project from Titan industries, who were in search of something as an interactive plant pot which could bridge this gap of emotional communication, in mins this reminded me of brilliant projects done by people where the plant could could tweet and...... Listed under: [Sensor – Transducer – Detector Projects](#)

1291. [Arduino-based event counter](#)

I teach Modern Physics here at CSUC, and we occasionally use isotopes with half-lives of a year or less (such as Zinc-65 and Cadmium-109) for energy-calibration sources for a gamma-spectroscopy lab. I thought it might be fun to try measuring the activity of one of...... Listed under: [Calculator Projects](#)

1292. [Lithium Battery Solar USB – iPhone – Arduino Charger](#)

One of the most fun and useful projects on instructables is to create your very own solar USB/ iPhone charger. They're not overly difficult to make, nor are the parts overly expensive or hard to find. For the most part they do a rather good...... Listed under: [Battery](#)

Projects, [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Phone Projects](#)

1293. [ATtiny85/45/25 LED dice](#)

If you have looked at my 5 LED ATtiny85 POV display, we programmed the ATtiny with the Arduino. (If you haven't seen it, click here) We will be doing the same thing for this LED Dice project. The total parts cost for this project is…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LED Projects](#)

1294. [Morse-code trainer](#)

My kids are learning Morse code this summer, so I threw together this little circuit to help them learn. And to make it more fun… It uses an ATtiny85 ($2.26 at digikey.com) to drive a piezo beeper (≈ $3.50 at Radio Shack.) The ATtiny85 takes…… Listed under: [Arduino Programmer Projects](#)

1295. [Light Painters Palette aka Light Box](#)

Today I'm going to show you how I made my "light painters palette" aka light box. If your into electronics and photography than this is probably something you are going to like. Supplies: -Arduino (I'm using a arduino pro mini which requires a ftdi basic to program,…… Listed under: [LED Projects](#), [Video – Camera – Imaging Projects](#)

1296. [How To Make an Obstacle Avoiding Arduino Robot](#)

Hello all! In this Instructable I'll be showing you how to make a robot similar to the "Mobile Arduino Experimental Platform" (MAEP) that I made. It is equipped with two motors that can steer the robot and the ability to see obstacles in front of…… Listed under: [Robotics – Automation Projects](#)

1297. ["Ayrduino" Single-Sided Arduino Clone](#)

I'm teaching "Electronics for Scientists" this semester, and I wanted to allow each student to have their own Arduino to play with for microcontroller lab exercises and possibly use for their final projects. The Arduino is not very expensive at roughly $30 per, but they…… Listed under: [Development Board – Kits Projects](#)

1298. [Fijibot](#)

Fijibot is an autonomous, self-charging photovore. I built him using a 1.5 liter Fiji Water bottle, an Arduino Uno, 6v solar panel (plus various other parts) from Radio Shack, an Arduino Proto Shield (plus various other parts) from Adafruit, and the wheels and steering arrangement…… Listed under: [Robotics – Automation Projects](#)

1299. [Network-status indicator](#)
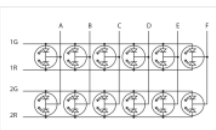
I run a NFS/NIS network under a combination of OS's for the upper-division physics lab here at CSUC, and one source of irritation is when one machine goes down and nobody lets me know until suddenly that machine is absolutely necessary NOW! So I figured…… Listed under: [Internet – Ethernet – LAN Projects](#)

1300. [4x4x4 LED Cube Arduino](#)

After seeing all the different instructables for Led cubes i was still left with a lot of unanswered questions. So after reading everything i could find this is what i got. I decided to make the instructable after building it…so ill try to recreate the process the best…… Listed
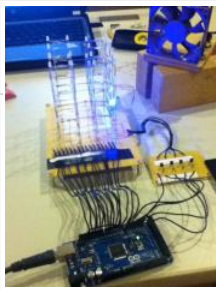
under: LED Projects

1301. Quantitative Two-Dimensional Temperature Measurements
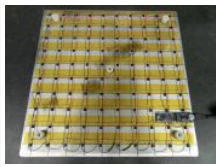
Lab Experiments involving the Heat Equation are usually one-dimensional exercises involving a copper pipe and a half-dozen thermocouples. But with DS18B20 "One-Wire" thermometer chips and an Arduino, it's possible to measure hundreds of temperature values simultaneously. Here's what my students Daniel Lund and Lawrence Lechuga...... Listed under: Temperature Measurement Projects

1302. Arduino ATtiny2313 Programming Shield

Today, I made a small 3x3x3 LED cube with an ATtiny2313 that I had from about 2 weeks ago. Whenever I had to reprogram the LED cube when I thought of more awesome patterns, I had to get out my breadboard and then wire up...... Listed under: Arduino Programmer Projects, Development Board – Kits Projects, Projects

1303. Full Binary Clock
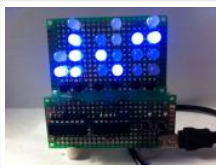
I was wandering the internet looking for a good arduino tutorial on how to build a binary clock with seconds, but I could not find one. So now I am writing this for you to have a binary clock with seconds, minutes, and hours. What...... Listed under: Clock – Timer Projects

1304. Universal clock suitable for visually impaired using Arduino

I was googling around looking for some sort of device I could make using arduino and stumbled upon eshop with devices for visually impaired. What really shocked me was the price. I mean-I do realize that such sorts of devices are not really mainstream, but...... Listed under: Clock – Timer Projects, Projects

1305. Arduino Robot Arm – LarryArm v0.1

 I have constructed a basic Arduino robot arm using 3 servos that cost me £15 in total plus a couple of hours in time to build and it's very simple that I think anyone can replicate and build this. I already had the Arduino Duemilanove...... Listed under: Robotics – Automation Projects

1306. Cwik Clock v1.0 – An Arduino Binary Clock

Overview This is a guide to building an Arduino-powered clock that uses LEDs to display a 24-hour clock (hours and minutes) as binary digits, an analog meter to display the seconds, a switch to toggle between time-display and time-setting mode, and 2 knobs for setting...... Listed under: Clock – Timer Projects

1307. Arduino: Controlling the Robot Arm

So the arm is wired into Arduino as per the previous post, Arduino: Modifying a Robot Arm and hopefully this has worked. In this next part I alter the Arduino sketch slightly and write the first Processing sketch to test control of the arm –...... Listed under: Robotics – Automation Projects

1308. Clusterbot
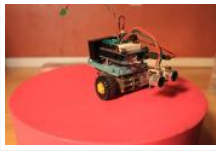
What is Clusterbot? He is a small, affordable, autonomous Arduino-powered robot. He can move, see, avoid obstacles, and makes a melodic chirping sound sometimes. Clusterbot was my first Arduino project, and I think he makes a great project for a beginner. While building Clusterbot you…… Listed under: [Robotics – Automation Projects](#)

1309. [4 Servo drive CellBot which can be remotely controlled using Arduino](#)

I started with an idea of what I wanted to do from the beginning but one attempt after another I finally got to where I am now. This robot can be remotely controlled from anywhere in the world and driven around the house. I can…… Listed under: [Motor Projects](#), [Projects](#), [Robotics – Automation Projects](#)

1310. [Using Processing to Send Values using the Serial Port to Arduino](#)

In this write-up, I'll show how to create a value in Processing and then send this value over the serial port to the Arduino. In the example I'm setting values of LEDs making them brighter or dimmed but this example can be extended to control…… Listed under: [Arduino Programmer Projects](#)

1311. [Over the Counter Kitchen Radio using Arduino](#)

This project used the Si470x FM radio receiver and an ardurino to make an over the counter kitchen radio. These parts had been purchased for a different build that unfortunately met a premature end. The concept for this project is simple. Play my favorite news…… Listed under: [Home Automation Projects](#), [Projects](#), [Radio Projects](#)

1312. [SPEAKR](#)

Nature has a way of speaking to us in a way that soothes and revitalizes. Sounds of the wind in various places create low volume tones that we barely hear. They have a certain beauty and randomness to them that are unique to nature. We've…… Listed under: [Game – Entertainment Projects](#)

1313. [Box Scurity Package using Arduino](#)

If you touch the package, it will scream and run away–changing its course when it strikes an obstacle. When you lift the gift tag, light strikes a photocell and operation commences. Motors and a sound module are controlled by an Arduino (and Arduino Motor Shield)……. Listed under: [Projects](#), [Security – Safety Projects](#)

1314. [Arduino + Processing – 3D Sensor Data Visualisation](#)

 So following on from my previous posts about visualising sensor data in Processing, I'm now looking at drawing 3D representations of the data recorded from the Sharp IR sensor – although can be any kind of range finder. I started by rigging 2 servos, one…… Listed under: [Sensor – Transducer – Detector Projects](#)

1315. [LED Cylinder using Arduino](#)

This is a little art project I made with 95 RGB LEDs arranged in a 3D cylinder shape, sitting atop a microcontroller-based driver circuit. The LEDs are individually addressable, and when you power it on, the software cycles through a series of animations, e.g. various…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1316. [Electrically Insulated Altoids Tin](#)

Ah yes, it's time for another Instructable involving an Altoids tin... But this time it's not about what's inside the Altoids tin, it's about the Altoids tin itself. In all its greatness, the Altoids tin we all know and love has one rather major flaw...... Listed under: [Development Board – Kits Projects](#)

1317. [How To Interface a CDV 700 Geiger Counter to a PC Using an Arduino Video instrucitons](#)

How To Interface a CDV 700 Geiger Counter to a PC Using an Arduino (Part 1) The second part of our video series of our project to interface to a CDV-700 radiation meter using an Arduino Uno! How To Interface a CDV 700 Geiger Counter...... Listed under: [Calculator Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1318. [Arduino + Processing – Make a Radar Screen – Part 3: Visualising the Data from Sharp Infrared Range Finder](#)
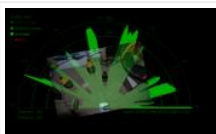
So I had some luck with getting the Sharp Infrared range finder working and I've now plugged this on to my servo rig to see if I get better results on my radar styled display. Check out how to use the Sharp IR range finder...... Listed under: [LCD Projects](#), [Metering – Instrument Projects](#)

1319. [Using the Sparkfun Motor Driver 1A Dual TB6612FNG using Arduino](#)

As a beginner myself, I struggled to find a one-stop set of instructions to get up and running with Sparkfun's Motor Driver 1A Dual TB6612FNG. This motor driver breakout board is exceptional value, is beautifully small, but does need a little more effort to get...... Listed under: [Motor Projects](#), [Projects](#)

1320. [Motion Controlled Robotic Arm](#)

This instructable is not complete, I will post code soon The Arm: This instructable shows the process of building a robotic arm using servos, Arduino microprocessor, a gyroscope and multiple bend sensors. The user wears a glove containing the gyroscope and bend sensors which translate...... Listed under: [Robotics – Automation Projects](#)

1321. [Arduino traffic lights](#)

I made this project on the same night that my Arduino Duemilanove arrived from Cool Components. After being an Instructables member for about a year I though it was time I should contribute. There is another Arduino traffic light project similar to this, but it...... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)

1322. [Controlling a clock with an Arduino](#)

Update: The Arduino system is fine; the only thing you have to take into consideration is the 9.54 hour rollover event, which Rob Faludi has provided an excellent solution for here. I made up a nice little over-analysis of the issue, available here. I have...... Listed under: [Clock – Timer Projects](#), [Projects](#)

1323. [RGB flashing iPod dock from an old speaker](#)
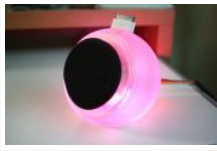
Using an Apple Pro speaker, I made a flashing RGB LED iPod dock for about $35. I recommend reading the entire 'ible before starting. Also, note that the volume is control from the iPod. It consumes minimal power in shutdown mode, and is controlled by...... Listed under: [Sound – Audio Projects](#)

1324. [Arduino + Processing: Make a Radar Screen to Visualise Sensor Data from SRF-05 – Part 2: Visualising the Data](#)

This is where all the work is done to read an interpret the values from the servo and the sensor. If the readings are to erratic then you won't have nice shapes. Also if you don't allow enough time to the signals to be sent...... Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)

1325. [An 8-Bit Waterfall using Arduino](#)

So far my Arduino projects have all needed only a small number of output pins. In a previous post I talked about moving some of the logic off the Arduino and into other integrated circuits in order to free up pins on the Arduino. While...... Listed under: [Other Projects](#), [Projects](#)

1326. [Vibration Foam Speaker](#)

Concept: Very simple, using an arduino and the play melody basic program, create a music playing speaker out of a vibration motor and a piece of flexible foam. Instead of pulsing signal to a speaker, signal is pulsed to a motor varying how fast it...... Listed under: [Sound – Audio Projects](#)

1327. [Arduino + Processing – Make a Radar Screen to Visualise Sensor Data from SRF-05 – Part 1](#)

First things first, we need to build our circuit. This is the easy bit! We'll be using the Arduino to control a servo that will rotate our sensor around 180 degrees. The Arduino will then send the value from the distance sensor along with the...... Listed under: [LCD Projects](#), [Sensor – Transducer – Detector Projects](#)

1328. [Police Lights using an Arduino](#)

DISCLAIMER I do not and will not take responsibility for anyone who gets in trouble for this, by either imitating emergency personnel, or using without a permit/lisence. Updates! -I have shortened the code -Changed 16 LED's to 8 -Changed/added more flash patterns -Renamed variables As...... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)

1329. [Honey, I Shrunk The Arduino](#)
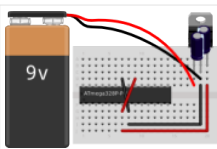
As you might be able to tell from recent posts, I've been doing quite a bit of work with an Arduino. I've now got at least one project that I'd like to make a little more permanent, rather than it just being a bunch of...... Listed under: [Other Projects](#), [Projects](#)

1330. [Color Changing LED Tree](#)

Ever wanted an LED tree? Well now you can have your LED tree and eat it too (no, wait, you probably shouldn't).. Step 1: Gather the parts You will need: 1x ATtiny85 10x male header pins Solid core wire, 2 colors A bunch of LEDs...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LED Projects](#)

1331. [Brute force attack a BIOS with Arduino](#)
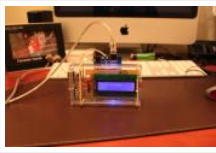
The goal of this experiment is to convert the Arduino board into an USB keyboard plus a VGA sniffer to crack the password of a standard BIOS using the brute force attack method. There are no advantages in using this method, in fact this can…… Listed under: [Memory – Storage Projects](#), [Projects](#)

1332. [Send and Receive MIDI with Arduino](#)

This instructable will show you how to use an Arduino to send and receive a variety of MIDI messages so you can start building your own MIDI controllers and instruments. First I'll talk a little bit about MIDI protocol, if you're just looking for sample…… Listed under: [Sound – Audio Projects](#)

1333. [Arduino – A Basic Theremin](#)

Theremins are cool. Fact. You may also have heard of them as either aetherphone/ etherophone or termenvox/ thereminvox. Essentially its an electronic music instrument that plays a certain note depending on the position of your hand and its distance from an antenna. Building a very…… Listed under: [Sound – Audio Projects](#)

1334. [Tweetosapien: Hack a Robosapien With Arduino to React to Tweets](#)

A really fun project sent into us by Thomas Meghe. He's translated it all from his native French, which is a technical achievement itself. If you'd like to see the original, you can find it here. Bored of your favorite Twitter client ? No problem,…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

1335. [Walleye using Arduino](#)

Walleye is an interactive light installation which engages users in temporal gestural and bodily play. It generates temporal light propagation patterns, or a large scale very low resolution pixilated image (depending on how you look at it) based on the realtime movement of visitors in…… Listed under: [Other Projects](#), [Projects](#)

1336. [How to build your own sugru robot – Fixbot](#)

So you saw our video and you've fallen in love with Fixbot, have you? That's okay, it's understandable. We've fallen in love with it too. We have some great news! You can build your own Fixbot too, provided that you're okay with getting your hands…… Listed under: [Robotics – Automation Projects](#)

1337. [Arduino – Basic Persistance of Vision](#)

I think this'll be the start of a few more projects for me. I've seen some cool LED PoV stuff (Persistance of Vision) with mounting displays on bikes, so hopefully I'll get round to doing something like that. Anyway as a start I've got 5…… Listed under: [LED Projects](#)

1338. [How to make a servo leg using Arduino](#)
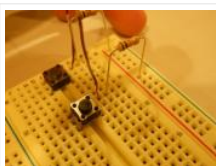
This instructable will show you how to create a simple servo leg that can be controlled by buttons on an arduino or via serial. Here is a video of the leg in action   http://www.youtube.com/watch?v=Q8i1nrPIJvo Leg Materials: Popsicle sticks-make sure that all of them are flat…… Listed under: [Motor Projects](#), [Projects](#)

1339. [A Study in Non-Standard Distributed Computer Architecture using Arduino](#)

In the following tutorial, directions are given for creating a single node for the DoHas (Distributed Optical Harvard Architecture System). After constructing two of these nodes, a small distributed computer can be implemented which uses one node for sending instructions, mimicking input and the instruction…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [RTOS – OS Projects](#)

1340. [BOXZ](#)

BOXZ is is an open source robot platform for interactive entertainment! We connected Arduino,Plexiglass(or cardboard) Origami and your idea together, so we can easily and quickly build a remote robot by ourself! You can assembled it like LEGO! We can use it to playing football...... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)

1341. [Arduino – Getting my LCD Screen to work](#)

I've gotten hold of what I assumed was a compatible 16×2 LCD screen with my Arduino board – it's a Powertip PC1602F and uses a compatible display driver for the Hitachi HD44780 display chip. This is essentially what the Arduino LCD libraries are built around, ... Listed under: [LCD Projects](#)

1342. [Hacked roomba and arduino snowballs into a Eurobot 2013 entry](#)

It all started as a weekend project with my kids and soon enough I got sucked into a 4 month project with their school ! The idea was to get a small group of kids aged 6 to 9 to participate to a robotics contest...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1343. [DIY Driving Simulator using an Arduino](#)
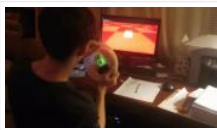
If you haven't noticed, as soon as you clicked into this instructable, you are now following me if you weren't already, you Favorited the instructable, and you voted for this instructable in all contests it is entered in. Then the buttons all dissappeared. It's okay...... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [How To – DIY – Projects](#), [Projects](#)

1344. [BIKEDUINO – Stopping Point Predictor for bike riders](#)
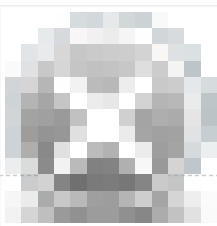
The project consists in a Arduino that gets the speed of the bike from a dynamo and it controls a laser which points always to the point where the bike is gonna stop if it continues going at the same speed. Used Hardware: Arduino mini...... Listed under: [Car Projects](#)

1345. [Version 2.0 Arduino Controlled Car Tracking System based on SMS](#)

This system is upgraded version of previous project... You will be able to track your car after you build this system, you will call the device then it will send you an sms which includes LAT, LON and Google Map link for just one touch...... Listed under: [Car Projects](#), [Phone Projects](#), [Projects](#)

1346. [Building a Doodle Bot kit from DAGU](#)

Doodle Bot is a very simple beginners robot that can write messages using white board markers, jumbo chalk or crayons. The kit comes with all parts including an Arduino compatible controller and a screwdriver. You will need to supply 4x AAA batteries and a suitable...... Listed under: [Robotics – Automation Projects](#)

1347. [Algorithmic noise machine](#)

This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. You can use bit-shifting as an alternative way of creating "music". This principle enables you to squeeze as much processing power as...... Listed under: [Sound – Audio Projects](#)

1348. [Arduino & Processing – Getting values from SRF05 ultrasound sensor & serial port](#)

I've started to delve into Processing and passing values between Processing and Arduino. If you're wondering what Processing is, basically its an open source programming language for vizualising data that can interface with Arduino either by reading values/ pins or by setting them. Just remember...... Listed under: [Sensor – Transducer – Detector Projects](#)

1349. [SMS controlled Wireless Irrigation System using an Arduino](#)

UPDATE 02/13/11 : Voting has started for the Sparkfun Microcontroller Contest. Please VOTE for me! UPDATE 02/26/11 : I won a second prize!! Huzzah! Thanks for all the votes guys! UPDATE 03/17/11: I would love to win a Laser cutter in the Epilog challenge as...... Listed under: [Phone Projects](#), [Projects](#)

1350. [Tissue Box Guitar – Light Strings using Arduino](#)

the idea of anything can be an instrumental music has been always in my mind so i made a wooden tissue box that i installed inside it a guitar of light strings Step 1: Building Box i made this wooden tissue box Step 2: Wiring...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)

1351. [123D Scanner – Home made 3D Scanner](#)
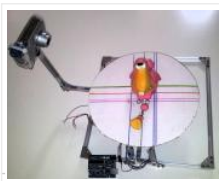
Hey – have a look at my new project HERE In this project I built a 3D Scanner, that enables generating 3D models of physical objects. The files can later be viewed in 3D software (GLC Player, Sketchup, Rhino, or sites such as http://3dfile.io) and...... Listed under: [How To – DIY – Projects](#)

1352. [Mint Tin Hero using Arduino](#)
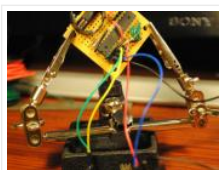
A friend at work proposed a friendly competition between a few co-workers: to make something cool out of a Trader Joe's green tea mint tin. Anything – whatever our creative hearts desired. The prize? Nobody cared – we'd figure that part out later. I thought...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1353. [Track Honeybees With Temperature](#)

Data analysis coming soon! My school is kind of strange. We don't have a cafeteria, but we do have a four week course on "The Simpsons." We don't have a jungle-gym on the elementary playground, but we do have a half-buried firetruck. We don't have...... Listed under: [Temperature Measurement Projects](#)

1354. [Arduino – (Very) Basic motion tracking with 2 PIR sensors](#)

Took me a little while to get started but I've managed to wire 2 PIR infrared sensors with an Arduino to sense motion either on the left or on the right side. The result will trigger an LED to represent each PIR sensor then I...... Listed under: [Sensor – Transducer – Detector Projects](#)

1355. [Pachube Client using Strings with Arduino](#)

This example shows you how to answer a HTTP request using an Ethernet shield. Specifically, it connects to pachube.com, a free datalogging site. The example requires that you set up a pachube.com account, as well as a pachube feed (for more information on setting up...... Listed under: [Internet – Ethernet – LAN Projects](), [Projects]()

1356. [Making a Better Mouse Trap]()

There are a lot of things this world needs at the moment. One of them is a better mouse trap. Mice are getting smarter every day and if we're not careful we'll end up with Planet of the Mice. Luckily, with the help of a...... Listed under: [Home Automation Projects]()

1357. [Arduino – motion triggered camera]()

So having worked out that I can make a remote for my Nikon D80 to do some timelapse photography. I started thinking of things I can do to trigger the remote, below video shows it working but you'll need sound to hear the shutter going....... Listed under: [Sensor – Transducer – Detector Projects](), [Video – Camera – Imaging Projects]()

1358. [Accelerometer Table using Arduino Esplora]()

This example simplifies the task of collecting data from the Esplora's accelerometer and graphing it with your computer. The Esplora sends keypresses to a connected computer about the state of the accelerometer. If you open a spreadsheet application, you can log the data from the...... Listed under: [Development Board – Kits Projects](), [Metering – Instrument Projects](), [Projects]()

1359. [Arduino Esplora Kart]()

This example demonstrates how to turn your Esplora into a customized computer game pad. It uses the analog joystick and the four switches as inputs to a video game. The Esplora will appear to the computer as a standard keyboard, the computer will see joystick...... Listed under: [Development Board – Kits Projects](), [Game – Entertainment Projects](), [Projects]()

1360. [Arduino text'in]()
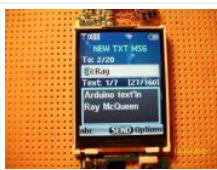
Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but...... Listed under: [Phone Projects]()

1361. [Arduino – IR remote/ intervalometer for Nikon D80 DSLR]()

I'm cheap and skint, yet I want to do timelapse photography with my Nikon D80 DSLR. Unfortnately that requires spending some cash on an intervalometer for time lapse photography which will set me back a sizeable chunk of cash. Or I could get a remote...... Listed under: [Video – Camera – Imaging Projects]()

1362. [My hat with full of stars]()

Top hats are cool; just like bow ties. Not only are they stylish, but they give you a lot of room for incorporating techno goodness. I recently had cause to buy a tuxedo, which necessitated a kilt, and then a top hat. You know how...... Listed under: [Game – Entertainment Projects](), [Home Automation Projects]()

1363. [Arduino – Sonic range finder with SRF05]()

A guide to using the SRF05 Distance Sensor with Arduino in order to calculate distances from objects. In this case I'm also altering the output of an LED with PWM according to how close an object is to the sensor. So the nearer you are...... Listed under: Metering – Instrument Projects

1364. Arduino Esplora Temperature Sensor

This sketch shows you how to read the Esplora's temperature sensor. You can read the temperature sensor in Farhenheit or Celsius. Circuit Only your Arduino Esplora is needed for this example. Connect the Esplora to your computer with a USB cable and open the Arduino's...... Listed under: Projects, Temperature Measurement Projects

1365. Knock Block using an Arduino board

Knock Block: a modern knocking framework Man has long wrestled with Time. Also, with knocking on things and not getting the time of day. We propose a knocking platform through which these fundamental needs are met. This is illustrated with the Knock Block KUI and...... Listed under: Home Automation Projects, Projects

1366. Arduino Analog Inputs

This week is all about analog inputs for the arduino. I'll show you how you can use a voltage divider circuit (see episode 3) and a variable resistor to make an analog sensor. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000"...... Listed under: Projects, PWM Projects

1367. Intervalometer for Sony NEX 5n

This intervalometer used infrared LED To built intervalometer you need: Arduino Nano (or Arduino-compability). I used Nano V3 Serial LCD Joystick Module IR Led and resistor ~200 Ohm Switch Push Button Plastic enclosure Battery 9V Schematic is very simple Step 2: Connection Serial LCD has...... Listed under: Metering – Instrument Projects

1368. Arduino – Control a DC motor with TIP120, potentiometer and multiple power supplies

  A quick circuit showing how to control the speed of a DC motor with a potentiometer with your Arduino board. Also shows how to use a TIP120 transistor to allow the Arduino control a larger power supply. Transistors are 3 pin devices, which via the...... Listed under: Metering – Instrument Projects, Motor Projects

1369. Combo Blocks using an Arduino
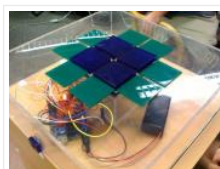
Project by CU Boulder Thinks That Think students: Michelle Bourgeois, Charles Dietrich, and Ben Link Imagine having a safe in which the combo is any small object of your choosing. Perhaps it's your favorite coffee mug, or a bat man figurine. This project is based...... Listed under: Home Automation Projects, Projects, Security – Safety Projects

1370. Fart Operated Random Channel TV Remote using an Arduino

OK, I know that sounds weird, but bear with me for a moment. My Pops really enjoys two things; 1) channel surfing and 2) farting. So one day I was over at http://hackaday.com/ and read about a guy who used his Arduino to turn a...... Listed under: Home Automation Projects, Projects

1371. Haptic Proximity Module (HPM) for Low Vision users

The Haptic Proximity Module (HPM) seeks to enable people with low vision, or other vision impairments, to engage with their direct surroundings through vibration feedback from a range detector, and do so cheaply with readily available components. The aim of this instructables is to share…… Listed under: [Development Board – Kits Projects](#)

1372. [Control a DC motor with Arduino and L293D chip](#)

This is a quick guide with a bit of extra info (pin configurations etc..) that I've learnt along the way on how to use the L293D with the Arduino, showing that we can: A) Use a supplemental power source to power the DC motor B)…… Listed under: [Motor Projects](#)

1373. [Reaction Timer using an Arduino](#)

I am new to Arduino and wanted a project which would teach me different things. This got me involved with sound and the use of a LCD. This project is based on the Instructable posted by bertus52x11 which you can find here http://www.instructables.com/id/After-Dinner-Reaction-Time-Tester/ . While…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1374. [Buzz Wire Alarm Clock](#)

Does it happen to you to slide your finger across your phone's screen and turn the alarm off … just because you have automated this task and don't even need to open your eyes? Well, let me present to you the alarm clock that WILL…… Listed under: [Clock – Timer Projects](#)

1375. [Making a 9v Battery DC power supply](#)

Rather than use the USB to power my Arduino board with a handy trip to the electronics store with some more knowledgeable people than I, I have constructed a 9Volt DC power supply. Taking a 9 volt battery, a 9v battery holder and a 2.1mm…… Listed under: [Battery Projects](#)

1376. [Simple Ipod Controller using an Arduino](#)

This instructable will help you understand the iPod serial protocol, and how to send commands to an iPod using an Arduino. This instructable is only meant to show the basics of the protocol and is by no means complete. I only had enough hardware space…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1377. [3 LED Crossfade with PWM and Arduino](#)

This ones quite simple, just mix/ crossfade 3 separate LEDs using Phase Width Modulation (PWM) and Arduino. You will need 3 LEDs, I'm using a 5mm Red, Green and Blue so I can make the full light colour spectrum (When all combined they make white…… Listed under: [LED Projects](#), [PWM Projects](#)

1378. [Making a Mayan Tzolkin Calendar](#)

OK, I will admit that I am a little obsessed with things Mayan at the moment, which explains why I wanted to make a Mayan Tzolkin calendar. I modeled the general layout and fabrication on the very nice Sleek Word Clock by scottbez1 which you…… Listed under: [Clock – Timer Projects](#)

1379. [Small form factor DIY Arduino on stripboard](#)

This board needs FTDI cable to program it. It is not Arduino compatible in the meaning of taking shields (just like every small form factor board isn't). But it has all the same pins (exept 3.3V power and Vin*) available as female headers. The input...... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)

1380. [Robot Snake](#)
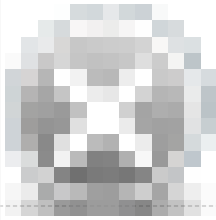
Purpose This project was built for the Things that Think undergraduate/graduate class CSCI 4830-7 and CSCI 7000-7 for the University of Colorado at Boulder. Our group consisted of one graduate and two undergraduate students. We worked on the project for 8 weeks, most of the time trying...... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)

1381. [Controlling a Servo with Arduino](#)

Very simple basics of building a circuit to control a servo using Arduino and PWM For this you will need: Arduino Board – I'm using a Duemilanova ATMEGA328 Arduino Sketch software – I'm using version 0015 Arduino Servo Library found here save it to lib/targets/libraries...... Listed under: [Motor Projects](#)

1382. [Use your android phone sensors on the arduino](#)
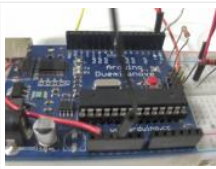
Hello, this is my very first step-by-step instructable, and today, we're going to learn how the sensors in your android smartphone can communicate with your arduino. In modern smartphones, there are a lot of useful sensors for an ingenious arduino project. I have a motorola...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1383. [Two ways to reset arduino in software](#)

If you want to RESET Arduino from the beginning without manually pressing the RESET button, there are a few ways. Here are two ways, using minimal wiring / circuitry. Step 1: Using 1 wire connected to the RESET pin 1. electronically, using only 1 wire...... Listed under: [Arduino Programmer Projects](#)

1384. [Siduri – An Arduino Control Smart Coaster](#)

 Siduri named after the Sumerian god of happiness and merriment, is a smart coaster for your drinks. It recognizes when a glass is near empty and then glows yellow to alert waiters that you will be in need of a refill soon. Designed specifically for...... Listed under: [Home Automation Projects](#)

1385. [How I'm building my bi-copter with Android and Arduino](#)

Last year I was fascinated by the "How to build your own Quadrocopter" by Lenz Grimmer and decided that somehow I should try to do a similar thing. This talk is about the way I'm building a bi-copter using lessons learned for last year's talk...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)

1386. [Discreet Data Logger using Arduino](#)

There is no better way to hide a covert device than to stick it inside a larger conspicuous device. That said... Essentially, this is a guide for making a data logging system for use with the breathalyzer microphone. To accomplish this, an Arduino and a...... Listed under:

1387. [A DVD Player Hack](#)
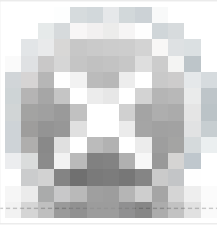
This is a description of an open source/open hardware project of a remotely controlled Arduino (Freeduino) based clock/thermometer utilising power supply and VFD panel from a broken DVD player in a custom made acrylic enclosure. The aim of the project was to demonstrate what could...... Listed under: [Video – Camera – Imaging Projects](#)

1388. [Texting mat using arduino](#)

Lusha and May created a "Text-Mat". This surface can allow the user to write and send messages using one's feet. This text-mat is designed to send secret messages during meetings or classes. The design utilizes conductive fabric and thread, as well as a flora-board. The...... Listed under: [Home Automation Projects](#)

1389. [The KITT-duino, DIY Larson Scanner with an Arduino](#)

IMPORTANT: CODE IS NOW UPDATED. FIXES INCLUDE ADDING AN INTEGER VALUE TO MANIPULATE TIMING AND FIXING A DOUBLE-BLINKING LED. Thanks. It is my understanding that many Larson Scanners can only pulse from side to side. I felt that that needed to be changed, seeing as...... Listed under: [CNC Machines Projects](#), [How To – DIY – Projects](#)

1390. [Low cost digital microscope with automated slide movement using arduino](#)

This is an easy-to-implement product modification that will be extremely useful for clinicians, pathologists, researchers or other microscopy enthusiasts interested in capturing whole slide images or creating virtual slides for later use. The device allows one to take multiple images of the slide under high...... Listed under: [Medical – Health based Projects](#)

1391. [Obstacle avoidance Arduino robot – build your own larryBot](#)

 So after 5 previous versions that had various flaws, I now have an Arduino robot that actually works and although basic is very cheap – although there a probably a few more flaws so please point them out to me but this is a good...... Listed under: [Robotics – Automation Projects](#)

1392. [Water Tank Depth Sensor using Arduino](#)
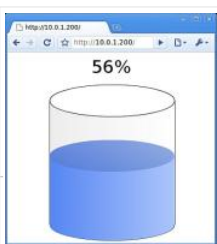
Water is a precious resource in many parts of the world, and many people rely on water tanks to supplement their water supply by storing collected rainwater or water pumped from a well or bore. But how do you measure how full a tank is?...... Listed under: [Sensor – Transducer – Detector Projects](#)

1393. [Arduino Dragon Wings](#)

Hello World!! I am making this Instructables on how to make arduino controlled dragon wings. XD I planned on wearing these dressed as Smaug to 'The Hobbit Desolation of Smaug' premier but I didn't complete the entire outfit in time, but I will continue working......

Listed under: [Game – Entertainment Projects](#)

1394. [Augmenting Plant Behavior Through Robotics using Arduino](#)
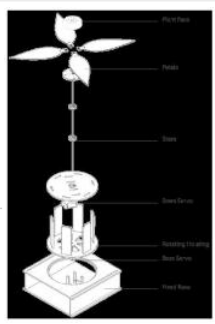
The PhytoBot is a semi-intelligent plant which responds to external stimulus (light intensity and light location) and responds to it as a phototropic plant would. Essentially it is designed as a piece of interactive artwork for operation over a long period of time. The motivation...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1395. [Rabbit Ears on a Cap using Arduino](#)

We are students from Singapore Polytechnic. After looking at the famous Necomimi Arduino Cat Ears, we decided to give it a try to help us familiarise ourselves with the accelerometer and the arduino. Using the materials that we had on hand, we managed to produce...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1396. [Geoweaver: A Walking 3D Printer Hexapod using arduino](#)

Geoweaver is a student designed (team members Jia Wu, Mary Sek, and Jeff Maeshiro) robot created in the Creative Architecture Machines advanced options studio at the California College of the Arts (CCA) in San Francisco, California, taught by Jason Kelly Johnson of Future Cities Lab...... Listed under: [CNC Machines Projects](#)

1397. [Programmable auto filter interface for C64 using Arduino](#)
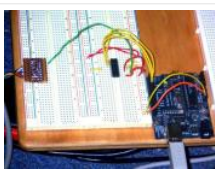
Overview A software / hardware combo that allows for control of the analog filter inside a Commodore 64 that is running Cynthcart from a host computer (eg, Macbok, PC). Software • 16-step filter sequencer • Set the speed of the filter sequence (with intervals between...... Listed under: [Arduino Programmer Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1398. [Control Access of Arduino YÚN with MySQL, PHP5 and Python](#)

  Hello Friends! Well, as you know, in September the new premiere shield of Arduino, Arduino YUN. This little friend has a Linux embedded system with which we can run anything you can think of (at least so far). While there is very little information on......
Listed under: [Robotics – Automation Projects](#)

1399. [All in one Remote using Arduino](#)

Introduction August, 2007 One of my other hobbies is photography, and, about a year ago, I purchased a new digicam – a Panasonic FZ30. I joined the Panasonic forum on the dpreview site. One of the posters, a programmer and electronic hobbyist, designed a nifty wireless...... Listed under: [Projects](#), [Radio Projects](#)

1400. [Simple Arduino Wing Shield](#)

I buy a lot of these stackable Arduino header sets because they are handy for a lot of things. I make some breakout boards with them, I use them to add some clearance between a taller shield and the next shield that I am stacking...... Listed under: [Development Board – Kits Projects](#)

1401. [Polar Plotter on Arduino and MakerBeams](#)

The project A polar plotter is a plotter with a rotating, extendable arm. Its characteristics differ greatly from those of a traditional plotter, which in most areas have a superior design. You could say the polar plotter is more portable or something, but mainly I...... Listed under: [CNC Machines Projects](#), [Projects](#)

1402. [Build the Remote Control Bobble-head Bobbler! using arduino](#)

Bobble-heads!!! Every sports fan loves em, but they're kind of boring, just sitting frozen on your shelf ☹ I thought it might be fun to create an Automatic Bobble-head Bobbler something that can wake that old bobble-head up and get him nodding away. I finally found...... Listed under: [Robotics – Automation Projects](#)

1403. [Clock with Meggy Jr RGB using Arduino](#)
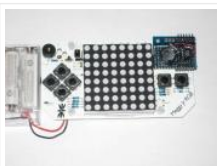
There is a saying: "If all you have is a hammer, everything looks like a nail". Well, when I see a display, I think of clocks ☺ I will show you here how to easily make a simple digital clock by hacking Meggy Jr RGB....... Listed under: [Clock – Timer Projects](#), [Projects](#)

1404. [Let's cook: 3D scanner based on Arduino and Processing](#)
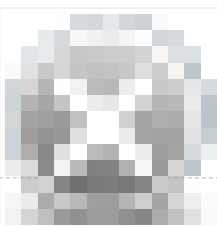
Ever wonder of copypaste method, usable in real life, not only in virtual reality? Me too. It is 21th century, and those are nearer than most of all can imagine! This is possible thank to 3d scanners and printers. So let's try to scan something!...... Listed under: [How To – DIY – Projects](#)

1405. [Motion Sensing Eye using arduino](#)

I have always wanted to make something with my LED dot matrix display, and so when I found a old alarm motion sensor I knew just what to make, a Motion Sensing Eye! This instructable will hopefully finish with you having a working dmd, that...... Listed under: [LED Projects](#), [Sensor – Transducer – Detector Projects](#)

1406. [LED Clock](#)

A 24-hour clock with hour, minute, and second indicators. Here's the catch, despite being a digital media (LED's) it is still displaying using an analog method (circles!). I finished making this clock months ago but did not bring it with me to school so I...... Listed under: [Clock – Timer Projects](#), [LED Projects](#)
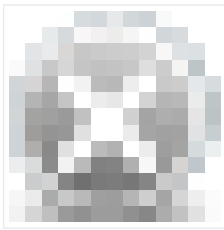
1407. [Arduino Webserver Control Lights, Relays, Servos, etc…](#)

In this project using only an Arduino with an Ethernet shield. I'll be controlling one LED and a servo, but you can apply this method to control a DC motors, buzzers, relays, stepper motors, etc.. Overview: When you upload the the code provided in this…… Listed under: [Internet – Ethernet – LAN Projects](#)

1408. [Vehicle Telemetry Platform using Arduino](#)

Ever wondered what goes on under the hood of your car? Wish you could peek inside the engine management system and read values from it? Annoyed that your dashboard displays a cryptic "Check Engine" light (yep, the engine is still there) but gives absolutely no…… Listed under: [Car Projects](#)

1409. [Weather Station Receiver using Arduino](#)

The incredible popularity of home weather stations shows that it's not just farmers who are interested in the weather. Many people want to be able to track and record weather events within their local environment rather than relying on a state or national weather service…… Listed under: [Sensor – Transducer – Detector Projects](#)

1410. [Arduino Beer Pong Arcade](#)
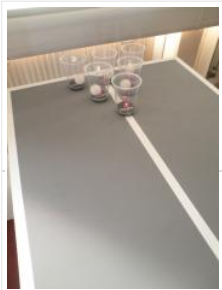
We are going to be making a flashy beer pong table.   The table lights up as cups are eliminated and old style arcade sounds are played. This games elevates the subtle art of BEER PONG to a new level. A sporting level. A competitive,…… Listed under: [Game – Entertainment Projects](#)

1411. [Lunch Decider Wheel using arduino](#)

The lunch decider wheel is basically a carnival-style wheel that spins every day at 11:45am and selects what is for lunch. It came about on account of my perpetual indecision on this very important culinary matter. In fact, this device does more than just decide…… Listed under: [Game – Entertainment Projects](#)

1412. [Arduino: Making a set of traffic lights](#)
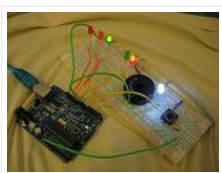
THIS PROJECT IS STILL A WORK IN PROGRESS FEEDBACK APPRECIATED!!!This tutorial will step you through the process of creating a set of controlable and configurable traffic lights whilst also teaching you the basics of Arduino. Some knowledge is needed and I highly recommend reading and…… Listed under: [Car Projects](#), [Projects](#)

1413. [3D Printed Webcam Controller](#)

The camera controller box is an easy way to rotate a webcam from a PC or remotely through the internet. Step 1: Materials and 3D files In this project I used a Teensy 2.0 micro-controller since it was available, but you can use any other MCU like an ATtiny85…… Listed under: [Internet – Ethernet – LAN Projects](#), [Video – Camera – Imaging Projects](#)
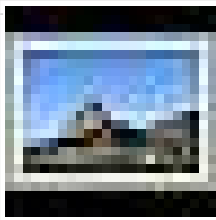
1414. Woooshing leds – Rotated animation by arduino

This project allows you draw in the air letters, symbols or other shapes – as you like. Controlled by the Arduino, the 7 simple leds blinking on and off – creating the illusion of floating text in the air. This combination of simple components with...... Listed under: LED Projects

1415. UnDecima Audio Output from Arduino

I already have one project where arduino outputs audio signal to USB speakers via software 10-bits PWM. In first, I was not satisfied with quality of sound generated via PWM. There are just not enough speed in arduino engine to run PWM well. For example for...... Listed under: Projects, Sound – Audio Projects

1416. Security / Automation Sensors using Arduino

Security system sensors such as motion detectors, reed switches, pressure mats, glass-break detectors, infrared beams, and conductive film can be very handy for all sorts of things including home automation systems, interactive art installations – and sometimes even security systems! Almost all security system sensors...... Listed under: Security – Safety Projects, Sensor – Transducer – Detector Projects

1417. Interval Long Exposure Camera
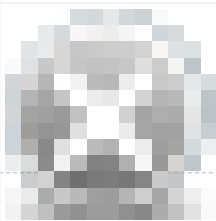
There's a real beauty in long exposure photography. Hours and days and weeks and months and even years can be condensed onto a single frame, and that frame will catalog the constants in our fast paced and forever changing lives. However, the issue is that...... Listed under: Video – Camera – Imaging Projects

1418. Lego Technic Car with Arduino + XBee Wireless Control

I was perusing Instructables one fine winter Saturday, when my 8 yo son came in and peered over my shoulder and saw this: http://www.instructables.com/id/RC-Lego-Car/ by sath02. My son is a huge fan of all things Lego, and loves robots and cars, and this was right...... Listed under: Game – Entertainment Projects

1419. Visual Navigator Making it MOBILE using Arduino

Obstacle avoiding vehicle, continue in "3D Laser Range Finder" series (project 1, project 2). The basic idea is the same, measuring distance using red laser pointers, CCD analog camera and Arduino UNO. Modification was made in geometry. Two lasers were set for "far field"...... Listed under: Game – Entertainment Project Ideas, Projects, Robotics – Automation Projects, Sensor – Transducer – Detector Projects

1420. The Adventure of Electricity: An interactive light diorama

Where does electricity come from? Who invented the light bulb? How do cities use this technology today? These are just a few questions that we hope to address in this interactive diorama, The Adventure of Electricity! This project was designed for educational purposes so that...... Listed under: Game – Entertainment Projects
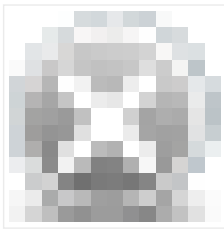
1421. [8x8x8 LED Cube with Arduino Mega (+Sound +PS controller +Game)](#)

This is a instructable which is based on the Cube by Chr, (http://www.instructables.com/id/Led-Cube-8x8x8/) by SuperTech-IT, (http://www.instructables.com/id/CHRs-8X8X8-LED-Cu...) and by das-labor.org, (http://www.das-labor.org/wiki/Borg3d_Bauanleitung...) but i think its better and easier. I started this Project without any skills from soldering toprogramming. First of...... Listed under: [Game – Entertainment Projects](#)

1422. [Tears of Rainbow using an Arduino](#)

It's time to release new updates for my first (ever) project with Arduino, "Color Light Music". From artistic perspective, VU BarGraph style (IMHO) is the best one for spectral dynamic representation, and not much could be improved on this side. But this time, it cross my...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1423. [Joystick controlled Camera using Arduino](#)

Hi, First of all, my English is not perfect =) I've seen many projects with Arduino that describes how to control 2 servo's with a joystick or use a lcd screen. All of the projects that i have seen are all seperate things. So i...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

1424. [HandSight: A Glove for the Blind to Feel Shapes and Navigate Obstacles](#)
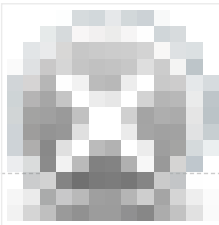
HandSight is a prototype glove to aid the blind. It can sense the lightness or darkness of a surface with tactile feedback from a vibration motor for each individual finger. It can also sense distance from physical objects or obstructions and indicate direction and distance...... Listed under: [Medical – Health based Projects](#)

1425. [Arduino IR Musical Stairs](#)

This is a small scaled musical stairs! It was a project that had a deadline; had only two days to build it. So, it is a very small scaled project, but still serves its purpose! IR Sensor (receiver) that I used is TSOP38238 from Adafruit,...... Listed under: [Home Automation Projects](#)

1426. [Gyro Camera for Motorcycle using Arduino](#)
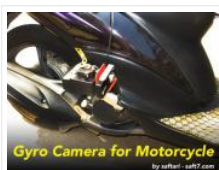
As seen in MotoGP Race, the rider is seen riding through corners while laying aside his bike to the left and right. But there is an interesting moment when the motor looks to collapse sideward, the front views remain horizontally. How could that be? Such...... Listed under: [Car Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

1427. [Building a device that clips to your belt](#)

Our goal in this step-by-step instructable is to build a device you can clip to your belt and wear throughout the day. This device will log data that, when downloaded to a back-end server system, will provide a report showing the location history of your…… Listed under: [Clock – Timer Projects](#)

1428. [Hidden Wall Outlet Safe (w/Arduino Lock) using arduino](#)

Stash your valuables where no one will ever suspect. Wall outlets are perfect for stashing valuables since you have tons of them at home. You must be crazy enough to search every household outlet for a secret stash. Probably, no one would even think of…… Listed under: [Home Automation Projects](#)

1429. [Power Arduino with a cellphone](#)

Old cellphones are easy to acquire and they have built in lithium charging circuitry. What a wonderful base for a power supply for small mobile things. I hooked up a cellphone to the arduino with the ability to charge the cellphone when you plug the…… Listed under: [Phone Projects](#)

1430. [DIY Arduino Motor Shield [for only $8!] (L298N 2x4A)](#)

Today, I'm going to show you how to make an Arduino motor shield (driver) at a low cost. It works splendidly, its posses almost all the characteristics of the original Arduino motor shield. It's almost considered as a clone. The original Arduino motor shield has the…… Listed under: [How To – DIY – Projects](#), [Motor Projects](#)

1431. [Intermediate Arduino: Inputs and Outputs using arduino](#)
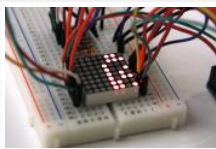
Continuing from my Intro to Arduino post, this Instructable will go over some slightly more advanced topics with Arduino, specifically relating to controlling and managing many inputs and outputs. The next class covers how to connect the Arduino's inputs and outputs to MIDI. Parts List:…… Listed under: [LED Projects](#)

1432. [EL Wire Hat: Sequenced and Sound Activated with Remote Control](#)
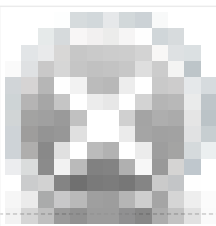
Welcome to the Instructable guide of my EL Wire hat with some fun features. The concept is an EL Wired hat with 8 sequenced EL wires controlled by a wired remote. Multiple speed controllable sequence modes are pre-programmed into an Arduino UNO, including a sound…… Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)

1433. [Earth Globe Rotating With Arduino Or Raspberry Pi Controlled Stepper Motor using arduino](#)
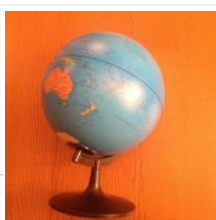
This instructable describes how to upgrade your globe to a motorized version. It looks amazingly better on the shelf when it is slowly rotating, and any demonstration with your kids (to explain the day/night cycle or the seasons) will gain in interest. No need to…… Listed under: [Motor Projects](#)

1434. [TV Remote Controlled Car](#)

Nothing is worse than loosing the controller that came with your remote control car. Replace that sucker with an arduino and the one remote that always seems to be around, the TV remote! Remove these ads by Signing Up Step 1: Materials The materials for…… Listed under: [Car Projects](#), [Game – Entertainment Projects](#)
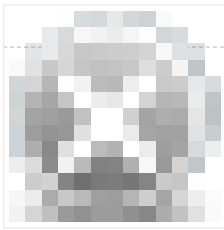
1435. [Arduino Solar Cell Tester](#)

When I'm building Solar Shrubs and other solar-powered creations, I often scavenge cells from various off-the-shelf devices such as solar garden or security lights. But these cells are rarely labeled as to their voltage, current, and power output. So it's off to my bread-boarding station. First, I put each cell under...... Listed under: [Battery Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Solar energy projects](#)

1436. [Capteur temperature choix du type de degres par infrarouge using arduino](#)
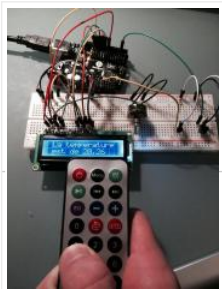
ENGLISH VERSION HERE Dans ce programme nous allons voir comment capter une température et afficher sa valeur sur un lecteur LCD en choisissant si on veut l'afficher en°C ou °F grâce à une télécommande infrarouge. Dans ce tuto j'utilise: -Une carte SainSmart (similaire à Arduino...... Listed under: [LCD Projects](#)

1437. [A World of Possibilities with Java ME + Bluetooth + Arduino](#)

"This presentation shows how to easily go from user stories to automated integration tests that themselves read like user stories. You can accomplish this by using custom domain-specific languages. Too often our automated integration tests rely on coding and intimate technical knowledge of our systems,...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

1438. [Smart Snow Globe (gives snow day alerts) using arduino](#)

What does a smart snow globe do? It tells you if tomorrow's going to be a snow day! Is it snowing tonight? Will you have the day off from school or work tomorrow? Put this snow globe next to your bed when you go to...... Listed under: [Radio Projects](#)

1439. [4x4x4 interactive LED-cube with Arduino](#)

To explain my 4x4x4 interactive LED-cube published before, a bit more clear, I will try to make my first step by step instructable. This 4x4x4 cube is interactive by using the top four corner LEDs both as LEDs and as sensors that will react on...... Listed under: [LED Projects](#), [Projects](#)

1440. [IR Remote Controlled Color Changing Cloud (Arduino)](#)

CLICK HERE FOR THE UPDATED INSTRUCTABLE: http://www.instructables.com/id/IR-Rainbow-Cloud-ver-1/ This is a project I created for a Digital Art and Installations class.   The class covered basics of several types of programming, and our projects were meant to be an interactive cross between art and technology. This was a fun...... Listed under: [Game – Entertainment Projects](#)

1441. [A Voice Shield for Arduino Board](#)

The objective of this project is to build an Arduino voice shield to empower thousands of voice related applications! All this mostly thanks to an integrated ISD1790PY chip. This particular voice/TTS feature can be useful to integrate voice messages in alarm systems, to implement generic...... Listed under: [Projects](#), [Sound – Audio Projects](#)

1442. [Open Bitcoin ATM using arduino](#)

The world's first completely open-source Bitcoin ATM for Education and Experimentation. http://openbitcoinatm.org for more information. Step 1: Fabricate Box and Faceplate Out of a piece of 12"x12" aluminum sheet metal, cut two rectangles and drill six rivet holes and four holes to attach the bill acceptor....... Listed under: [Robotics – Automation Projects](#)

1443. [Arduino Wii nunchuck and Wii motion plus with updated code for IDE 1.0.2 and LEDs](#)

So, I was trying to hack my Wii nunchuck because I want to control motors and lights with the Wii nunchuck. The first problem that I found was how to connect the control without an adapter, I was planning to make one, but when I...... Listed under: [LED Projects](#)

1444. [LED Dawn / Sunrise Alarm Clock, Nightlight & Security Light – Arduino Compatible](#)

As the nights gradually lengthened in autumn 2011, I discovered the joys of Arduino and thought that it would be a great way to implement something that I have wanted for a long while – a gentle way to wake up on a winter's morning. ...... Listed under: [LED Projects](#), [Security – Safety Projects](#)

1445. [Programming the Arduino I/O pins](#)

Overview The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header,...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1446. [Arduino, Sensors, and MIDI](#)
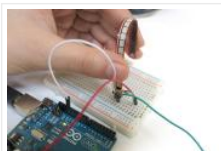
Now that you're up to speed on using Arduino's inputs and outputs, this Instructable will give you everything you need to get started using sensors to trigger MIDI notes from Arduino. This post is the last installment in a series of workshops I led at...... Listed under: [Home Automation Projects](#)

1447. [Stripboard Arduino](#)

In this, my first Instructable I'm going to show you how to make a stripped down Arduino for a fraction of the price, using Stripboard/Veroboard. Material List: 1x Atmel ATMega168 = �2.65 1x Stipboard = 72p 1x 7805 Voltage regulator = 26p 2x LEDs =...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

1448. [Control an Arduino With a Wristwatch (TI eZ430 Chronos)](#)

The watch The Texas Instruments eZ430 Chronos is a cool gadget. It has bidirectional radio communication, and a whole bunch of sensors: temperature, pressure, acceleration. In fact, it is a development kit for the MSP 430 (a low-power microcontroller), that TI packaged as a watch...... Listed under: [Clock – Timer Projects](#)

1449. [SuperScope: Circuit Simulation through Arduino-Processing Interface](#)
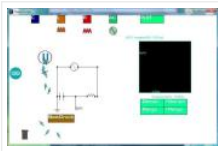
nto the program where you can physically manipulate them. Arduino tests for the value of the component (a capacitor, inductor, resistor, or waveform of specific frequency) then sends the data to Processing. Imported components can then be plugged into circuit schematics. SuperScope builds upon the…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1450. [Improved Simple Wing Shield using arduino](#)

Not too long ago, I made my own version of the popular Wing Shield out of some spare parts and scraps of perf board I had laying around. Instead of the screw terminals that the regular wing shield uses, I used some female headers that…… Listed under: [Home Automation Projects](#)

1451. [A credit card sized Ethernet Arduino compatable controller board](#)
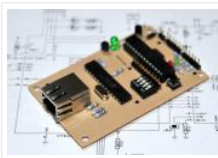
I love the Arduino as a simple and accessible controller platform for many varied projects. A few months ago, a purchased an Ethernet shield for my Arduino controller to work on some projects with a mate of mine – it was a massive hit -…… Listed under: [Development Board – Kits Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1452. [Make Your Own GRBL CNC Pendant](#)
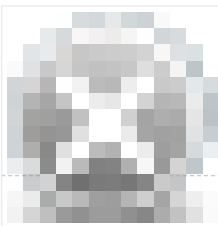
So you just finished your DIY CNC machine, set up GRBL and even cut your first part. Now what? Well, did you know that as of GRBL v0.8 there are pinouts some really useful commands such as Cycle Start, Feed Hold and a Soft Reset?…… Listed under: [CNC Machines Projects](#)

1453. [How to access 5 buttons through 1 Arduino input](#)
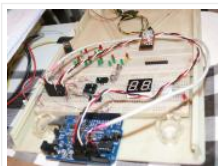
Using this method, I'll show you how you can access 5 (or even more) inputs through 1 Arduino pin. These buttons will only be read correctly if only one is pushed at any time though. As we go through it I'll explain whatever background info…… Listed under: [How To – DIY – Project Ideas](#), [LED Projects](#), [Projects](#)

1454. [LittleBitty Joe using arduino](#)

Say Hello to littleBitty Joe! Joe is my school's mascot! Speak to Joe and watch his eyebrows lift, whiskers vibrate, eyes illuminate, heart spin and hear him ROAR! Not only does his roaring affect work with our project, but it can definitely work with your…… Listed under: [Game – Entertainment Projects](#)

1455. [Digispark DIY: The smallest USB Arduino](#)

Digispark is an ATtiny85 based microcontroller development board come with USB interface. Coding is similar to Arduino, and it use the familiar Arduino IDE for development. Digispark is copyrighted by Digistump LLC (digistump.com) and the full license is here: http://digistump.com/wiki/digispark/policy Specification: Support for the Arduino IDE…… Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1456. [3D-Printed Biologically-Inspired Robotics](#)
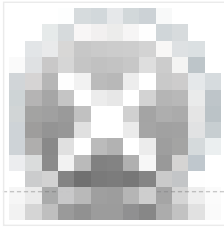
I have been spending the last few months doing research into biologically inspired robotic structures. While my approach may seem formalistic in nature, these devices were simply a means for ultimately conducting social research. This desire stems from my experience building Simple Bots, and their...... Listed under: [Robotics – Automation Projects](#)

1457. [Light Clapper using arduino](#)
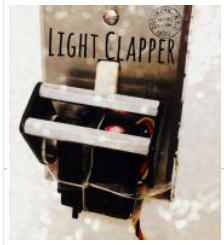
This is a project that I quickly made one night because I wanted to 'clap' to turn off and on the light in my room! I have a small room for myself, so I basically have no other noise around. So, I was able to...... Listed under: [Home Automation Projects](#)

1458. [RC Car Anti-Crash System Using Arduino](#)

Hi guys! So for my electronics class this year we were tasked with creating some kind of electronic gadget in order to demonstrate what we learned over the semester. Being a car-loving type of guy, I decided to get a cheap RC car and see...... Listed under: [Car Projects](#), [Projects](#), [Security – Safety Projects](#)

1459. [Arduilay](#)
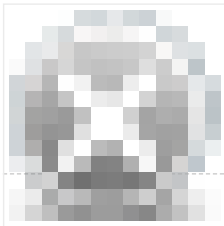
Arduilay is an 8 channel AC relay box for use with Arduino, Max/MSP, Processing, etc. I designed this system as an alternative to the USB>DMX 4 channel relay option. While DMX gives you dimming control, the setup is easily 5 times as expensive as this...... Listed under: [Development Board – Kits Projects](#)

1460. [ARDUINO Laser 3D Tracking or Range Finder](#)

The idea of using triangulation for distance measurements is well known since Pythagorean time, when his brilliant formula become available for mathematicians. What is new in this design, is lasers power control via "blooming" effect of CMOS camera. Here this "negative" effect was put to...... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

1461. [Cheap and effective Sous Vide cooker (Arduino powered)](#)

Sous-vide cooking is a great new way of cooking food. I will not explain why and how it works here... for great recipes and explanations, you can check out those guys : http://modernistcuisine.com/2013/01/why-cook-sous-... Unfortunately, a good (and I mean precise to the half °C) sous-vide...... Listed under: [Home Automation Projects](#)

1462. [2 player Pong using Arduino](#)

I started with the Instructable from Kyle Brinckerhoff; http://www.instructables.com/id/Ardu-pong-the-Arduino-based-pong-console/ Thanks Kyle! and the following at Make magazine http://blog.makezine.com/archive/2007/08/arduino-pong.html and I see the original code is attributed to Pete Lamonica Thanks Pete!! I am using the paddles instead of the joy stick and I have made...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1463. [Arduino Step Sequencer](#)
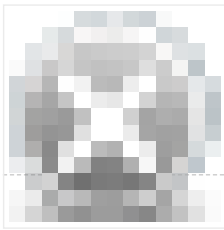
I was wondering about on making a sequencer, a big 16 step sequencer was what I wanted to make. To it's full extension with lots of features including single leds for each step, midi input and output, etc. Then I realised that I should start from a…… Listed under: [Sound – Audio Projects](#)

1464. [ASCII Table using Arduino](#)
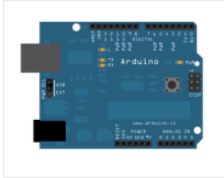
Demonstrates the advanced serial printing functions by generating a table of characters and their ASCII values in decimal, hexadecimal, octal, and binary. For more on ASCII, see asciitable.com Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page None, but the Arduino has to…… Listed under: [How To – DIY – Projects](#), [Projects](#)

1465. [A Simple and Very Easy Inverted Pendulum Balancing Robot](#)
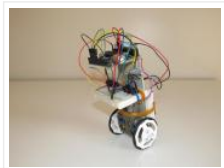
Let's make a simple inverted balancing robot, and operate it. You need only half a day to do them, if you have an arduino and some materials. [a video of a robot you would make] introduction: After a few work with arduino, I have thought…… Listed under: [Robotics – Automation Projects](#)

1466. [Wii Nunchuck Arduino Spirit Level](#)

Thanks to: http://jeonlab.wordpress.com/ Since I have read an article on todbot blog, I bought a couple of Wii Nunchucks from ebay. I don't remember how much I paid for them, but it was much cheaper than buying the accelerometer breakout boards. With the nunchuck data reading…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

1467. [Nama Instrument 1.0](#)

A motion sensing soft-circuit interface. The following instructable will guide you through the construction of your own personalized Nama Instrument. I'd love to hear some feedback. Hope you like it and it serves you somehow! :) Access http://www.viraseres.com/nama to download the project's open source files…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)

1468. [Wex, the One Eyed Watcher using an Arduino](#)
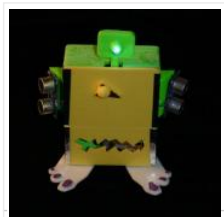
Wex detects your location with ultrasonic sensors then follows you with his one flashing eye. His red "heartbeat" can be seen through his mouth. Step 1: Parts needed include: Arduino Two ping ultrasonic sensors Futaba s3103 servo Radio Shack 276-0016 7 color led Radio Shack …… Listed under: [Projects](#), [Robotics – Automation Projects](#)

1469. [OpenSquare – Write big with a RC car](#)

Hi there, You're going to transform any RC toy car into a big message writer that can be used to transform your city squares into witty messages, political statements or beautiful drawings, and for less than 20$. The idea is to drop a trail of…… Listed under: [Car Projects](#)

1470. [Building a Sentry Gun with Laser Trip Wire System and Arduino](#)

NOTE THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC. Concept: Trigger gun when laser is blocked by intruding object. Note: Tilting is included for expandability but not used in this project. Skill Level: Basic soldering and basic metal works Things You…… Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)

1471. [I just wanna hold your hand](#)

Conducting energy through people to stimulate tangible public interactions http://ijustwannaholdyourhand.com/ http://vimeo.com/56350598 What did we do? We put together an Arduino, some wire, a Mac mini and a DLP Projector, then created a pair of hands out of aluminum. We additionally 3D printed some wall plates...... Listed under: [Game – Entertainment Projects](#)

1472. [How to Control a Ton of RGB LEDs with Arduino & TLC5940](#)

This video explains how to use the 16 channel PWM controller TLC5940 The CODE: //Texas Instruments TLC 5940 with Arduino //www.kevindarrah.com #include <SPI.h>//Serial Peripheral Interface Library byte ch=0, chbit=0, spibit=0, spibyte=0;// variables used by tlc sub routine int SINData;//variable used to shift data to the...... Listed under: [LED Projects](#), [Projects](#), [PWM Projects](#)

1473. [Forget Me Not- Remote Flower Watering](#)

Hi everyone, Lucy Matchett, Nicole Yi Messier, and Joselyn McDonald (Snax_and_Macs) made a remote flower-watering device so you can water your loved ones' plants when you water your own. We used Arduinos, a photoresistor, a servo, Arduino and Processing sketches, Spacebrew, and a little elbow...... Listed under: [Home Automation Projects](#)

1474. [How to build an Arduino synth](#)

This is a super simple and easily customizable little synthesizer. This is my first time using the Arduino and also with acrylic, both I found very fun to work with though. This is also my first Instructables so hopefully I have explained this well enough....... Listed under: [How To – DIY – Projects](#), [Projects](#)

1475. [Palm Arduino V3](#)
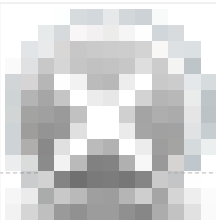
I design and create this Palm Arduino V3 prototype PCB, as I was tired of recreating Arduino Compatible on perf board every time I prototyping a new project, especially when I had to spend a lot of time tracing the wiring to see that I...... Listed under: [Development Board – Kits Projects](#)

1476. [Smart Distance Measuring Tape v2](#)

After posting up the v1 of my project many people requested an more detailed instructable. So i decided to start with a new one with a little upgrades to my previous instructable. What does this thing do? Well its quite simple it is just an...... Listed under: [Metering – Instrument Projects](#)

1477. [2 Ways to Papercraft Stopmotion](#)
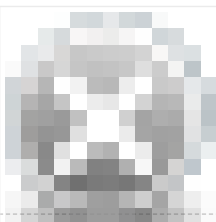
Good morning, please take a seat and watch that tofu wobble. This is not CGI, it is honest work of a papercraftsman. These are, in fact, 16 different papercubes that switch places in each frame. That technique is commonly known as replacement stopmotion. Problem: It only...... Listed under: [Game – Entertainment Projects](#)

1478. [Building an Open Archival Scanning Robot Using Python and Arduino](#)

Project Gado is an initiative which aims to create an open-source archival scanning robot which small archives can purchase for $500 and use to autonomously scan their photographic collections. This talk presents the Gado 2, a prototype... Listed under: Internet – Ethernet – LAN Projects, Projects, Robotics – Automation Projects

1479. Bird cage LED daylight simulation system

Sometimes you get a chance to combine helping out your family with a nice hobby project.. In this case my father in law was looking for a lighting system for his bird breeding cages. A daylight simulation system to be exact. He asked me to...... Listed under: Home Automation Projects, LED Projects

1480. Arduino Solar Shield – A DIY solar source for your projects without waiting for PCBs

This instructable is a basic version of Bley Joel's ("It's nine o'clock on a Saturday, the regular crowd shuffles in") Solar Shield, and it should work for most arduinos. I've tested it with SparkFun's Arduino Pro, and the new Leonardo. Myself and the other Solar...... Listed under: How To – DIY – Projects, Projects, Solar energy projects

1481. Audio Input to Arduino

The easiest way to connect an audio signal to your arduino, is to build a simple 3 components (2 resistors plus cap) circuitry shown on the first drawings on right side. Disadvantage: there is no amplifier, and consequently sensitivity would be low, hardly enough to...... Listed under: Projects, Sound – Audio Projects

1482. Burn Arduino Bootloader on Atmega-328 TQFP and DIP chips on Breadboard
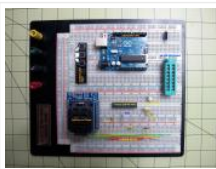
Parts required (Hardware) Arduino Uno Board (1) TQFP 32 to DIP 28 Adapter (1) Link Atmega TQFP 32 pin chip (1) Atmega DIP 28 pin chip (1) 10K resistor (1) 16MHz crystal (1) 18pf – 22pf capacitor (2) Tact Switch (1) Jumper wires (few) LED...... Listed under: Development Board – Kits Projects, Interfacing(USB – RS232 – I2c -ISP) Projects

1483. How to make a LED 7-segment display with or without Arduino
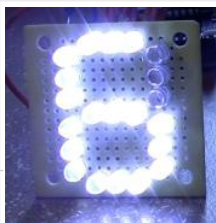
I'm going to show you how to make a 7 segment display with LEDS. Combine with Arduino to create countdown timers, simple text, and more. I like to make original projects. I searched the whole of instructables and didn't find one like this. In fact,...... Listed under: LED Projects

1484. Ariadne – a 1st person maze on a 16×2 LCD using Arduino

This game is a homage to Ariadne, the maze-generator from Inception ☺ If you haven't seen the movie yet – watch this video again after you do (you can also watch it now – it's not a spoiler, it's just funnier for inception-vets). The nice thing about...... Listed under: Game – Entertainment Project Ideas, LCD Projects, Projects

1485. Arduino Control DC Motor via Bluetooth

Hi guys, In this project we will control a DC motor with a smartphone via bluetooth. This project is great to learn more about: -DC motor -Interfacing Arduino with your smartphone -Bluetooth module -L293D you can visit my website for more electronic projects, interesting news...... Listed under: Internet – Ethernet – LAN Projects, Motor Projects, Phone Projects, Projects

1486. Arduino Powered 3-zone thermostat

I was looking at all those swoopy-zoomy internet connected and controllable thermostats. "Self," I told myself, "we should make one of those." He didn't seem all that excited about that – I mean, what do we know about hardware, firmware, electronics or HVAC? Well, now's…… Listed under: Temperature Measurement Projects

1487. DIY BioPrinter

Bioprinting is printing with biological materials. Think of it as 3D printing, but with squishier ingredients! There's a lot of work being done at research labs and big companies like Organovo on print human tissues and human organs, with an eye towards drug testing, and…… Listed under: How To – DIY – Projects

1488. Simple RC car for beginners (Android control over Bluetooth)

This is a simple project of Android Bluetooth Car with Bluetooth control. Arduino controller is used To control the car used Android-device with a built-in accelerometer. Tilt forward – car goes forward, tilt to the left – car turns to the left, tilt back – car…… Listed under: Car Projects, Game – Entertainment Projects, Internet – Ethernet – LAN Projects

1489. Arduino Digital 7-Segment Thermometer
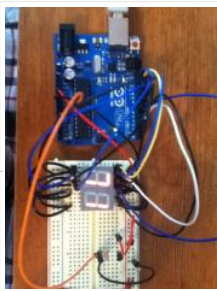
This a guide for an Arduino version, but I am working on a mini ATtiny84 version. Once I get that working, I will post another Instructable on how to make it. I'm sure you could make this same thermometer with an LM35 also, if that's…… Listed under: Temperature Measurement Projects

1490. Wi-Fi Body Scale with Arduino Board

In this post we present the design of a scale that connects to the Internet and automatically sends weight info on a Google Document. The project is composed of Arduino Uno board Wi-Fi shield additional shield that we used to manage data collection and I/O with…… Listed under: Internet – Ethernet – LAN Projects, Medical – Health based Projects, Projects

1491. Playing Wave file using arduino

This is a simple circuit to play wav files using arduino Nano V3.0 ,it consist from 4 buttons ,each one play specific wav file loaded to SD card. Step 1: Parts 1- Arduino Nano V3.0 (I used the chines version called Funduino Nano). 2- SD…… Listed under: Sound – Audio Projects

1492. Paint Pulse: Digital Water Marbling

Paint Pulse is a project which seeks to build upon the water marbling crafts of Ebru and Suminagashi with digital behavioral additions. The idea is to design intricate, flowing patterns of paint directly on the surface of water which you can capture on the surface of paper. Expert…… Listed under: Other Projects

1493. [Bubblesteen Bubble Machine using an Arduino](#)

Is it a 3D Spherical Atmosphere Encapsulated Phosphorous Printer?   YES! Is it a CNC Anti Gravity transparent Orb Machine!   YES! Its The Bubblesteen Bubble Machine! The spherical miracle that kids and cats have been waiting for. It comes complete with robotic edge detection(when a bubble hits an…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1494. [Cheap and Easy MP3 Shield for Arduino](#)

This is a follow up to an earlier Instructable for attaching the guts of a cheap clip MP3 player to an Arduino. http://www.instructables.com/id/MP3-Interface-for-Arduino-Cheap-and-Easy/ The previous Instuctable showed how to use the Arduino to control all of the functions of the MP3 player: volume increase and decrease,…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1495. [Charlieplexed Arduino 8×8 LED Grid Display Shield made and simulated in 123D Circuits](#)

edit: Wow, this won an awesome prize! Very many thanks guys! Charlieplexing (http://wealoneonearth.blogspot.nl/2013/03/design-note-charlieplexing-led-matrices.html) is a powerful method for driving a large number of LEDs from a relatively small amount of IO pin and without using any extra components. The technique makes use of the fact…… Listed under: [LED Projects](#)

1496. [How to make a multi-layered acrylic and LED sculpture with variable lighting levels using Arduino](#)

Here you can find out how to make you very own n as made for the exhibition www.laplandscape.co.uk curated by art/design group Lapland. More images can be seen at flickr This exhibition runs from Wednesday 26 November – Friday 12 December 2008 inclusive, and had…… Listed under: [LED Projects](#), [Projects](#)

1497. [Remote control via GPRS/GSM SMS(Arduino)](#)

Remote control, especially when this no ethernet or Wifi in the outdoor, has been a very profound things in the past. When I was a child, I always image that I have an equipment which can control all home appliances. Now, this becomes a reality,with…… Listed under: [Home Automation Projects](#), [Phone Projects](#)

1498. [Fairly Simple Simon – the evolution of an Arduino game](#)

Important notice: Final (i.e. relevant) version is at the last step of this instructable. If you want to build a Simon, that is the recommended version. The rest of the steps show how this evolved from a bare-bones game for LED 13 and Serial (i.e.…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1499. [LilyPad Arduino Totoro Plush with Umbrella](#)

Materials: For Totoro: Felt: 1 black, 3 grey, 1 white, 1 beige Needle Black Thread Poly-fil stuffing Cardstock Scissors Pins Pen or chalk DIY Totoro Plush Tutorial HERE Totoro Pattern HERE For Umbrella: 3 or 4 different types of fabric Felt: 1 grey, 1 black…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)

1500. [Arduino GSM shield](#)

This is a very low cost and simple Arduino GSM and GPRS shield. We use the module SIMCom SIM900 . It's the cheaper module now avalaible in the market. The module is not simple to mount by an hobbyst, so we use the Breakboard TDGGSM_900…… Listed under:

Development Board – Kits Projects, Phone Projects

1501. Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield

I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately $29.43 and is more affordable compared to $39.00 for a commercially available system...... Listed under: Motor Projects, Sensor – Transducer – Detector Projects

1502. Dogduino:The Automatic Dog Feeder using Arduino

Tired of having to find the dog food to feed the dog? Tired of having to get up early so your dog doesn't attack you for his food? Are just plain lazy? If you answered yes to any of these questions, this instructable is for...... Listed under: Arduino Programmer Projects, Projects, Sound – Audio Project Ideas

1503. Easy Programmable EL-Wire Wall Art Project with Cool-Neon using arduino
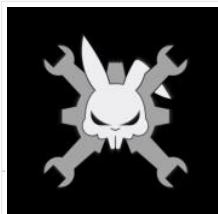
Blank space, what to do?, what to do? Our hackerspace has a blank brick wall above the fireplace. It's been a cold winter so we've had a fair number of fires, but there is just something wrong about a blank brick wall. Well in this...... Listed under: Home Automation Projects

1504. The Arduino OctoSynth

What is the OctoSynth you may ask? The octosynth is a polyphonic synthesizer that is able to produce eight Pulse Width Modulated tones that form together a musical scale. In English terms, it is a 8 key electronic organ that can play more than one...... Listed under: Projects, Sound – Audio Projects

1505. Microcontrolled AC switch using arduino

Always wanted to take total control of your electric appliances even without being at home? Well, thanks to this instructable you will be able to do that and much more. Some friendly suggestions before starting: Electricity is very dangerous, read and follow the "DANGER:" advices...... Listed under: Home Automation Projects

1506. Representing audio through vibration with Arduino

This project functions to display sound using vibration. You plug your iPod, computer, or TV into it and get tactile feedback representing the loudness of the audio. It can help deaf people to experience sound. Stuff you need: Arduino USB Cable Computer running Arduino software...... Listed under: Sound – Audio Projects

1507. How to Build a Robot – The BeetleBot

Welcome! I have been in robotics since I was a kid and I am very passionate by robotics. I learn BEAM robotics around 1997-98 and started building robots for a science faire project call "Insectroides" in 2001. http://robomaniac.solarbotics.net (they change server and the website...... Listed under: Robotics – Automation Projects

1508. Psycho Scooter Scramble using an Arduino

Psycho Scooter Scramble is a blind-driving electric wheelchair game. It consists of two riders, strapped into electric wheelchairs, and two blindfolded pilots, who remotely control the wheelchairs from the sidelines based on information given over headset by their driver. The basic mechanic is simple: players...... Listed under: [Game – Entertainment Projects](), [Projects]()

1509. [Mug Music: Turn Water Into an Instrument with Arduino and ChucK]()

What if you could turn any conductive surface into an instrument? Like, say...a mug of water? Best of all, it's cheap; you'll only need $1 worth of extra electrical components (not including the Arduino).   For this project, my friend Harvest and I combined Disney's Touché...... Listed under: [Home Automation Projects]()

1510. [Making Robots Using Android and Arduino]()

udar Muthu gives a talk on Making Robots Using Android and Arduino at Droidcon India 2011 by HasGeek. ... Listed under: [Arduino Android](), [Projects](), [Robotics – Automation Projects]()

1511. [PORTABLE FORCED-AIR COOLING UNIT]()

here is growing interest in the commercial production of high-value specialty fruit such as strawberries, blackberries, raspberries, and blueberries. Much of the small fruit grown in North Carolina is currently marketed through pick-your-own establishments or roadside stands. A strong demand for these small fruit items...... Listed under: [Home Automation Projects]()

1512. [Perfboard Hackduino Arduino-compatible circuit]()

Never again will you have to dismantle a finished project just to reuse an Arduino board! This tutorial will go through the steps involved in fabricating your own Arduino-compatible circuit using just ~$8 of parts (this includes the ATMega chip!). This is perfect for installing and embedding...... Listed under: [Development Board – Kits Projects](), [Projects]()

1513. [A solar tracking automatic motorized window blind retrofit using Arduino]()
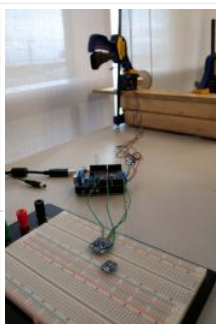
Buildings account for 20-40% of total energy use in developed countries. Window shades (or blinds) can help to reduce building energy use and improve visual comfort (i.e., reducing glare and increasing daylighting). A recent study showed that occupants are fairly inactive when operating manual roller...... Listed under: [Motor Projects]()

1514. [Flashlight tag using an Arduino board]()

You probably know the game of flashlight-tag. You just run around in the dark on a campsite. You hold your flashlight and try to shine it on one of the other kids, without the other kids shining their lights on you. I wanted to make...... Listed under: [Game – Entertainment Projects](), [Projects]()

1515. [Fish Sensing]()
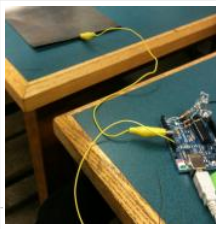
Overview Once again, my project was motivated by my curiosity to explore interesting and unfamiliar territory. I decided to see if I could make my own capacitive sensor and then use it in a project of some sort. After numerous fiascoes with Arduino and computers, I was…… Listed under: [Sensor – Transducer – Detector Projects](#)

1516. [StopIt! LED Game (powered by arduino)](#)

This project was inspired by this video from YouTube and the Pendulum Challenge Kit from Makershed.com. Its a simple game consisting of five LED lights and one pushbutton switch. The LEDs flash in a sequence and the player must press the button when the middle…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

1517. [Arduino 3-axis Mini Lazer Paper-Cutter](#)
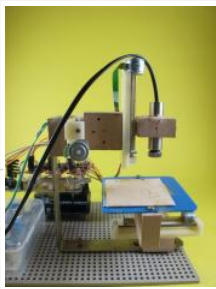
Updated : 16/3 Add step 4, about using the stage. Updated : 18/3 Add photos (cutting vinyl adhesive sheet) Updated : 19/3 Add step 5, acting as pen plotter Updated : 20/3 Add laser engraving video (Wood) and photo Updated : 22/3 Add 2 drawings…… Listed under: [Home Automation Projects](#)

1518. [Arduino: an easier way to work with seven segment displays](#)

Ever have trouble programming code for seven segment displays? Well they made the 4511 to make things a whole lot easier. What the 4511 does is takes a 4 digit binary input value (ones and zeros), and converts it to a decimal value on a…… Listed under: [LCD Projects](#), [Projects](#)

1519. [Buddy the on-screen seal Robot](#)

I've made a video documentation of my midterm project for my 544 class. To keep it shorter, I didn't detail in the video that this is only a completed phase of a larger project: an autonomous robot seal. I was originally going to incorporate a…… Listed under: [Robotics – Automation Projects](#)

1520. [Arduino Joystick Breadboard with LCD Output](#)

Want to be able to control a couple of servos with a thumb-joystick? But don't know where to start? I don't have servos, but I can put you on the right track on how to do stuff when you move the thumbstick around. This instructable…… Listed under: [Game – Entertainment Projects](#), [LCD Projects](#), [Projects](#)

1521. [LilyPad Arduino Stuffed Fox Toy](#)

For a class on technology in libraries, I had to create a project that used the LilyPad Arduino, and I chose to create a stuffed animal that sings "Jesus Loves Me" while lights flash with the notes. I made a fox, but the pattern to…… Listed under: [Home Automation Projects](#)

1522. [PCB on a Box using Arduino Board](#)

Sorry, but I hate cleaning windows, is one of my unfinished business as usual, but I had to do (at least) every time I wanted to etch a circuit board printed by traditional (and perhaps unorthodox) of stick it in cellophane and let natural light…… Listed under: [Development Board – Kits Project Ideas](#), [Projects](#)

1523. [Arduino Candygrabber](#)

I've seen a lot of ways to communicate to arduino over the net, but none of them could handle pushing back the messages from arduino to the client(you) in real time and vice versa. In this instructable you will learn how to connect to your...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1524. [Arduino Hardware PWM for stepper motor drives](#)

With our new project, JustAddSharks, we are very keen to support the development of open source control software for laser cutters. We are more than happy for people to modify our laser cutters, replace the control system with something suitably open source and then let...... Listed under: [Motor Projects](#)

1525. [How to build your very own Time Fountain using Arduino](#)

We have all seen the sweet videos on the tube! You know the magical water fountains that seems to "freeze" the water droplets in mid air, or even make them go backwards! I've been fascinated by these "magical" thingamabobs for quite some while now, and a...... Listed under: [Clock – Timer Projects](#), [How To – DIY – Projects](#)

1526. [MMAE Graduate Robotics](#)

This page provides general information to students enrolled in the EML 6808 course, Analysis and Control of Robot Manipulators. Prerequisites for the course are: EML 4312C, EML 5271, or C.I. Kinematics and dynamics of multibody systems. The topics to be covered include: basic components of...... Listed under: [Robotics – Automation Projects](#)

1527. [Control your motors with L293D and Arduino](#)

After long research and trial and error, I have came up to a new walkthrough regarding this nice chip, the L293D. Each project is one project and each one has its own unique power configurations, so you must be aware of the best battery choice...... Listed under: [Motor Projects](#), [Projects](#)

1528. [Barista championship brewing stopwatch • Introduction using arduino](#)

 Upon the needs of the (2014) World Barista Championship Rules and Regulations, an adequate and precise time measuring is needed during the competition. These measurements are usually done by regular stopwatches with all the benefits (ease of use, common availability) and drawbacks (two stopwatches needed...... Listed under: [Home Automation Projects](#)

1529. [Arduino browser based remote control (linux)](#)

We have kids. I love them to bits but they keep hiding the remote control for the satellite and TV when they put the children's channels on. After this happening on a daily basis for several years, and after my darling wife allowing me to...... Listed under: [Home Automation Projects](#), [Projects](#)

1530. [Tiich System – Prototype Final Report](#)

 Introduction: Our main goal with the Tiich system is to design a teaching aid/tool which would replace the conventional whiteboard in a classroom environment. We want our system to be used as an electronic based white board, having all the written information easily be saved...... Listed under: [Sensor – Transducer – Detector Projects](#)

1531. [Lilypad Arduino Rocket Ship Cape](#)

 I am taking a Children and Technology course for my MLS this semester, and one of our assignments is to create a toy using the LilyPad Arduino development board. The LilyPad Arduino is used to create e-textiles that you can program to do various things....... Listed under: [Home Automation Projects](#)

1532. [Web-controlled Twittering Roomba using an Arduino](#)

 I wanted to see if I could operate my Roomba remotely and get it to report its status via Twitter while I was away from home. I also wanted to make the device independent of a computer. This is the solution I came up with...... Listed under: [Internet – Ethernet – LAN Project Ideas](#), [Projects](#), [Robotics – Automation Projects](#)

1533. [DIY Arduino Nebulophone Synth](#)

 I originally wanted to purchase a Nebulophone but, my El-Cheapo price range didn't like the tag. I realized that I could program my own AtMega 328 by using ArduinoISP Then I found out that if the code was Arduino compatible, why not just use the...... Listed under: [How To – DIY – Projects](#), [Phone Projects](#), [Projects](#)

1534. [Social Alarm Clock](#)

 What it is: Sometimes we want to send special messages to the ones we love but they are sleeping. Soci Alarm Clock allows you to record a message from your browser and send to your beloved's alarm clock. They just have to put it near...... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

1535. [Cookies administrator box [Electronics only] using arduino](#)

At home the cookies disappear relatively fast. ¿Why? Well, principally because of me and my father. That's why my mother and my sister have to hide some to eat them later. It's embarrassing, I know, but it's because we are like "Oh, I want to...... Listed under: [Home Automation Projects](#)
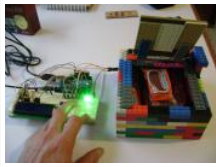
1536. [Arduino Fart-O-Meter](#)

OH NO! He didn't! Yes I did! My project is simple: Farting in a chair and sending the signal wirelessly to a panel that shows the intensity of the fart! Words of caution: Please do not force yourself to fart, you might shit in your…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

1537. [One Touch Wardrobe using an Arduino](#)

I use Arduino Duemilanove With Motor Driver Shield Microcontroller ATmega168 Operating Voltage 5V Input Voltage (recommended) 7-12V Input Voltage (limits) 6-20V Digital I/O Pins 14 (of which 6 provide PWM output) Analog Input Pins 6 DC Current per I/O Pin 40 mA DC Current for…… Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

1538. [Controlling an LED using a switch](#)
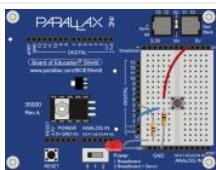
Concepts So you know what a switch is, but what can you do with it? One of the uses of a switch is to tell the controller to activate/deactivate different components. In this case we are going to use the switch to turn on and…… Listed under: [LED Projects](#)

1539. [Nursery Rhyme Hat using arduino](#)

I created the Nursery Rhyme Hat for a class on youth and technology. I'm new to instructables and e-textiles, so please bear with me! This is the first time I have used the Lilypad Arduino or any kind of soft circuit technology, so my coding…… Listed under: [Home Automation Projects](#)

1540. [Rainbow Mega Pong Clock using Arduino](#)

This is my take on the clasic Pong clock with an RGB back light that changes every time the date is displayed. A big thanks to mrnick1234567 and his http://www.instructables.com/id/Pong-Word-Clock/ I did want the light to change randomly through the day but it made a mess of…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1541. [Artist's Machine](#)
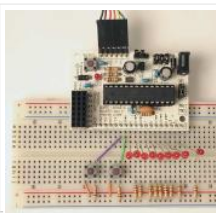
Tutorial 1 Part One Materials needed for tutorial Working BBB, RBBB, Arduino, or other Arduino compatible (BBB shown in photos) Solderless breadboard 22 gauge solid wire for use with breadboard 3 6mm momentary switches 8 LED's, any color 8 1k resistors, (470 ohm or 220…… Listed under: [Video – Camera – Imaging Projects](#)

1542. [LilyPad Arduino e-Reader Case](#)

For a youth and technology class, we were assigned the creation of an Arduino LilyPad project. I liked the idea of connecting the LilyPad project to literacy, so I chose to make a Kindle case that would play music [Hedwig's Theme from the Harry Potter…… Listed under: [How To – DIY – Projects](#)

1543. [NESBot: Arduino Powered Robot beating Super Mario Bros for the NES](#)

This guide will take you through the steps to build an NES playing robot You will need: An Arduino Duemilanove (other boards will probably work, but you will have to adjust the steps for your device) Working NES Console Super Mario Bros. (Note: this must…… Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)

1544. [Arduino V-Twin Flux Capacitor](#)

I SHALL CALL HIM " PEE-WEE " Personal Electronics Entertainment With Embedded Education. Basically a project that is fun and I learn a hole lot of stuff from it. . This project started out as just a small robot so I could learn more about…… Listed under: [Robotics – Automation Projects](#)

1545. [Tweeting Cat Door using an Arduino](#)

Note: to see everything on one page, please go to: www.tweetingcatdoor.com After receiving many emails requesting Instructions and Kits for building the "Tweeting Cat Door ", I decided to make a version that is stand-alone and doesn't need a computer to be run and that…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1546. [The Photometric Camera and the CCDs](#)

The Photometric System The photometric camera for the SDSS consists of two TDI scanning CCD arrays, one, using 30 Tektronix/SITe 2048 x 2048 CCDs in a 5 by 6 array for five-color photometry, and the other using 24 2048 x 400 chips for astrometry and…… Listed under: [Video – Camera – Imaging Projects](#)

1547. [Mechanical Led Matrix Display](#)

First of all we would like to thank everybody that helped organizing the 2nd edition of Arduino Jam, and especially the Jo3ri, who supplied us with some quite cool goodies and kept us safe during the weekend. (Video will come soon!) This project is a…… Listed under: [LCD Projects](#)

1548. [Simple and Impressive Business Card Printer](#)

At some point most tinkerers and makers have to take the plunge into the real world – the world of suits and dividends and business cards. Without going completely "American Psycho" on your asses: business cards are important. In many ways they are our keys…… Listed under: [How To – DIY – Projects](#)

1549. Interactive Logo using an Arduino

first of all we would like to thank the organisation and especially the main sponsor, Capgemini, which made all of this possible. This project is a contribution to the first belgian Arduino Jam (2012). During the Arduino Jam 2012, me and two other colleagues put our heads together…… Listed under: LED Projects, Projects

1550. Vacuum form an Arduino

If you have access to a vacuum former, or have constructed a DIY one to use, simply vacuum form a compact case to house your standalone electronics or arduino project. I made this at techshop! www.techshop.ws Step 1: Bill of materials Material to vacuum form…… Listed under: How To – DIY – Projects, Projects

1551. Scratch 4 Arduino and Cybot Control (Rover basics)

I've had a couple of Cybots as well as the Tom robots for a number of years – every so often they get dragged out and tinkered with. Now is this years turn. I have decided to try my hand at Arduino control of the…… Listed under: Robotics – Automation Projects

1552. [Arduino] Linefollower with photoresistors

I built a linefollower robot that could be used in many different ways, and I summed up my project in some steps. To begin with, all you need is the following parts: Step 1: Robot frame Parts List: -Robot frame -Two wheels -Two DC motors…… Listed under: Robotics – Automation Projects, Sensor – Transducer – Detector Projects

1553. Gas Cap using an Arduino board

Since you've gotten into electronics, haven't you wondered if there is a fart sensor out there? I sure did. I discovered that if you use a methane sensor, especially the MQ-4, even at very low concentrations, it reads farts. What if you combined that into…… Listed under: Game – Entertainment Projects, Home Automation Projects, Projects

1554. CrEST

Let's Set Up Your Arduino and Breadboard! Yep, for real: Let's Set Up Your Arduino and Breadboard! (use the instructions here, or flip to page 12 in your book) Step one: Dig through your kit and pull out your: Arduino Wooden Base Breadboard and Jumper…… Listed under: Other Projects

1555. New animatronic Eyes: Rock On!
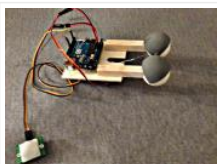
Someone had seen Peter Penguin or my Instructables on Animatronic Penguin Torso or Animatronic Eyes, and was working on a sculpture. He wanted to animate the sculpture when someone walked into the room and asked if I could do it. I thought about it for…… Listed under: Game – Entertainment Projects

1556. Multifunction Digital Thermometer using an Arduino

This instructable will show you how to create a multifunction platform with a thermometer, chronograph (count up timer), count down timer, and light display. It is also intended to be a platform for other analog sensors or any other functions you can think of. Multifunction_Digital_Thermometer.zip71…… Listed under: Projects, Temperature Measurement Projects

1557. [Twitter Controlled Pet Feeder using an Arduino](#)

A great project for busy pet owners. This Twitter-Controlled pet feeder automatically dispenses food in response to activity on your Twitter account. The project is controlled by an Arduino and uses the Arduino Ethernet shield to receive data from Twitter. I hacked this automatic Pet…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1558. [Singing Olaf Bag (Frozen)](#)

For my children and technology class, we were challenged to make a product using a Lilypad Arduino. I am currently obsessed with the movie Frozen, so I decided to create something using one of the most iconic characters of the movie, Olaf. I used a…… Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)

1559. [Arduino MicroControllers, Card Readers, 3D Printing, GS4, Flip Camera!](#)

Episode 3 of AndroidTec, Formed by members thamind (Jon) chaostic (Lewis) & Computer Whiz (Jim) and introducing GuyCothal, who discusses about the amazing abilities of Arduino micro controller boards and how they can be used with Androids! Jason also made a guest appearance!… Listed under: [CNC Machines Projects](#), [Development Board – Kits Projects](#), [Memory – Storage Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

1560. [Randomized Arduino Drum Machine](#)

I like drum machines. However they are not always the easiest to build. I wanted one that is: A. Simple, Yet Powerful-If it uses lots of components then it is too complicated B. Sound-It's not a a drum machine if it "beeps" C. Easily Modifiable-If…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1561. [Arduino Automatic Temperature& Humidity Controller for Pets](#)

Jack and Jose, a pair of beautiful hamster, has accompanied me over 100 days and nights. Their soft white fur makes me quiet and warm, especially when I coding in the winner. But the very tragic things happened in the last week. As the cold…… Listed under: [Temperature Measurement Projects](#)

1562. [9 Volt battery adapter for Arduino](#)

This is super simple but very useful if you are in a hurry or just like to do things yourself and on the off chance you didn't know, this is about the easiest way to add mobile power to your Arduino. After looking at a…… Listed under: [Battery Projects](#)

1563. [Touch Sensitive Audio Desk Trays- Arduino](#)

After having completed my first Arduino project (which can be found here) I wanted to try and create something that had more of a practical use. My idea behind this project was a way of aiding the visually impaired. By the end of this project…… Listed under: [Sensor – Transducer – Detector Projects](#)

1564. [RGB lamp with Custom Moodlamp Library using Arduino](#)

I wanted to have an easily programmable RGB light to toss into a Jack 'O Lantern for Halloween. Who really wants a dull pumpkin in these days of pumpkin pimping madness. So I set to work building a pocket tin sized RGB lamp that could…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)

1565. [Homemade Magic Lamp Card Box using an Arduino](#)

A robot is a virtual or mechanical artificial agent. In practice, it is usually an electro-mechanical machine which is guided by computer or electronic programming, and is thus able to do tasks on its own (http://en.wikipedia.org/wiki/Robot). Well, today you will learn exactly how to build...... Listed under: [Home Automation Project Ideas](#), [How To – DIY – Projects](#), [Projects](#)

1566. [High Five Camera](#)

Can I tell you a secret? I don't like handshakes. I really don't. Handshakes just make me feel dirty. It's too impersonal. It's a gesture with no soul and reeks of a corporate entity. Why must we limit ourselves to this one boring interaction? Of...... Listed under: [Game – Entertainment Projects](#), [Video – Camera – Imaging Projects](#)

1567. [Twitter Mention Mood Light using Arduino](#)
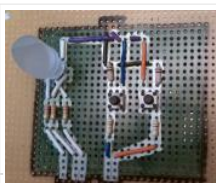
Twitter Mention Mood Light — a mood light that alerts you when @username is mentioned on Twitter. This is a simple intro in how to control your Arduino from Twitter. If you are new to Arduino Twitter / Arduino Processing Twitter / Arduino Python Twitter...... Listed under: [Internet – Ethernet – LAN Projects](#)

1568. [Arduino makes 2D Level](#)
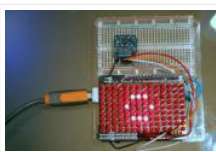
This is a project for Arduino to make a 2D Level, aimed at beginners. Arduino draws a circle on an LED Matrix that moves around according to readings from a 2D Accelerometer. Objectives: * Learn how to draw a circle using simple Maths * Learn...... Listed under: [CNC Machines Projects](#), [LED Projects](#), [Projects](#)

1569. [CSCE 236 Embedded Systems](#)
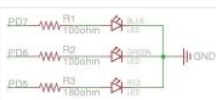
1 Instructions This is a group assignment for you to work on during class. You only need to hand in one copy of this, but make sure that the names of all of your group members are on this sheet to receive credit. Complete all of...... Listed under: [Other Projects](#)

1570. [Arduino Etch-A-Sketch Clock](#)

I've seen various Arduino driven Etch-A-Sketch clocks on the web , but none with instructions (is it some kind of secret? Is someone planning on making it rich in the Etch-A-Sketch Clock global market?). I've used Arduino, but never used stepper motors, real time clocks,...... Listed under: [Clock – Timer Projects](#)

1571. [Blinky Fish using an Arduino](#)
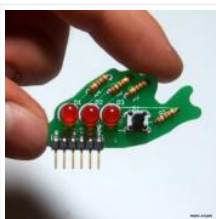
Assembly instructions for an add-on board for the Arduino. **** FOR INSTRUCTIONS FOR MARCH 2013, KICKSTARTER PROJECT GO HERE http://www.instructables.com/id/Blinky-Fish-Kickstarter-Project/ *********** It has some LED's and a button. It connects to digital pins 9-13 and ground. My hope is that this will be useful to people that want to...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)

1572. [Second degree equation solver with Arduino](#)
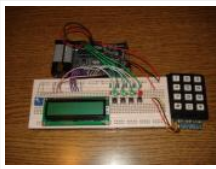
This instuctable is about making sort of a calculator that enables the user by using an analog 12-digit keyboard and 4 buttons to input the a,b,c variables into a equation and get the solution for it if there is any.(well if u don't know what…… Listed under: [Calculator Projects](), [LCD Projects](), [Projects]()

1573. [Home Alert: Arduino + Cloud Messaging On A Large Display]()

In the age of mobile phones, you would expect that people would be responsive to your call 24/7. Or… not. Once my wife gets home, the phone stays buried in her hand bag, or its battery is flat. We don't have a land line. Calling…… Listed under: [Home Automation Projects](), [Internet – Ethernet – LAN Projects]()

1574. [Simple Arduino Book clock]()

This book clock was inspired by florinc and the impresive selection of clocks like the wise clock3 etc http://www.instructables.com/member/florinc/ My girlfriend likes reading books and there is always a pile of them around the house, however to be able to build this for her birthday…… Listed under: [Clock – Timer Projects](), [Projects]()

1575. [DNA Melting Part 2: Lock-in Amplifier and Temperature Control]()

In Part 2 of the DNA Melting Lab you will make revisions to allow greater control of your instrument and to reduce the effects of noise. You will add a pulse-width modulation (PWM) heater controller to enable careful control of the heating and cooling rates…… Listed under: [Temperature Measurement Projects]()

1576. [Control Any Circuit With a TV Remote (and an Arduino)]()

Most of the buttons on a remote control are never used. So why not use them to control appliances and other electronics around your house. In this project, I am going to show you how to use an Arduino to decode the signal from your…… Listed under: [Home Automation Projects](), [How To – DIY – Projects]()

1577. [ElectroFried electronic shock game using Arduino]()

The ElectroFried is a game with a shocking fun level. ElectroFried is developed for the Global Game Jam 2011 in Antwerp in design center the winkelhaak. The Team Jekkos/ Cinezaster decided to make a simple game based on colliding electrons. With a nasty side effect, a…… Listed under: [Game – Entertainment Projects](), [Projects]()

1578. [Reginald: a UDP surveillance bot; control via the Internet using Arduino]()

Reginald started from the simple, yet bold idea to control a bot from anywhere in the world with a live video feed. What I wasn't expecting was for Reginald to develop into an involved, feature rich project. With my work and money, I was able…… Listed under: [Internet – Ethernet – LAN Projects](), [Projects](), [Robotics – Automation Projects]()

1579. [Hacking a Powerglove using Arduino]()

First of all lets get this out of the way… It's so bad This is going to be showing how to hack the Nintendo Powerglove. By hack I mean tap into the flex sensors and use the buttons and d pad and add anything you want. In…… Listed under: [Game – Entertainment Projects](), [Projects](), [Sensor – Transducer – Detector Projects]()

1580. [Chur-Robot]()

Electrical Components The electrical components are the five motors and their associated circuits, the buttons, and the thermocouple. The Circuit We are controlling two stepper motors, three servos, a thermocouple, and a set of buttons using an Arduino. Our final circuit diagram looks like this:…… Listed under: [Robotics – Automation Projects](#)

1581. [Build a Complete AVR System and Play Mastermind using Arduino](#)
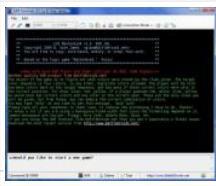
The game Mastermind has been around a long time, and I remember getting a board version with colored pegs when I was a kid. I love this game, as it is solvable simply by pure logic. One player (or a computer/microcontroller) chooses a sequence of…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1582. [Sensor Arduino Lab 2013](#)
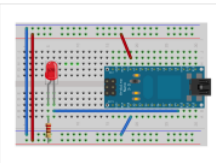
This lab most recently revamped by Edgar Berdahl and Wendy Ju. Chris Carlson, possibly Bill Verplank, and others have likely contributed. For this lab you need your Satellite CCRMA kit, a laptop computer with Ethernet adaptor to program it, and some headphones with a mini…… Listed under: [Sensor – Transducer – Detector Projects](#)

1583. [Universal Remote Laser Tag](#)

Blast away your friends for hours on end with this custom laser tag system. Who needs to pay to play in an arena when you can make your very own game? Best of all, no special equipment is required, because the "guns" are regular universal…… Listed under: [Game – Entertainment Projects](#)

1584. [Arduino from Evil Mad Scientist ATmegaxx8 Target Board](#)

I have been making my own Arduino's on strip-board but recently bought some of the Evil Mad Scientist ATmegaxx8 Target Boards. While they weren't designed as an Arduino board they are perfect to use as they have: – places for the crystal and capacitors (XTL…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

1585. [Computer Controlled Aiming Method](#)

Design: The rotational motion produced by the motor is transformed into linear motion through the use of a standard 1/2″-13 threaded rod as a lead screw. To account for angular misalignments in the rod the motor is not attached to it directly, but rather through…… Listed under: [CNC Machines Projects](#)

1586. [Arduino based Etch A Sketch Laser Cutter](#)

In this project I take an Arduino Mini Pro connect it to a custom made Etch A Sketch panel and use it to control a Blacknose laser cutter. The result is hours of crazy laser cutting fun, which we will be taking round most of…… Listed under: [CNC Machines Projects](#)

1587. [Roll-A-Way Rover using an Arduino](#)

Age Group: 13 – 18 My experimental rover that I built from a Roll-A-Way alarm clock that was on clearance for $5. It can be controlled via the numeric section of a keyboard when the serial port is connected to a computer or a Wii…… Listed under: [Clock – Timer Projects](#), [Projects](#), [Robotics – Automation Projects](#)

1588. [The Pick and Place Machine for Surface Mount Devices](#)

¿What questions need to be resolved? ¿How to recognize the origin of the table? — The table is the piece of the machine where you place your board, and is critical for the pick and place operation. I've thinking in a limit switch system. Will…… Listed under: [Other Projects](#)

1589. [Beginner Arduino](#)
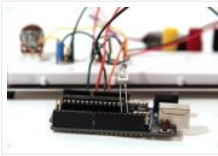
The Arduino is a pocket-sized computer (also called a "microcontroller") that you can program and use to control circuits. It interacts with the outside word through sensors, leds, motors, speakers… even the internet; this makes it a flexible platform for lots of creative projects. Some…… Listed under: [Development Board – Kits Projects](#)

1590. [Design of small scale smart home system](#)
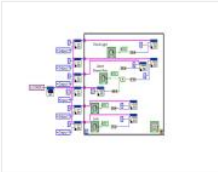
DESIGN OF A SMALL SCALE SMART HOME SYSTEM Gabriel Johnson and Chance Kelsoe INTRODUCTION Design of a smart home system with a LabView/Arduino interface In this project we made use of an Arduino Duemilanove and LabView to design an easy to use graphical interface to represent…… Listed under: [Home Automation Projects](#)

1591. [Arduino WiFi Garage Door Opener](#)

Ever come home in the rain to find the door locked and your keys elsewhere? No? Lucky you then! For those who have had such an experience or never wish to, this project will let you open your garage door with nay but a smartphone/tablet/laptop/WiFi-thing…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)

1592. [Auduino Lo-fi Synth for Arduino](#)

Hello again. Today I'd like to show you the Auduino. That's right, the Auduino is a Lo-fi Granular Synth that works on arduino. It uses some analog pins and a digital pin. I had loads of fun making and playing with it so I'd love…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1593. [Ambient Etch-a-Sketch](#)

We built a pseudo Etch-A-Sketch emulator that modifies its appearance based on the user's environment – the temperature and light conditions. Instead of only drawing horizontal and vertical lines, we can draw curved lines by changing the slope of the current line to be drawn……. Listed under: [Game – Entertainment Projects](#)

1594. [The iDial – Critical Making Personal Identity Augmentation Device](#)

In this critical making project, we will be making a personal iDial, which will give you, the wearer, the ability to reflect on your personal identity in a private space, and then spatially and temporally dislocate your 'private self' into public conversation! You might be…… Listed under: [Sensor – Transducer – Detector Projects](#)

1595. [Using a laser pointer and a matrix LED as a two-dimensional input device](#)

Laser Command is a game which I build using a 8×8 matrix LED and an Arduino Mini. This game was developed as a "sample" class project in S10-05833 Gadgets, Sensors and Activity Recognition in HCI. The class is taught by Scott Hudson at Carnegie Mellon…… Listed under: [LED Projects](#)

1596. [Arduino Model Rocket Launcher for 3D Printed Rockets](#)

When I was a kid, I loved playing with Estes Rockets, so I decided to get back into the hobby but using all of my maker skizzls. So here's a really cool Arduino Rocket Launcher launching 3D Printed rockets from my MakerBot Rep2! Enjoy! Fully…… Listed under: [Game – Entertainment Projects](#)

1597. [LED Super Mario Piranha Plant using an Arduino](#)

We are going to make an Arduino control LED Piranha Plant :] Step 1: What you'll need Arduino Uno 9 Resisters 9 LEDs – Red, Yellow, Orange is best since they need less amperage PIR sensor 9v battery arduino wall plug (you'll be cutting the connection…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1598. [THE CUBE: A 3D Vibration Jigsaw Puzzle](#)
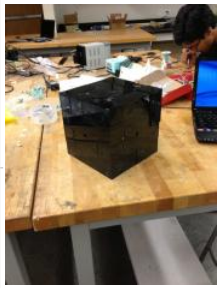
"THE CUBE" is a 3D jigsaw puzzle, with the added feature that a puzzle piece vibrates for approximately a second when it is placed in the correct place in the puzzle. We accomplished this by building an electrical design such that a circuit delivering power…… Listed under: [Game – Entertainment Projects](#)

1599. [DIY handmade Hexapod with arduino (Hexdrake)](#)

Hello, I'm David and in this instructable I'll show how I made this hexapod whose name is Hexdrake. Since I was 16 I became interested in electronic and later in robotics. After getting some level and programming skills using arduino I decided to build a…… Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#)

1600. [Relay Motor Control Circuit](#)

Connect the Arduino outputs with 5 volt power to the relay coils. Use a separate 9 or 12 volt battery for powering the motor. Connect the 9 or 12 volt power to the relay contacts and the motor. Be sure to avoid connecting the 9…… Listed under: [Motor Projects](#)

1601. [NFC Computer Unlocker](#)

Quit pulling your hair out over incorrect passwords. Using an Arduino Leonardo and Adafruit's NFC shield, you can unlock your computer with an NFC card. The Arduino reads the NFC card's unique identifier and once it receives the correct one, it uses the Arduino Leonardo's…… Listed under: [Arduino Programmer Projects](#), [RFID – NFC projects](#)

1602. [Arduino Mini-Shields](#)

This is a set of simple, small form-factor, mini-shields that I created almost by accident. As I made more and more of them, I realized that they could be really useful. What started out as a way to use some spare parts, turned into a…… Listed under: [Development Board – Kits Projects](#)

1603. [Making a program start using a switch](#)
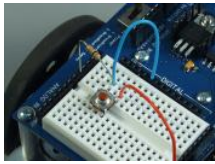
Connecting the Switch To connect the switch to the Arduino, you will need the switch, two jumper wires, and a 10kΩ (brown-black-orange) resistor. Once you have all the required parts, you will need to wire the switch to the Arduino using the breadboard. NOTE: The...... Listed under: [Arduino Programmer Projects](#)

1604. [ArduinoISP Bootloader/Programmer Combination Shield](#)
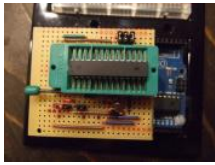
I started recently to get interested in building Arduino based robots. Since it is a traumatizing process to take any creation apart, I am opting to keep mine alive and kicking. To lower the cost of this strategy it seems obvious to switch from the...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1605. [Arduino Light Following Robot](#)

Overview This instructable will use three photoresistors (light dependent resistors) and an Arduino to control the motion of a robot. Any common robot chassis can be used for the robot. The light sensors will be mounted on the left side, right side and front of...... Listed under: [Robotics – Automation Projects](#)

1606. [A wireless voice-controllable household system](#)
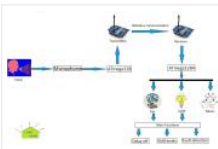
Motivation   top We design a smart home control system which allow people control their home devices by voice command at home. This is a wireless, voice control system. People could control almost all the facilities at home including lights, fans or even back ground music....... Listed under: [Home Automation Projects](#)

1607. [Arduino desktop application on java in LAN](#)

Description: here we have created an java desktop application using neatbeans. this application turn on led on arduino. this application also work in your LAN. Step 1: Assigning MAc and IP to Arduino board UPLOAD THIS PROGRAM TO ARDUINO. ALSO CHANGE YOUR MAC AND IP...... Listed under: [RTOS – OS Projects](#)

1608. [Magpi: The Micro Arduino Gaming Platform Interface](#)

Here's a retro hand-held gaming console I built with my son. It uses an Arduino micro-controller, a small LCD screen, push-buttons, a 3D printed case and home-grown "PC" board. It's really pretty easy to solder and put together. My son & I wrote two games...... Listed under: [Game – Entertainment Projects](#)

1609. [Arduino Double Dice Jewelry Box w/ Secret Switch](#)

This was a fun project. Push the red button, watch the dice " ROLL " then stop on a random roll most every time. The hart of this game is the ATMEL ATmega328P on a stand alone board. Powered by 4 AA NiMD batteries. Can you...... Listed under: [Arduino Programmer Projects](#), [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)

1610. [D.I.Y Pneumatic Linear Actuators](#)
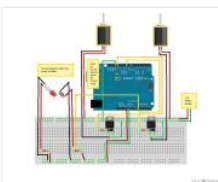
The D.I.Y. movement has many implications for the future of creativity and commerce. The impact of inventing what one needs rather than purchasing it promises to be empowering, fun, and inspirational. In a long term effort to develop dynamic computer controlled surfaces, I began exploring...... Listed under: [How To – DIY – Projects](#)

1611. [Flashing LED Top Tube Pad for your bike using Arduino](#)

Well it's that time of year again. That's right, the sun is going down early, and it's getting hard to avoid logging some miles on your bike after dark. You likely have great lights front and rear already, but what about on the sides of...... Listed under: [Car Projects](), [Game – Entertainment Projects](), [Home Automation Projects](), [LED Projects](), [Projects]()

1612. [Sugarcube MIDI Controller]()

This project is a portable, Arduino-powered, grid-based MIDI controller that boots up into a variety of apps to do lots of things with sound. It has 16 backlit buttons, used as both inputs and outputs to give the controller some visual feedback. 2 potentiometers give...... Listed under: [LED Projects]()

1613. [Fun Shway Display using an Arduino]()

Build a nice looking LCD display with buttons for mounting on the wall. Key Features: 2 line by 24 character LCD display controlled with 4 I/O's (74HC164). Back light control of LCD. 6 Buttons connected to 1 analog pin. LM335 and LM334Z temp sensors. Adjustable...... Listed under: [LCD Projects](), [Projects]()

1614. [Build Your Own Sourcemeter]()
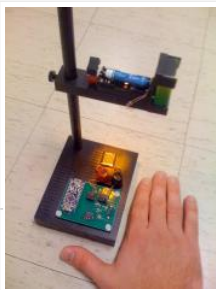
This is an explanation and set of building plans for a USB-powered sourcemeter with a personal computer interface. The sourcemeter uses an open-source Arduino microprocessor and the user interface uses the open-source Processing environment. The sourcemeter was designed as a homemade current-voltage (IV) tester to measure the IV...... Listed under: [Metering – Instrument Projects]()

1615. [Build a Controllable Coffee Roaster from an Air Popcorn Popper]()

I have a passion for coffee. I also have a passion for electrical engineering. Why not combine them? This Instructable describes how I transformed a hot air popcorn popper into a completely controllable coffee roaster! Follow these instructions to re-purpose and hack your West Bend...... Listed under: [Home Automation Projects]()

1616. [Xtreme Buzzwire-4-2 Arduino Jam project]()

This project is part of the Arduino Jam 2012. First of all we would like to thank the organization and especially the main sponsor, Capgemini, which made all of this possible. At the Arduino Jam, during the brainstormsession, we came with the idea to make a classic...... Listed under: [Game – Entertainment Projects](), [Projects]()

1617. [ESM – ExternalSerialMonitor]()

Sometimes I needed an external serial monitor like the Serial Monitor in the Arduino Editor, to see what is going on. So I made one. The first picture shows an example how could be it designed. For the ESM I used an Atmel Atmega328 (based...... Listed under: [LCD Projects]()

1618. [Arduino USB]()

LOG: Made a correction/modification Step 3 and added a picture step 5. So many Arduino users have RBBBs(Really Bare Bones Board (Arduino)) or Anarduinos or Boarduinos that could use a USB interface to program and power them but don't want to spend $15-20 for a…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1619. [Control TV functions using Analog input and Arduino](#)

Have you ever wanted to use a good old knob to control your TV volume instead of repeated button pushing? Or make it controlled by light? Do you want your remote to be replaced by an awesome arduino and let it do the hard work…… Listed under: [Home Automation Projects](#), [Projects](#), [Radio Projects](#)

1620. [DC Motor Control Using an H-Bridge using arduino](#)

Overview In this tutorial, you'll learn how to control a DC motor's direction using an H-bridge. To reverse a DC motor, you need to be able to reverse the direction of the current in the motor. The easiest way to do this is using an…… Listed under: [Motor Projects](#)

1621. [Digital Clock](#)
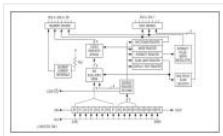
Introduction This design project utilizes an Arduino MEGA2560 with an ATMEGA1280-16AU microcontroller to create a digital clock. The clock will be able to save time when disconnected from power, and it can be powered from a USB connection or from the wall outlet. The clock…… Listed under: [Clock – Timer Projects](#)

1622. [AVR Programming Tutorial](#)
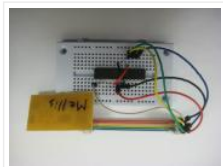
This tutorial introduces programming for AVR microcontrollers. It uses the ATmega328p found on Arduino boards, but works with straight AVR C and a bare microcontroller. It covers the basic information you need to get started, whether or not you've used Arduino or other microcontrollers previously……. Listed under: [Arduino Programmer Projects](#)

1623. [Sound Reactive LED Strip](#)

THERE MAY BE 9 STEPS BUT I PROMISE THIS ONE IS QUICK AND EASY! In this Instructable I will be showing you how to create a light reactive LED system. In this clip, I used a single color LED strip, but you you can use…… Listed under: [LED Projects](#), [Sound – Audio Projects](#)

1624. [Power your Arduino with a Hand-Cranked Battery](#)

If you've ever wanted to power your Arduino or AVR from a battery for development testing (batteries have different power delivery qualities than, say, transformed AC or even a regulated wall wart in DC) testing but were tired of going through batteries (Hey, I admit…… Listed under: [Battery Projects](#), [Projects](#)

1625. [Heat-Seeking Desk Fan (using Arduino)](#)

Summary: The following is a step by step guide on how to make a Heat-Seeking Desk Fan from an Arduino microcontroller, a computer fan, a servo, and an infrared temperature sensor. The device scans the room periodically, automatically pointing itself in the hottest direction (ideally towards…… Listed under: [Home Automation Projects](#)

1626. [Proximity sensing mouse wheel scroller using Arduino](#)

List of tools: 1. Exacto 2. Arduino Nano / USB chord (Mini-B) 3. Dremel / Drill 4. Paper & Pencil 5. Sharp IR Sensor (2Y0A21 F) 6. Hot glue gun 7. Solder gun / Solder 8. A small mirror Ok so you might ask, why...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1627. [Make a Desktop Tamagotchi](#)
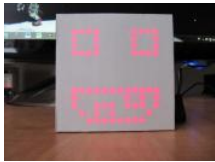
One day I was sitting behind my desk at work and I got that weird need to build something, after looking around for a bit I got my eye on an LED matrix and that sparked an idea in my head : "I WANNA MAKE...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

1628. [Twitter Enabled Text to Speech using an Arduino](#)

Let the world know what you're eating for breakfast with an 80's style vocal synthesizer! This project uses an Arduino to send your Twitter stream to a voice generator chip called the SpeakJet. The setup that I use here can also be extended to other...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sound – Audio Projects](#)

1629. [Microcontrollers: The Basics](#)

Different kinds of computers are designed for different purposes. The computer at the heart of your laptop is optimized for different puprposes than the one in your phone or the one in your mouse. The simplest computers are those that are designed to take inout...... Listed under: [Development Board – Kits Projects](#)

1630. [Arduino Lilypad Slipper Automatic Foot Massager](#)

I made a little automatic slipper foot massager with the Lilypad Arduino and some of the Lilypad Vibe Boards for the actual massager. The sensor it uses is a Lilypad Accelerometer that I'm only using as a basic tilt sensor. Essentially it detects when the...... Listed under: [Home Automation Projects](#), [Medical – Health based Projects](#)

1631. [Holiday Dreidel Light Display for Roof using Arduino](#)

This Instructable details how to build a holiday dreidel display for your roof. It uses coat hanger wire, rope light, and an Arduino controller to control a fading demo mode and a "spin" mode. In the demo mode, the symbols fade in and out, going...... Listed under: [Home Automation Projects](#), [Projects](#)

1632. [John Doherty's Lab Notebook](#)

January 9, 2013 (1 hour): Met as a team after class to discuss preliminary project proposal. January 10, 2013 (2 hours): Met as a team after class to finish writing preliminary project proposal. WEEK 01 SUMMARY Accomplishments: Submitted preliminary project proposal. Weekly Work Total: 3...... Listed under: [Internet – Ethernet – LAN Projects](#)

1633. [Arduino Robot V2 (Fast) Also Voice Controlled](#)

This is my second version of my arduino robot after "Build your first robot". My Second version is slightly complicated as compared to my first one but offers better features. In this instructable I'm going to show you how to build a fast robot which...... Listed under:

[Robotics – Automation Projects](#)

1634. [Breathalyzer Microphone using an Arduino](#)

The breathalyzer microphone is a system for the inconscpicuous collection of blood-alcohol content level data sets. In other words, you can measure a person's sobriety with a device, that for all intents and purposes, looks no different than a standard microphone. This tool adds new…… Listed under: [Medical – Health based Projects](#), [Projects](#), [Sound – Audio Projects](#)

1635. [PowerBox: The Safe AC Power Meter](#)

Introduction We designed a device that measures and graphs various aspects of AC power and acts as a computer-controlled remote switch. With the recent push for green energy and environmental friendliness, more and more people are concerned about their personal daily power usage. We developed…… Listed under: [Motor Projects](#)

1636. [Make an Oscilloscope Using the SainSmart Mega2560 with the TFT LCD shield and the 3.5 "color touch screen](#)

This instructable will show you how to build a portable Touch Screen Oscilloscope for less than 40 U$! The oscilloscope is one of the most powerful electronic instruments that is available to electronics hobbyist, experimenters, and engineers. It is mainly used to measue time-varying signals……. Listed under: [LCD Projects](#), [Medical – Health based Projects](#)

1637. [Robot shield for Arduino Board](#)

The idea behind this post is to bring together some robot designs and trasform them in a new device with new hardware and standard software (arduino of course) and so easier to use. These robots have three things in common: a mechanical structure, the hardware…… Listed under: [Projects](#), [Robotics – Automation Projects](#)

1638. [Small DC Motor Pwm Speed Controller](#)

The photo depicts a speed controller, wired on a breadboard which allows you to vary the resistance in the potentiometer in order to, in effect, control the speed of the small DC motor. The big picture problem is creating an efficient PWM motor controller that…… Listed under: [Motor Projects](#)

1639. [Capacitive Sensing + Open Frameworks + SPACEBREW](#)

This is a step-by-step on how to connect Arduino to OpenFrameworks using Spacebrew. More specifically our project focuses on the awesomeness of Capacitive Sensing to alter OF projections to create an awesome tactile experience! What the process will involve: Arduino -> Processing -> SpaceBrew ->…… Listed under: [Sensor – Transducer – Detector Projects](#)

1640. [Arduino Personal Soundtrack Hoodie](#)

This was inspired by Raj's personal soundtrack shirt in Big Bang Theory S3, E16, "The Excelsior Acquisition". You can now buy them online but it's much more fun to make your own and it's possible now that buttons designed for use in electronic clothing are…… Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)

1641. [Programming an ATtiny w/ Arduino 1.0](#)

This tutorial shows you how to program an ATtiny45, ATtiny85, ATtiny44 or ATtiny84 microcontroller using the Arduino software. These are small, cheap ($2-3) microcontrollers that are convenient for running simple programs. The ATtiny45 and ATtiny85 have eight legs and are almost identical, except that the…… Listed under: [Arduino Programmer Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1642. [Charliexplexed LED Clock – Arduino](#)

One of my clocks stopped working – and it happened to be a clock my wife likes a lot. Went to the repair shop and the guy said that he didn't have the spare parts and could not repair this. So – I thought –…… Listed under: [Clock – Timer Projects](#), [LED Projects](#)

1643. [Star Jar Geiger counter triggered LED decoration using Arduino](#)

This instructable builds on top of the Geiger counter triggered LED decorations I made last year. This version powers the Geiger counter from the Arduino (itself now powered from a mains adaptor, so I no longer need to keep feeding them batteries) and the LEDs…… Listed under: [Calculator Projects](#), [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1644. [Arduino Cat Detector SD Card Logger](#)
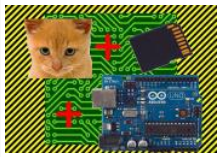
I used: an Arduino Uno a Parallax PIR Motion Sensor and a Seeed Studio SD Card Shield Arduino, shield, sd card, logging shield, storage, logger Check out This instructable on PIRs in case you didn't know what it is: http://www.instructables.com/id/PIR-Motion-Sensor-Tutorial/ Step 1: Connect your PIR…… Listed under: [Memory – Storage Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)

1645. [Physical Computing with Arduino](#)
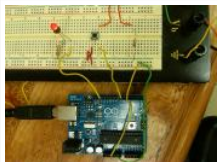
Digital pins 1-7 are generally used as input pins and Digital pins 8-13 are used as output pins. Digital pins 9-11 can be used as analog output pins. That is, they can send they can send signal of variable voltage. 5/15/2012 Getting started with Arduino……. Listed under: [Calculator Projects](#)

1646. [Pi…In A Single Digit using an Arduino](#)
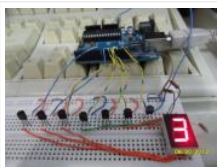
Ah yes. It has been a long time since I posted an Instructable…well here goes: It has been a while since I have been otivated to write an 'ible. During this idle time I have been writing, rewriting and editing code as well as designing…… Listed under: [LED Projects](#), [Projects](#)

1647. [Printer to vinyl cutter hack](#)

Vinyl cutters are used in the sign writing industry, and are great for making stickers, signs and graphics. I would like to thank Instructable members silverjimmy and Groover for their fantastic laser cutter instructables, without which I would not of been able to complete this…… Listed under: [CNC Machines Projects](#)

1648. [Auto reset stuff with Arduino](#)

Have a problem with my wireless bridge. It works for a some time then, despite it saying everything it fine, refuses to connect wirelessly. All it needs is to be turned off and on again and it works again (for a while!). I decided that…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

1649. [Automatically water your small indoor plant using Arduino + pump](#)

Have you ever wanted a little plant to brighten up your desk or home, but you're afraid that you'll forget to water it? Fear no longer! Using an Arduino, a scavenged wall-wart, and a peristaltic pump, you can set up your plant to be watered…… Listed under: [Home Automation Projects](#), [Motor Projects](#)

1650. [Solar Module](#)
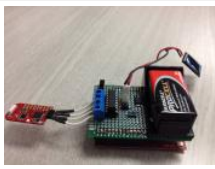
This page maintains the necessary documentation (hardware & software) for recreating the Solar Hardware Module ("Solar Module") using either Arduino UNO or TI Launchpad. Prior to creating the solar module, we performed several experiments using a custom built solar panel fixture. For more information on…… Listed under: [Solar energy projects](#)

1651. [Arduino Vocal Effects Box](#)

This Arduino-powered vocal effects box pitch shifts and distorts incoming audio signals to produce a wide variety of vocal effects. This project is my first experiment with real-time digital signal processing using Arduino. It samples an incoming microphone signal at a rate of about 40kHz, manipulates…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1652. [Momentary Switch as Digital Sensor](#)
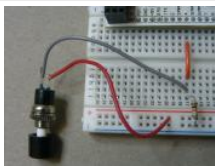
In many cases switches are just switches. They directly control the flow of electricity to an appliance, flashlight or mains-voltage lamp. An example of this is the switch on the wall in your living room. In many cases nowadays however, switches are digital sensors, meaning…… Listed under: [Sensor – Transducer – Detector Projects](#)

1653. [Simple and reasonably accurate pedometer system](#)

Our final project for ECE 4760 provides a simple but effective exercise monitoring system of the user's walk or run. With an increase of the number of health conscious individuals hoping to remain fit, we designed a system that allows the user to keep track…… Listed under: [Metering – Instrument Projects](#)

1654. [Smart Thermal + Arduino](#)

Many times we are faced with a heat containing coffee and don't know if the fluid is at the proper temperature and it is impossible to know just by looking at the bottle ended up losing time with a coffee that is cold and we…… Listed under: [Temperature Measurement Projects](#)

1655. [Bacon Alarm Clock – Arduino](#)

This is a project I came up with that was inspired by my love for bacon! This is an alarm clock that is designed to wake you up with the smell of bacon. With the help of an arduino the alarm clock will already have…… Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

1656. [Arduino controlled webcam panner](#)

This is an instructable to show how to mount a webcam on a servo in a meccano frame and controlling it via an Arduino board. For a while now I was looking to do something more than blinking LEDs with my Arduino. This idea came...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

1657. [Robotic Arm Trifecta (Science Olympiad)](#)
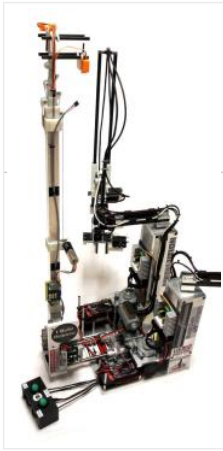
In the fall of 2012, we set out to construct a robotic arm for the Science Olympiad competition that would be capable of performing the required set of tasks efficiently and to perfection. This instructable will attempt to guide you through the thought processes used...... Listed under: [Robotics – Automation Projects](#)

1658. [Arduino FIO Tutorial](#)

Overview The Arduino Fio is a microcontroller board based on the ATmega328P (datasheet) runs at 3.3V and 8 MHz. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 8 analog inputs, an on-board resonator, a reset button, and holes...... Listed under: [Battery Projects](#)

1659. [The Motivational Moody Workout T-Shirt using an Arduino](#)

I call this project "The Motivational Moody Workout T-Shirt" . Basically what I wanted to do was a t-shirt that makes you want to get out in the open and work out. To make that work, I sewed a LilyPad arduino onto a t-shirt and...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

1660. [Self-Balancing Robot](#)

First of all I want to apologize for my English, if you don't understand something, please, ask. I know that a self-balancing robot is not new, but when i started this project i found a lot of information, but never in the same site, i...... Listed under: [Robotics – Automation Projects](#)

1661. [Interface and Application Programming](#)

My sensors have not been functioning too well with my computer, as every time I try to connect the hello.light or hello.mic boards and run python through my terminal, I either get the error "resource busy", or my computer completely freezes! Therefore, I decided to...... Listed under: [Arduino Programmer Projects](#)

1662. [Arduino+Stepper Motor Camera Slider](#)

This is a trial and error / design and development process which I followed in developing a camera slider for creating time-lapse video clips on my DSLR camera. The idea came from using standard Aluminium extrusions I have available at hardware stores, and create a...... Listed under: [Motor Projects](#), [Video – Camera – Imaging Projects](#)

1663. [Urban Sensing Networks using Arduino](#)

Often government data sets available to us online are taken from major nearby metropolitan areas or infrastructural centers. With an easy to follow introduction to new softwares and technologies the "urban sensor kit" allows anyone to obtain location specific information and share that information with…… Listed under: [Sensor – Transducer – Detector Projects](#)

1664. [FINAL Touch sensor with arduino](#)

The tutorials we used. http://www.instructables.com/id/Touche-for-Arduino-Advanced-touch-sensing/?ALLSTEPS http://www.instructables.com/id/Calm-Relaxed-Interaction-Plant-Plus-1/?ALLSTEPS Download arduino software and the processing software. From their respective websites. Processing.org arduino.cc   All of the supplies we used: (we didn't include the water bottle as a sensing object, and used an inductor instead of a coil) Arduino…… Listed under: [Sensor – Transducer – Detector Projects](#)

1665. [RFID touch screen Automated Bar – Barduino v2.0 with Facebook Integration!](#)

Got an Arduino? Like parties / alcohol? Can't be bothered to make your own bar quality cocktails? Make a Barduino! Its back, with new features in v2.0: Facebook integration – Facebook registration Page to track and graph drink consumption Touchscreen with gesture support RFID user…… Listed under: [Internet – Ethernet – LAN Projects](#), [RFID – NFC projects](#), [Sensor – Transducer – Detector Projects](#)

1666. [Stripboard Arduino shield for programming ATtiny45 and ATtiny85](#)
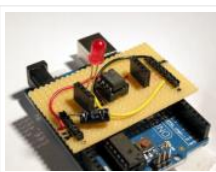
This instructable (entered in the Arduino Challenge contest – you can vote for it above) shows how to make a stripboard Arduino shield for programming either ATtiny45 or ATtiny85 microcontrollers with an Arduino, as per these tutorials from the High-Low Tech group at MIT: Arduino…… Listed under: [Arduino Programmer Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1667. [Schematic Entry and PCB layout](#)
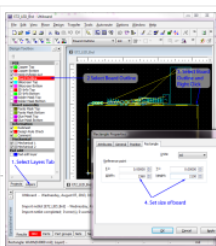
In this lab you will be using a program to enter a schematic and lay out a printed circuit board (PCB) that will then be manufactured. At this point of the semester you don't know enough to design your own circuit, so I am giving…… Listed under: [How To – DIY – Projects](#)

1668. [Binguino: An Arduino-based Bingo Number Generator](#)

Bingo! My granddaughter enjoys playing Bingo, so I went out and bought her a cheap set at a local discount store. The cards and the markers are fine, but the spinner disk for selecting the numbers is a piece of garbage. It flew apart about…… Listed under: [Clock – Timer Projects](#), [Projects](#)

1669. [Intuitive Vibrotactile Feedback Educational Feedback Devices](#)

The goal of the project is to come up with an affordable yet generic vibrotactile feedback device to be used for educational purposes. A chemistry learning environment is developed to demonstrate a specific application of our device, in which users can manipulate ions and feel...... Listed under: [Internet – Ethernet – LAN Projects](#)

1670. [Bird Proof Squirrel Feeder & Solar Powered Camera using Arduino](#)

The Solar Powered-Bird Proof Squirrel Feeder w\ Camera will allow squirrels to retrieve seeds, nuts, and corn kernels without worrying about those pesky birds stealing all their food. While your squirrel enjoys the spoils of your feeder, you'll enjoy lovely digital photos to entertain and...... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)

1671. [Arduino mood lighting](#)

This instructable will show you who to build a rgb lighting system with an arduino. You can also control it with an ipod/iphone/ipad using touchOSC. In my previous instructable I showed how to control one rgb led in this you can control heaps with a single chip...... Listed under: [LED Projects](#), [Projects](#)

1672. [Combination Circuit for Digital and Analog](#)

Goals Understand the Analog Signals and use your knowledge to program your Arduino and let it play music Get known of the Seven-segment display and use your Arduino Board together with the Shift Register to control the number. In the Second Week you will be...... Listed under: [CNC Machines Projects](#)

1673. [LilyPad Arduino Sensor Demo Mat](#)

This tutorial shows you how to create a sensor demo mat for the LilyPad Arduino. I wanted a place where I could experiment with the different sensors, but also something that I could use to show examples of what can be done without constantly uploading...... Listed under: [Sensor – Transducer – Detector Projects](#)

1674. [Build Your Own BARBOT using Arduino](#)

Ever wanted a robotic liquor server? I purchased a Lynxmotion robotic arm last year and an Arduino (deci) to play around with. I had it serial controlled with a joystick and it was a great way to start in robotics. More recently I wanted to...... Listed under: [Robotics – Automation Projects](#)

1675. [Highly maneuverable search and rescue robot](#)
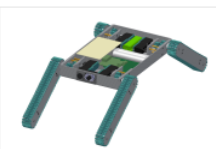
Finalized Prototype Shown below is the finalized prototype. The purpose of the prototype was to demonstrate the feasibility of a small, highly maneuverable search and rescue robot. As such, the completed prototype was successful. Capabilities include a ground speed of 10 inches per second, battery...... Listed under: [Medical – Health based Projects](#), [Robotics – Automation Projects](#)

1676. How to make and use the arduino as an Isp for an ATtiny85

In this instructable I will show you how you can make your own Atting programming shield for the arduino and then use the arduino as a programmer. Usually If you don't have a shield you can do a breadboard version to program the ATtiny. (Step1)...... Listed under: Arduino Programmer Projects, Projects

1677. DIY Super Bright LED Skate Lights
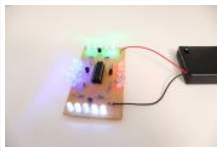
You might remember my first set of lights that I put on my dad's skates. Well those weren't bright enough and they were a lot of work because I didn't know how to make PCBs. In this i'ble I'll cover how to make your own...... Listed under: LED Projects

1678. Interactive LED box

Project Goal The goal of this project is to create a low resolution display of graphical art that interacts with people who are handling it. My basic idea is to create such a "magic box" with a LED matrix on one side. It should be...... Listed under: LED Projects

1679. Brushless Gimbal with Arduino

This is a Spring 2014 Electronics project at Pomona College created by Andreas Biekert and Jonah Grubb. Thanks to Professor Dwight Whitaker, Tony Grigsby and the Pomona Physics Department. Our goal with this project was to create a 2 axis brushless gimbal controlled solely by...... Listed under: Video – Camera – Imaging Projects

1680. Biometric Sensing Computer Mouse

In the past five weeks, we have considered and built three projects, ranging from: optical sensing, electromyography (EMG), and galvanic skin response detection. Initially, our project was using an optical sensor and EMG to detect finger movement for applications, such as: playing piano and Morse...... Listed under: Sensor – Transducer – Detector Projects

1681. BabyTrackr
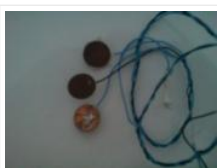
I found a pressure sensor matrix that we could adapt to a pressure sensor patch on the stomach of the women in labor on this webpage (see below). It gives instructions how to build a pressure sensor by using two pieces of cloth and conductive...... Listed under: Medical – Health based Projects

1682. Custom Arduino Shield and Sensors

Overview: This instructable will construct a series of custom sensor modules and an Arduino shield. Such modules are available from many different sources, but fans of the Instructables website would probably find satisfaction in making their own. Each module will be a set size of...... Listed under: Sensor – Transducer – Detector Projects

1683. [How To Make The Easiest Breadboard Arduino-Compatible Sanguino-Equivalent](#)
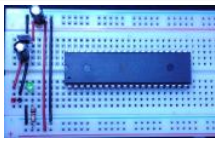
Okay so the Title is indeed a bit of a mouthful lol ! Ive been needing to mess around with a desire for MORE Input/Output pins than the Arduino UNO and nowadays the UNO uses an Atmega328 microcontroller, & its limited to only about 20...... Listed under: [Development Board – Kits Projects](#)

1684. [Head Mouse – Game controller or disability aid using Arduino](#)

My kids wanted to have a head controlled mouse for playing Minecraft – they wanted to move their heads and have the field of view move. I decided that was a challenge I couldn't resist, so I decided to build a movement controlled mouse using...... Listed under: [Game – Entertainment Projects](#), [Medical – Health based Projects](#)

1685. [Build Your Own Arduino Web server](#)

The Arduino Ethernet Shield is a sweet toy!!! Everybody, from the beginner who got their Arduino yesterday and hasn't slept since, to the hard core pro who learned c as a second language, can learn how to use the Ethernet Shield and have lots of...... Listed under: [Arduino Programmer Projects](#)

1686. [Connect 4 Binary Clock using an Arduino](#)

Welcome ladies and gents! As an entrepreneur, I'm always looking for great projects to share. Myself and two other classmates recently put together a project for our Master's of Engineering program in Technical Entrepreneurship, and we're thrilled to share our vision with you. Remember that...... Listed under: [Clock – Timer Projects](#), [Projects](#)

1687. [Speech-controlled Game Boy Advance using arduino](#)

This is a project I worked on for my electronics class at Pomona College. Thanks to Professor Dwight Whitaker and Tony Grigsby for their help and guidance throughout this project, and credit to Jonathan Wong for the idea for this project! Also, here's a list...... Listed under: [Game – Entertainment Projects](#)

1688. [Sign Language Translator using Arduino](#)

First of all, this project is not finished. We're still trying to improve and fix some problems. Right now, we're only able to translate letters from "A" to "E". The program still have problems while identifying those letters, the values for each of them match...... Listed under: [Other Projects](#), [Projects](#)

1689. [AC Dimmer Circuit: 46](#)

Green wire is zero_cross signal, goes to Arduino digital pin 2 in. Yellow wire is light dimming signal, comes from Arduino digital pin 11. The LED on board should dim or fade along with the AC light source. Fading will not work until AC power...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1690. [Extra inputs for Arduino with a keyboard](#)

The Arduino is perhaps the coolest thing on earth. There are many types, the Uno, the Mega, the Pro, the Pro Mini, etc. etc. But one thing that often can be a problem is that you only have a limited number of inputs and outputs....... Listed under: [Game – Entertainment Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1691. **Motion Sensing Digital Camera & Alarm using Arduino**
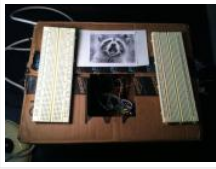
Welcome to my instructable on how to make an Arduino-controlled motion sensing camera and alarm! The motivation behind this project, which I worked on in my electronics class at Pomona College, was the need to keep away varmints (particularly raccoons) that were digging up my...... Listed under: Sensor – Transducer – Detector Projects, Video – Camera – Imaging Projects

1692. **Easy Electronics Organization using Arduino**

Like many other electronic enthusiasts I need to have a constant supply of materials in order for us to keep building, hacking, or just playing around with electronics. However as probably any of us have come to realize we need a lot of space and...... Listed under: Home Automation Projects

1693. **A Planar 2-DOF Haptic Device for Exploring Gravitational Fields**

For our project, we built a planar, 2 degree-of-freedom haptic device for educational use. The design is based on a 5-bar mechanism. We wanted to build a device that would have the versatility to teach various concepts, but would still be relatively affordable (as the...... Listed under: Sensor – Transducer – Detector Projects

1694. **Make a Musical Bench using Arduino**

The Musical Bench is an exhibit which makes music when people touch, kiss, or hold hands. It uses a micro-controller to detect changes in resistance, via the copper armrests, and plays high or low notes depending on how much current flows through you and a...... Listed under: Sound – Audio Projects

1695. **Portable Haptics System Hardware**

Mobile Phone There is a wide selection of mobile phones on the market. For our development, we chose Nokia 6210 Navigator due to its ability to run Java, accompanied by Bluetooth communication, and its small form factor. The phone mainly acts as a remote control...... Listed under: Sensor – Transducer – Detector Projects

1696. **Robo-Mobile – A Homemade Bluetooth Robot using arduino**

Background This robot is one I built to learn. Before this project I did get my feet wet with a few small scale Arduino projects like an ultrasonic robot, (that would move backwards until it was a certain distance away from the wall,) and I...... Listed under: Robotics – Automation Projects

1697. **Knockdown Warning Indicator (Redux)**

This week I continued developing a device that warns of the potential of a knockdown – the process by which an over-canvassed sailing ship is lain over on her beam-ends during a squall. The potential for sinking at this point is high, especially if there...... Listed under: Security – Safety Projects, Sensor – Transducer – Detector Projects

1698. **Smartphone controlled Arduino tank using Annikken Andee**

Hi guys, I am Robin, one of the developers of Annikken Andee. Just a few weeks back we were invited to be a part of Arduino Day Singapore 2014. On the day of the event, we showcased a missile-firing lego-crushing smartphone controlled Tank built using…… Listed under: [Phone Projects](#)

1699. [Bitcoin Price Ticker (almost) from scratch using Arduino as ISP](#)

Hello everyone! I decided to create this tutorial on how to make a Bitcoin Price Ticker. Well, this is only a prototype and I will make a smaller edition with a more pleasant design and some other features at a later time. However, this serves…… Listed under: [Internet – Ethernet – LAN Projects](#)

1700. [Machine Design](#)
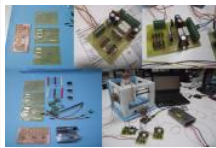
The assignmente for this week is to automate the machine assembled two weeks ago. For this Roxanna milled the Arduino's shield for controlling the steppers, but Alejandro found that we haven't all the components for stuffing, specially the A3982 – stepper motor driver, so as…… Listed under: [How To – DIY – Projects](#)

1701. [Tracking Cat Eyes via Kinect using Arduino](#)

This instructable was made as part of the CS graduate course "Tangible Interactive Computing" at the University of Maryland, College Park taught by Professor Jon Froehlich. The course focused on exploring the materiality of interactive computing and, in the words of MIT Professor Hiroshii Ishii,…… Listed under: [Game – Entertainment Projects](#)

1702. [Simon Game](#)

High Level Description: For part 3 of the lab, our group decided to build a "Simon" game. Our game setup uses 3 buttons and 4 LEDs. Each button corresponds to one LED and the 4th LED is used to indicate an error. The game starts…… Listed under: [Game – Entertainment Projects](#)

1703. [Musical Exercise: Workout Shirt MP3 Player Powered by Exercise using Arduino](#)
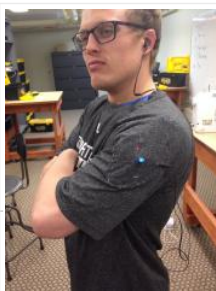
People love listening to music while exercising. Music provides the motivation needed for individuals to keep exerting energy and get in shape. So, because people enjoy listening to music while exercising, what if an MP3 player only played an individual's music while they are active?…… Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)

1704. [ANDROID BASED ROBOTICS](#)

While the field of robotics is continuously expanding at a remarkable rate and better performing robots are created every year, robotics still remains out of reach for many students and researchers. The main reasons for this difficulty are the high complexity of the hardware and…… Listed under: [Robotics – Automation Projects](#)

1705. [Bird Feeder Monitor using Arduino](#)

This is a project to monitor the number of birds that visit my bird feeder, as well as record the amount of time spent feeding. I used an Arduino Yún and a capacitive touch sensor, Adafruit CAP1188, to detect and record the birds feeding. On…… Listed under: [Home](#)

[Automation Projects](#)

1706. [5x5x5 LED Cube – Orientation Independent 3D Display](#)
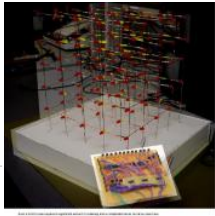
Introduction   Our project, in one sentence, is an orientation independent 3D LED display. We were inspired by various videos on youtube of similar cubes but also by the idea of creating an interactive 3-dimensional display. We built a 5x5x5 LED cube display and controller...... Listed under: [LED Projects](#)

1707. [Talking Arduino Heart Rate Monitor](#)

My partner and I wanted to make heart rate monitor that does more than simply measure a user's heart rate. Our heart rate monitor talks! Each button gives a verbal description of its functionality and makes the measurements visible on the screen. This monitor will...... Listed under: [Medical – Health based Projects](#)

1708. [SoundBox](#)

Group #1 Avneesh Sarwate (asarwate@) John Subosits (subosits@) Joe Turchiano (jturchia@) Kuni Nagakura (nagakura@) Yaared Al-Mehairi (kyal@) Ideas and Sketches   Squat Coach – Detects the depth of your squats and assesses your form. Flex sensor is positioned to run up the back of knee...... Listed under: [Sound – Audio Projects](#)

1709. [Digital I/O with Arduino Boards](#)

Readings in Physical Computing Ch 6. pgs 87-136 (this week and next week) Ch 7: Serial Communication [137-143; 149-150; 153-161] Before the lab You should have already successfully installed the Arduino environment on your laptop, built the LED circuit, and successfully load/run the "blink" program to...... Listed under: [Development Board – Kits Projects](#)

1710. [The Creepy Doll using Arduino](#)

Here at Mikamai, we often organise events and hackathons. After the last hackathon, someone left an old doll, and it was kinda creepy... so why not make it even creepier? I decided to put two red LEDs instead of the eyes, and a vibration sensor...... Listed under: [Game – Entertainment Projects](#)

1711. [Capture the image of a falling object](#)
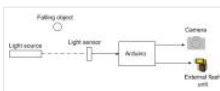
The aim of this project is to create a setup to capture the image of a falling object or any object in motion at a precise time using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I...... Listed under: [Video – Camera – Imaging Projects](#)

1712. [Catchin' time using Arduino](#)

This tutorial will show you how to build an interactive toy for children. This toy wants to give a boost to children to move and play with friends at home or in a park, instead of watching TV and playing videogames. Catchin' time is a...... Listed under: Game – Entertainment Projects

1713. Sleep n' Tweet

Step 1: The Sleep n' Tweet Now I am lucky enough to work at the greatest company in the world as a University of Waterloo, co-op student. It might not even be a company you've heard of yet. They're named Upverter and we are trying...... Listed under: Home Automation Projects, Internet – Ethernet – LAN Projects

1714. Password access with arduino

~~ The complete kit for this tutorial is now for sale at www.razvantech.com   Get one! ~~ This instructable will show you how to make a pass-code lock system using the Arduino Mega board. Whenyou type the right code, an LED lights up an the servo...... Listed under: Security – Safety Projects

1715. Make your pet dishes tweet

You give your pets everything: Food, water, a home, toys, and love. Why not give them a twitter account? This project allows you to monitor your pets' eating habits and receive alerts when their supplies are low. It's also a cute, fun way to learn...... Listed under: Internet – Ethernet – LAN Projects

1716. Animatronic Green-Winged Macaw Papercraft
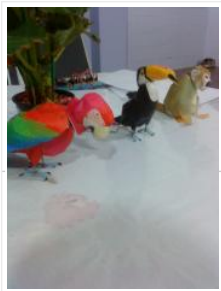
Hello everybody! This macaw was part of a work of biology at the college of my daughter, who was attempting to educate people not to buy wild animals. This beautiful animal, natural tropical forests of South America, is highly coveted by smugglers. In captivity, unlikely...... Listed under: Game – Entertainment Projects

1717. AlarmingTweet

This project will add tweeting capabilities to the GE 45142 Choice-Alert Wireless Control Center Alarm system. The alarm system allows you to connect up to 16 different sensors across 4 zones and with the addition of the Arduino powered AlarmingTweet you can enable it to...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1718. Maze Solving Robot

In this instructable I will be showing you how to build a maze solving robot. This is actually my 3rd attempt at making one. The first was a complete failure. The second was alright at finding the end of the maze, but it could not...... Listed under: Robotics – Automation Projects

1719. USB Mouse Made Out Of A Wii Nunchuck

This instructable will describe how to convert a Nintendo Wii Nunchuck controller into a USB 2-button mouse using a Teensy USB. The Teensy USB is a very user-friendly development board that can be programmed in an Arduino environment. The Teensy USB development board and necessary...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1720. [Reddit Controller, USB Upvote/Downvote button](#)
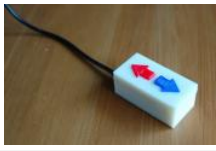
Not too long ago I saw the "Awesome Button" video on the Make Magazine podcast. In the video Matt Richardson shows how you can take a Teensy development board and turn it into a simple USB keyboard. In his example everytime a button is pressed…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1721. [Electric Turtle Robot](#)

Be sure to check out my new instructable , the 'little Tank'! Really nice tracked design complete with cut files! update: I've had so much response on this instructable, thanks to all. If you end up making one, please let me know! I'd love to…… Listed under: [Robotics – Automation Projects](#)

1722. [LED Microcontroller Debug Module](#)

When it comes to debugging a microcontroller circuit, there aren't a lot of simple options. Since a microcontroller circuit might have multiple things going on at the same time, measuring voltages with a DMM isn't an option. Using an computerized In-Circuit-Debugger solution is expensive and…… Listed under: [Development Board – Kits Projects](#), [LED Projects](#)

1723. [Wise Clock 3 – Arduino-based geeky alarm clock](#)

Wise Clock 3 is an open-source, highly hackable geeky clock that shows a lot more than the time. Its main function is to display user-editable quotations retrieved from an SD card (like those used in photo cameras). In addition, Wise Clock 3 can show the…… Listed under: [Clock – Timer Projects](#)

1724. [Giant Leaf Planetarium](#)
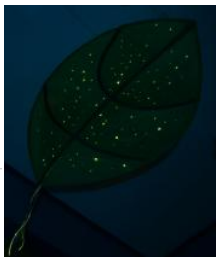
Have you ever wanted a mini-planetarium for your room? Well now you can! This instructable will help you create a fairly portable planetarium leaf that you can put over a bed, a couch, or anywhere else in your house. All you need is an IKEA…… Listed under: [Game – Entertainment Projects](#)

1725. [Universal Gripper – Syringe Powered](#)

The "universal gripper" developed by researchers from Cornell University, the University of Chicago, and iRobot inspired me to create my own version. The YouTube video is quite impressive. The gripper can form around very asymmetrical and smooth shapes and still pick up the object. I…… Listed under: [Robotics – Automation Projects](#)

1726. [Arduino Project Board](#)

The Arduino Project Board is basically a board to transer your ATMEGA168/328 to when you have completed your project and no longer need to use the Arduino as a development board. Simply transfer the programmed chip from the Arduino board to the Arduino project board…… Listed under: [Development Board – Kits Projects](#)

1727. [Turn your Arduino Uno into an USB-HID-Mididevice](#)

While building an Arduino Uno based Midi-Controller for Ableton Live, I came across the HIDUINO project (http://code.google.com/p/hiduino/). It allows you to turn your Arduino Uno (or any other device using an AVR-USB chipset like the 8u2) into a driverless HID/Midi device. It's much…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sound – Audio Projects](#)

1728. [Rave Rover – Mobile Dance Stage](#)

Rave Rover was designed and built to be a portable dance platform for parties, raves, and any other trouble we can get into! I will go into as much detail as I can explaining the entire build process, and where to find parts and other...... Listed under: [Game – Entertainment Projects](#)

1729. [How to hack EEG toys with arduino](#)

i had heard a few years back about the ability of hooking up toy EEGs so you can interface them with your computer. I was reminded of this for a project i wanted to do for a class (instructable coming soon ;-)), and i also...... Listed under: [Game – Entertainment Projects](#)

1730. [Building a Portal Turret with motion controlled audio and lighting](#)

In this Instructable I'm going to show you how I went about building my very own life size talking Portal Turret from start to finish. This is a fairly in depth project that will cover every stage of construction and all the techniques I used...... Listed under: [Sound – Audio Projects](#)

1731. [Pan/Tilt Motion System for Control Education](#)

Pan/Tilt Motion System for Control Education Ricardo G. Sanfelice, University of Arizona Project supported by Mathworks Website developed by Colin Lasharr, University of Arizona   Contents Introduction Instructions for Building the System Installation Instructions The Arduino Board Simulink Initial Parameter Identification System Identification for Zenith...... Listed under: [Arduino Programmer Projects](#)

1732. [Hack the Nabaztag using Arduino](#)

This is a Nabaztag – Armenian, apparently, for "hare". It's an adorable bunny rabbit packed with sensors and communication devices.... and it's completely unusable. There's people who wrote some interesting software to hack it, and I applaud them: however, I could never actually get my...... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)

1733. [DIY Parking Sonsor using Arduino](#)

The last time I was home visiting my parents I noticed bumper imprints caused by my mother suburban on the stairs leading up from the garage. Their garage it turns out is just barely long enough to fit their gigantic vehicles. So I decided it...... Listed under: [Car Projects](#), [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

1734. [Using Mozzi Library with 5 potentiometers using arduino](#)

Getting Started The goal of this project was to create filters and controls to that can manipulate sound that is being generated through an Arduino. Normally Arduino can only generate simple tones that are not useful if you are trying to achieve complex sounds and…… Listed under: [Metering – Instrument Projects](#)

1735. [Arduino Quilting Machine](#)
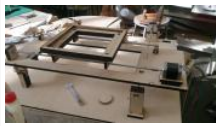
The Arduino Quilting Machine combines the mechanics of a sewing machine, CNC technology and Arduino as an operating system. The project is designed to translate a vector file from a computer into G-code and subsequently into Arduino language which then moves the machine. The project…… Listed under: [CNC Machines Projects](#)

1736. [Diy Xbox wireless controller adapter for Pc](#)

This instructable will go over the steps to connect a RF module from an RROD xbox to your computer so you can use a wireless controller with your computer. ******DISCLAIMER******* DONT TRY THIS IF YOU DONT HAVE ANY EXPERIENCE WITH ELECTRONICS/SOLDERING OR COMPUTERS IM NOT…… Listed under: [How To – DIY – Projects](#), [Internet – Ethernet – LAN Projects](#)

1737. [Make a digital "meow" from analog clock using arduino](#)

Is your analog clock just not doing enough stuff? Want to do digital things with an analog clock? This tutorial will show you how to make a Kit Cat Clock play a "meow" sound clip, at precise time intervals, using the Atmega 328P-PU via the…… Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

1738. [DIY Telepresence Documentation](#)

This is the documentation page for the Spring 2012 DIY Telepresence project. Here you will find schematics, software, and guides for the robot. The goal of the project was to design a low-cost, easy to build telepresence robot. Some of the features include: Segway based…… Listed under: [Robotics – Automation Projects](#)

1739. [Total Recall- Arduino Simon Says on steroids](#)

Total Recall is a Simon based game for the Arduino. Your basic Arduino Simon Game consists of 4 buttons, 4 LEDs, an Arduino, some code and maybe a speaker and sound effects. Total Recall takes things a step further by adding an LCD display and…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

1740. [Voice Activated LED Lighting with Arduino](#)

This project is an extension to the Speech Recognition with Arduino by leandro4b (http://www.instructables.com/id/Speech-Recognition…). However, instead of using 3 separate colored LEDs, I used a multicolor 4-channel RGBW LED Emitter. I had the opportunity of working at LED Engin last summer, which is why I…… Listed under: [LED Projects](#)

1741. [The Wondrous Weather Cube](#)

We created an Internet-enabled companion cube for your computer, which displays different kinds of information by glowing red or green. Depending on its orientation, and which labeled face is oriented upwards, our companion cube displays either stock readings of the NASDAQ or the outside temperature...... Listed under: Home Automation Projects

1742. Laser Pointer Switch using arduino

This instructable will detail how to make a switch that uses an arduino to sample light. When the light sample reaches a threshold it will trigger a relay that can be used to turn on/off a small appliance (light, radio, fan, etc...) The parts for...... Listed under: Home Automation Projects, Interfacing(USB – RS232 – I2c -ISP) Projects

1743. FabECG: a simple electrocardiogram board
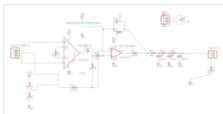
Technologies for rudimentary physiological sensing are getting cheaper and easier to implement. Consider, for instance, these non-contact sensors from UCSD which can be used to take an EEG through hair or an ECG through a T-shirt! One can even make a simple oscilloscope to digitize,...... Listed under: Medical – Health based Projects

1744. Arduino controlled Rotary Stewart Platform

This instructable is about building a Rotary Stewart Platform. It allows to position its moving platform in six degrees of freedom. This specific platform is designed to be able to position a DSLR or any other digital camera. This version of Stewart Platform uses instead...... Listed under: Video – Camera – Imaging Projects

1745. DC motors Relays

Let's get the math over right off the bat. There are a LOT of attempts to describe how Ohm's Law works, each one nerdier than the last. Here' one I like. Warning: SFWBN (safe for work but nerdy). V = voltage measured in volts -...... Listed under: Motor Projects

1746. ATtiny85 POV Display using arduino

The first time I saw a POV (Persistence Of Vision) display was on a show called FAQ on TV. The POV display consisted of an oscillating shaft with 6 LED's mounted on the end of the shaft. Since then I have always wanted to make...... Listed under: LED Projects

1747. making art interactive

Unfortunately, due to my need to reclaim my arduino and breadboards, we don't have photographic documentation of our circuit. However, the structure of it was rather self-evident. Although we arranged the circuit in a such a way that we could program other functions, but we...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Phone Projects

1748. Control Keyboard & Mouse Android app via Arduino
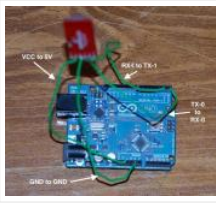
This instructable will show you how to control your computer's keyboard and mouse with an Android app via bluetooth to an Arduino BACKGROUND Ever wanted to control your computer's mouse/keyboard functionality without having to actually sit in front of it? I do all the time....... Listed under: [Arduino Android](), [Internet – Ethernet – LAN Projects](), [Projects]()

1749. [Augmented Water using arduino]()

The Augmented Water device helps you save water by turning red after one Liter. The device, built by @tamberg during a water hackathon, is made from an Arduino, a flow sensor and coloured LED pixels. Video https://www.flickr.com/photos/tamberg/14346321456/ (thanks kiilo) In case you want to build...... Listed under: [Home Automation Projects]()

1750. [Blind Maze Navigation using 2-DOF Haptic Joystick]()

The domain of haptics has immense potential as a technology to assist visually-impaired individuals with their navigation of the physical world. In this project, we sought to develop a 2-DOF haptic joystick to provide force-feedback to a user as she attempts to navigate a maze...... Listed under: [Game – Entertainment Projects]()

1751. [Temperature Displayed on 4 Digit 7 segment using Arduino]()

In this project I'll display the temperature in a 4 digit 7 segment display (common anode). The sensor is the cheapest you can find so actually the temperature changes pretty easily which makes the display to show always different temperatures. But the idea is to...... Listed under: [Projects](), [Temperature Measurement Projects]()

1752. [A compact, Arduino altimeter for RC Planes]()

Please vote for this Instructable if you think it deserves it! Thanks! The Ultimate Altimeter is a super-compact, Arduino controlled altimeter capable of measuring the altitude with an accuracy of 0.3 meters, and saving the highest and lowest values it has measured. It is powered...... Listed under: [Interfacing(USB – RS232 – I2c - ISP) Projects]()

1753. [Wiring Harness for the LCD Panel]()
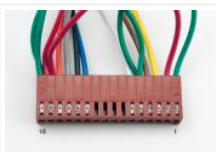
Assembly of the Female Connector Block The wiring harness has a male and female end. The gender of electrical and mechanical parts is described on this Wikipedia page. The header pins that are soldered into the circuit board for the LCD panel are plugged into...... Listed under: [LCD Projects]()

1754. [Android Accessories Made Easy With Arduino]()

The Android Open Accessory Protocol makes it possible for you to create custom Arduino-based accessories for your Android phone or tablet. Attend this session to learn how to get started, the hardware & software required and how Handbag makes development easier. Content will be useful...... Listed under: [Arduino Android](), [Internet – Ethernet – LAN Projects](), [Projects]()

1755. [Huge Arduino Animatronic LED Eyeball using arduino]()
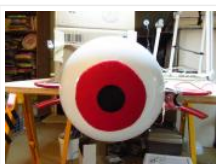
I'm currently in the process of making a Halloween contraption that has a few components that are worth documenting. The Huge Arduino Animatronic LED Eyeball is one of them. Background Most animatronic eyeball projects that I found were more or less life-size. They were usually...... Listed under: [LED Projects]()

1756. [Brain-Computer Interface]()
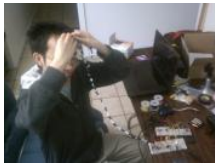
Introduction Our goal was to build a brain-computer interface using an AVR microcontroller. We decided that the least invasive way of measuring brain waves would be using electroencephalography (EEG) to record microvolt-range potential differences across locations on the user's scalp. In order to accomplish this,…… Listed under: Medical – Health based Projects

1757. Happy Androids with Arduino Video instructions

Arduino + Android Normally smartphone events are tightly coupled to your phone device itself. When your cell phone is ringing, your phone speaker plays a ringtone. When you get a new text message, your phone displays it on its screen. Wouldn't it be thrilling to…… Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

1758. Hack an old iPod using an Android and an Arduino

This tutorial shows you how to use an Arduino to turn that old dusty music player into a Bluetooth controlled docking station. Even if it has a cracked screen or a dead battery it can still be used. The following instructions will show you how…… Listed under: Arduino Android

1759. Finalized Prototype

Shown below is the finalized prototype. The purpose of the prototype was to demonstrate the feasibility of a small, highly maneuverable search and rescue robot. As such, the completed prototype was successful. Capabilities include a ground speed of 10 inches per second, battery life of…… Listed under: Development Board – Kits Projects

1760. Line Following Robot using arduino

This is a Line Following Robot. It follows a black line that is drawn. It is able to detect the black line through one photocell and one analog light sensor. There is an LED in between the two sensors that gives off red light when…… Listed under: Robotics – Automation Projects

1761. AC Dimmer Circuit
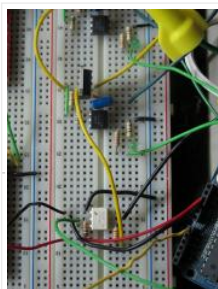
Overview Simple AC Dimmer circuit for incandescent bulbs. 128 levels of brightness. Parts are relatively cheap! How it Works This is an AC Chopping Circuit. The dim level sets where the AC waveform gets chopped on. More of the cycle makes the bulb brighter, less…… Listed under: Development Board – Kits Projects

1762. Traffic Signal Wiring with Arduino Controller

I always wanted an old traffic signal and finally got one recently. However, it was very simply wired so that all the lights were fixed on. What fun is that? I also wanted to try out an Arduino controller and thought this would be a…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Other Projects, Projects
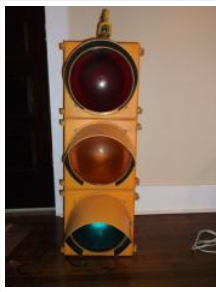
1763. [Make a High-Altitude Balloon Tracker (Arduino)](#)

One of the coolest projects I have done so-far with my kids is a "near-space" balloon. That's not quite into space itself (100Km+) but so high that the sky looks black and you can start to see the curvature of the earth below you. The…… Listed under: [Other Projects](#)

1764. [Zigbee Wireless Relay Control and Power Monitoring System](#)

Introduction We designed a system for wirelessly controlling relays and monitoring current. This is used for a home load simulation. By wirelessly turning relays on and off by sending commands from a PC to a microcontroller we can change the total load (current) to our…… Listed under: [Metering – Instrument Projects](#)

1765. [Balancing Instructable Robot using arduino](#)

In this Instructable I wanted to show to you how to make a self balancing robot. What makes it unique is that its exterior is made to look like the Instructables Robot. Internally it works in the principle of PID, it is a very popular…… Listed under: [Robotics – Automation Projects](#)

1766. [Bidirectional motor control](#)
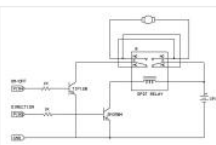
One of the simplest ways to get a motor to turn in both directions is by using a double-pole, double-throw (DPDT) relay. Along with the relay, this hookup requires two transistors and two Stamp pins, one for on/off control and the other for direction control……. Listed under: [Motor Projects](#)

1767. [Fab Lab Barcelona SuperNode](#)

[assigment] Add an output device to a microcontroller board and program it to do something. Class syllabus:: http://academy.cba.mit.edu/classes/output_devices/index.html [what i learned /am learning] _ Relearned Arduino installation. _ Work with DC motors and H-Bridge IC with Arduino; and its general concepts. _ About the various…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1768. [LED Matrix Bike Safety Backpack using arduino](#)

Biking around cars can be a frightening thing, and staying visible at night is crucial for your safety. This tutorial will teach you how to make a custom LED Matrix Backpack that is much larger and brighter than traditional rear bike lights. Parts You'll Need:…… Listed under: [LED Projects](#)

1769. [An FTIR Touchscreen Device](#)
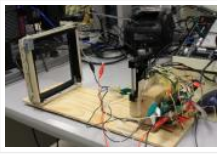
The DJ Touch is a portable turntable touchscreen and interactive LED display. Our end goal was to produce a low cost touchscreen device, and demonstrate its application in a common consumer application. Out of an interest in electronic music, and with the knowledge of deejaying's...... Listed under: [Sensor – Transducer – Detector Projects](#)

1770. [Arduino Scouting Robot](#)

Summer Project: Arduino Scouting Robot [video id="P6PVLhjQ5FY" type="youtube"] Arduino Scouting Robot Part 1 * 12,9,5 volt power supply recharge it with a 12-volt charger keep power switch on to charge * 2 DC motors operate at 7.2V with a maximum current draw of 3 amps...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1771. [Rubik's Cube Solver using arduino](#)

This robot that can solve a Rubik's cube using Arduino. I learned how to solve a Rubiks cube last year, and I was also into Arduino, so eventually I ended up with an idea to make my own Rubik's cube solver. Like many people searching...... Listed under: [Robotics – Automation Projects](#)

1772. [Connecting an IR Sensor](#)
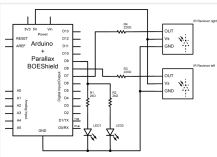
Schematic Since the IR Sensor uses a light sensor, the schematic is very similar to that of the light sensor. The only difference is the addition of an IR LED and that the IR detector requires connection to 5V and ground. Breadboard Setup To setup...... Listed under: [Sensor – Transducer – Detector Projects](#)

1773. [Learn how to use 7-Segment LED Display using Arduino](#)
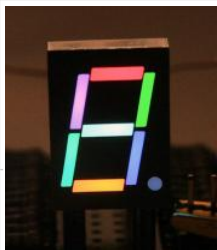
7-Segment LED Display is a very useful component, but also a very confusing and difficult piece to use for beginners. It won't be difficult once you get it working for the first time. This is what you will get at the end of the tutorial (part...... Listed under: [LED Projects](#), [Projects](#)

1774. [Bass Master 3000 Carnival Game using arduino](#)

The Bass Master 3000 is a game that I built for a work carnival along with a small and very talented team of co-workers. I've seen this type of game on the net, but I wanted to kick it up a notch with some Arduino...... Listed under: [Game – Entertainment Projects](#)

1775. [L293 Motor Driver and H-Bridges](#)
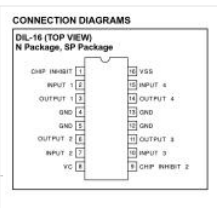
The most common method to drive DC motors in two directions under control of a computer is with an H-bridge motor driver. H-bridges can be built from scratch with bi-polar junction transistors (BJT) or with field effect transistors (FET), or can be purchased as an...... Listed under: [Motor Projects](#)

1776. [How to connect a servo to the Arduino](#)

Servo Cable The continuous rotation servos that come with the BOE Shield-Bot have a 3-wire cable for connecting it to the power and controller. The black wire is the ground, the red wire is the power (positive) and the white wire (sometimes yellow, depending on......

Listed under: [Motor Projects](#)

1777. [Conversational Gloves using arduino](#)

This is what came out of my attempt at combining some of my favorite tools and themes...Grasshopper, 3D printing, kinetic motion, and linguistics. I put these gloves on my friends, asked them to tell me a story, and used Grasshopper to record the data from...... Listed under: [Radio Projects](#)

1778. [Pneumatic Inverted Pendulum](#)
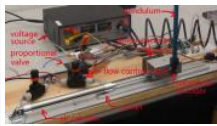
Construction Mechanical structure Compressed air comes from air compressor and goes in the proportional valve. Coming out from the proportional valve, there are two branches of air flow (one is compressor air, the other one is exhausted air) which connect to the air cylinder (pneumatic...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1779. [Make your own TV ambilight using Arduino](#)

This is a very easy project. Here is the result I won't go into too much detail how each part works, because I have written some information on my blog. But you should be able to make it work with the information given on this...... Listed under: [LED Projects](#)

1780. [Step Sequencer Drum Machine](#)

Overview [top] As avid audiophiles, we wanted to apply our newly acquired knowledge of microcontrollers to build a fun consumer electronic device. Our project is a step sequencer drum machine. The user is able to program a 16-step percussion pattern using one of a wide...... Listed under: [Sound – Audio Projects](#)

1781. [Build your own 4x4x4 RGB LED Cube using arduino](#)

LED Cubes are awesome. The first one I created was a 8x8x8 blue led cube. It still works like a charm. But being able to display every colour in the spectrum is much more spectacular. Let's start with a small and simple 4x4x4 RGB LED...... Listed under: [LED Projects](#)

1782. [Programming an ATTiny13A using Arduino & servo interpreter](#)

So there I was, browsing eBay, looking for some cheap deals on Atmel chips when i came across a pair of ATTiny13 chips for £2.50. I just had to have them! After all, how hard can it be? I needed a small chip to read...... Listed under: [Arduino Programmer Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Motor Projects](#), [Projects](#)

1783. [Retablillo de las Maravillas v1.0](#)
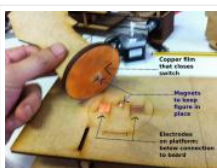
4./ Interactivity & electronics 4.1/ Switches / characters 4.2/ Screen / interface 4.3/ Motor controller 4.4/ I/O controller & interface [4./ electronics] [4.1/ switches / characters] The characters on top of the moving platform function, as interfaces, actually as on-off switches. While standing in its...... Listed under: [Robotics – Automation Projects](#)

1784. [How to control a Servo using Arduino](#)

In this one, servo is programmed to be controlled by two buttons, one turns servo to the left and the other one turns it to the right. When the servo is turning, corresponding LED will be switched on to indicate the operation. Result: Because Arduino...... Listed under:

[Motor Projects](#), [Projects](#)

1785. [Desktop Fist Bumper using arudino](#)

This simple device sits on your desk at work, ready to give you fist bumps throughout the day as you need them. A 3D printed "fist" is moved by a servo attached to a rack and pinion mechanism. An ultrasonic range finder detects when you…… Listed under: [Battery Projects](#)

1786. [Arduino Basic Wifi Project using ESP8266 wifi module](#)
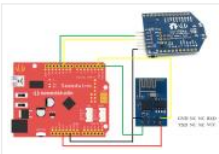
Overview ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host the application or to offload all Wi-Fi networking functions from another application processor. ESP8266 has…… Listed under: [Internet – Ethernet – LAN Projects](#)

1787. [$1.50 Arduino TV Annoyer](#)
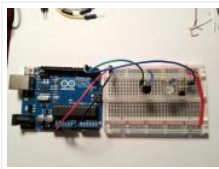
Hey Arduino fans! Here is an 'ible for making a device that turns TVs on when you want them off, and off then you want them on! If you hide it in something inconspicuous, it would make a great April Fools joke or gag gift. …… Listed under: [Home Automation Projects](#), [Projects](#)

1788. [Katrina And Maya](#)

bOunce is a haptics-based learning game system that teaches the concepts behind wave dynamics, and in particular, resonance. The bOunce device (an adaptation of the Haptic Paddle) allows a user to "bounce" a ball in a virtual environment. By feeling the haptic force feedback from…… Listed under: [Robotics – Automation Projects](#)

1789. [Stereo Audio with an Arduino](#)

Recently I've been posting a lot of projects that use an 8 bit resistor ladder digital to analog converter(DAC) and an Arduino to make sound. (see the Arduino vocal effects box, the Arduino drum sampler, and my audio output tutorial). The technique I've been using to make these DACs is…… Listed under: [Projects](#), [Sound – Audio Projects](#)

1790. [Arduino All-In-One Remote](#)

Now you can have all the remotes of your house in a device that fits in your hand with Arduino, never fight for who has the TV remote again! To make it you will need: Arduino (I used a cheap copy of the arduino UNO)……. Listed under: [Robotics – Automation Projects](#)

1791. [Just Veggin with an Arduino Beetbox](#)

Bring Touch Control to the Arduino. Use interesting touch sensors like Carrots or Beets to make a "Beetbox". In this instructable you will learn: * How to use the Cap Sense library to make Arduino responsive to touch * How adding a Wave Shield (and…… Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
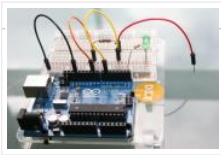
1792. [MOTOR SWITCH LED](#)
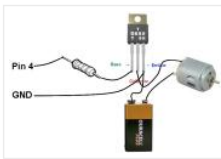
Here is how to connect a motor, a swtich and an LED to your Arduino and how to do some checking to make sure that everything works The strategy is to get the circuit going in stages, testing each part as you go. Once everything...... Listed under: [LED Projects](#), [Motor Projects](#)

1793. [Arduino Controlled Lighthouse](#)

Overview: I've often thought that a lighthouse would make a great project for an Arduino, and so I decided to give it a try using one of the local lighthouses here in Erie, Pennsylvania as inspiration. I chose the North Pierhead Lighthouse that guards the...... Listed under: [LED Projects](#)

1794. [LittleGoal: World Cup Match Notifier using Arduino](#)

[This Instructable was made at the Taipei Hackerspace littleBits Instructables Build Night.] Can't watch the World Cup football games, but want to know when important game events (ie. goals) happen? Then littleGoal is for you! The littleGoal setup will monitor the game's progress,...... Listed under: [Game – Entertainment Projects](#)

1795. [Pololu Dual MC33926 Motor Driver Shield for Arduino](#)
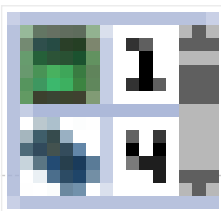
This shield makes it easy to control two brushed DC motors with your Arduino or Arduino-compatible board. Its dual MC33926 motor drivers operate from 5 to 28 V and can deliver a continuous 3 A per motor. These great drivers also offer current-sense feedback and accept ultrasonic...... Listed under: [Motor Projects](#)

1796. [Stepper Motors](#)
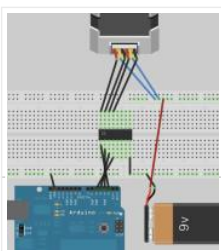
Stepper motors are not smooth – they move in "steps". Different motors have a different number of steps to make one complete rotation. You use software to step the motor forward or backward at different speeds. There are two kinds of stepper motor bipolar and...... Listed under: [Motor Projects](#)

1797. [DIY FPV RC Tank V2 [2km RANGE upgrade!] using Arduino](#)

Lets build An FPV tank that could be controlled within 2 kilometers! With the help of my best friend ASCAS I was able to borrow his old parts for this updated version. Ok So Roverbot version 2 is a highly educational Arduino based ATV-drone. It's...... Listed under: [Game – Entertainment Projects](#)

1798. [Sweep](#)
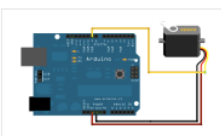
Sweeps the shaft of a RC servo motor back and forth across 180 degrees. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor hook-up wire Circuit Servo motors have three wires: power, ground, and signal. The power wire...... Listed under: [How To – DIY – Projects](#), [Motor Projects](#)

1799. DIY GPS Tracked Bike Lock using Arduino

Having just purchased a half decent bicycle, and living in a city with a bike theft rate almost as high as New York, I wanted to have some peace of mind that if a thief with an angle grinder were to cut through my U-lock...... Listed under: Car Projects, GPS Based Projects, Security – Safety Projects

1800. Critter Twitter Trap using Arduino

Havahart traps are really nice if you have pests to rid your home of but you don't feel the need to do this through means of killing the animal. The problem we are faced with is constant monitoring of the trap. If you forget to...... Listed under: Internet – Ethernet – LAN Projects

1801. Capture the image of a falling object using Arduino
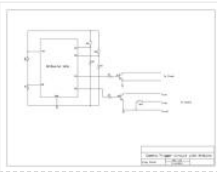
The aim of this project is to create a setup to capture the image of a falling object or any object in motion at a precise time using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I...... Listed under: Video – Camera – Imaging Projects

1802. LED Binary Clock using an Arduino

A Binary Clock! I was recently looking at some binary clocks and I felt like Why not? I have everything to make one and I don't have a clock in my room. So I decided to build one and here it is. Hope you Like...... Listed under: Clock – Timer Projects, Projects

1803. Wiring of the Solenoid Valves
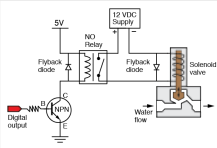
Overview of Wiring for the Salinity Sensor Other pages describing fish tank wiring: Connect electrical power to the pump and the breadboard Connect the salinity sensor to the breadboard and Arduino Connect the solenoids to the cascade control circuit (this page) Return to the main...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1804. Cheap wireless transmission between two Arduinos with Infrared

Hi all, For a project, I was looking for a cheap solution to send data from an Arduino to an other one. The serial port was already taken, and my transmission (unidirectional) needed to be wireless. My researches has brought me to discover these kinds...... Listed under: Internet – Ethernet – LAN Projects

1805. Bug-Catching Spider in Web using Arduino Part 2

This project is a collaboration between idesigner4 and bhasudha(me), students in the Fall 2012 course Things That Think (CSCI 7000) at The University of Colorado – Boulder. The story of our bug-catching spider automaton goes like this: A giant evil spider resides in a big...... Listed under: Internet – Ethernet – LAN Projects, Projects, Security – Safety Projects

1806. Hack a TowerPro Micro Servo to Spin 360 / Continuous Rotation

Hey guys! Since I've got my servos, I've had two that I set aside for hacking. So, coming to my favorite website for help, I was sorely disappointed when I couldn't seem to find any instructables on how to mod a micro servo. After viewing...... Listed under: Motor Projects

1807. Arduino R/C Lawnmower

What this is: This instructable will show you how to make your Arduino into an R/C interface that you can use for just about anything requiring remote control. I will also show you how I built an R/C lawnmower using my Arduino, a cheap R/C transmitter and...... Listed under: [Home Automation Projects](), [Projects]()

1808. [RGB LED Tutorial (using an Arduino) (RGBL) using arduino]()

LEDs are great. But with any project there comes a point where flashing is simply not enough. For these cases an RGB (Red, Green, BLue) LED is the answer. With an RGB LED you'll be able to produce any colour glow your heart desires. At...... Listed under: [LED Projects]()

1809. [Darkness Map Data Collection Device]()

The Darkness Map encompasses both data collection and visualization of nighttime light levels. You can add to the map by downloading the app for iPhone or Android, but you can also contribute data by creating your own data collection device. This tutorial will cover how...... Listed under: [Sensor – Transducer – Detector Projects]()

1810. [Arduino-based line follower robot using Pololu QTR-8RC line sensor]()
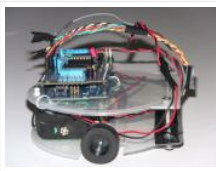
UPDATE FEB 2012: This guide is featured on Adafruit's blog http://www.adafruit.com/blog/2012/02/14/arduino-based-line-follower-robot/ This is Faz3a II, my first line-following robot, which I also hope to use for maze-solving. I used the Arduino Uno, Adafruit motor shield, Pololu's QTR-8RC line sensors and motors. You can build a...... Listed under: [Projects](), [Robotics – Automation Projects](), [Sensor – Transducer – Detector Projects]()

1811. [RGB LED Rainbow Fader using an Arduino]()

Introducing the RainBoard: A simple RGB LED Rainbow fader using an Arduino Uno and a few simple components. Believe it or not, we will control 45-channels of RGB LEDs at 32 brightness levels using only 3 digital pins from the Arduino! How is this possible...... Listed under: [Game – Entertainment Projects](), [Home Automation Projects](), [Projects]()

1812. [Window Painting Robot (arduino, processing, accelerometer)]()

The idea for this project came from one of my favorite 'ibles: the polargraph. I loved the drawing style and thought how cool would it be to do this on the side of a building? Unfortunately the challenges to setting up such a large polargraph...... Listed under: [Home Automation Projects](), [Robotics – Automation Projects]()

1813. [Kaleiduino: A Battery Powered Arduino LED Kaleidoscope]()

Hello everyone, and welcome to my Instructable! This instructable will show you how I made the first ever DIY Arduino controlled "LED Kaleidoscope"! What is an LED kaleidoscope? Well, our traditional kaleidoscopes used 3 mirrors joined as a triangle with stuff like sequins and stolen...... Listed under: [Battery Projects](), [LED Projects]()

1814. [Using The PCF8575 i2c i/o Expander To Read Inputs With Arduino]()

This Instructable will show you just how easy it is to add extra inputs to your Arduino. You can use this technique to add hundreds of extra inputs to your Arduino with only two wires by using a fancy communication protocol called i2c (eye-squared-see). Step...... Listed under: [Sensor – Transducer – Detector Projects]()

1815. [Robotic Spider V8]()

I needed a project that would use all my servos, so I decided to make the do-nothing, worthless spider. If you have fischertechnik and servos to waste, this is the project for you! Really, this flopping spider makes for a great learning project. The main...... Listed under: [Robotics – Automation Projects](#)

1816. [Laser Cut Sphere-O-Bot using Arduino](#)
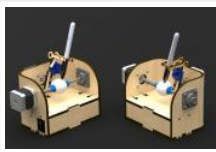
The Sphere-O-Bot is a simple 2 axis CNC machine that can draw on most spherical surfaces. You can use it to decorate ping pong balls or eggs.This design is based on the 3D printable Sphere-O-Bot. By building your Sphere-O-Bot using a laser cutter, you can...... Listed under: [Robotics – Automation Projects](#)

1817. [Arduino controls cheap RC car transmitter](#)

OBJECTIVE Cheap Chinese RC toy cars can be had for about 5 Euros in the local market. The wireless brains behind the majority of these cheap RC toys is a pair of very cheap ICs the TX2 and the RX2. Yup, that's what they are called. So this...... Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)

1818. [Arduino Ping Ultrasonic Range Finder Code](#)

The Ping))) is an ultrasonic range finder from Parallax. It detects the distance of the closest object in front of the sensor (from 2 cm up to 3m). It works by sending out a burst of ultrasound and listening for the echo when it bounces...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1819. [Internet Devices for Home Automation](#)

This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast...... Listed under: [Home Automation Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1820. [Arduino based Bi-color LED Matrix Audio Spectrum Visualizer](#)
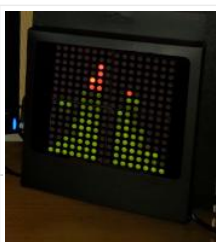
After we came up with the Bi-color LED Matrix Driver Module kit, we have been looking around for interesting projects to work with it. You may be interested in some of the projects we have put up at instructables using this LED Matrix kit. Instructable...... Listed under: [LED Projects](#), [Sound – Audio Projects](#)

1821. [Breathalyzer using an Arduino](#)

What is a breathalyzer you may ask? It is a device for estimating blood alcohol content (BAC) from a breath sample.In simple terms it is a device to test weather a person is drunk or not. As the title suggests it runs on the arduino.Our breathalyzer...... Listed under: [Medical – Health based Projects](#), [Projects](#)

1822. [Magic Light Capacitance Sensor using an Arduino](#)

This was my very first arduino project. Its great for beginners. Fade the color or the lights my moving your hands near it. It fades from a pretty purple blue to a firey red-orange. Its was SUPER easy to build, not to hard to write...... Listed under: [LED Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

1823. [LED Flipbookit: full color and brightness control with an Arduino](#)
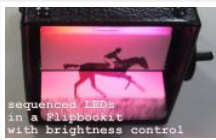
Step 1: Gather the materials Materials: – addressable RGB LED strip : I used a new variety of three conductor WS2811 strips. – an Arduino : I used a Arduino Leonardo. Any 5vdc Arduino should be adequate. – 4 AA batteries and a battery holder...... Listed under: [LED Projects](#)

1824. [Infinity Mirror Clock using Arduino](#)

Ever since my addressable RGB LED strips (WS2812B) came from Aliexpress, I've been fascinated with LED projects. Following up on my success with my Charlieplexed LED clock, I wanted to create something with more Jazz.. While browsing google images, I came across an instructable for...... Listed under: [Clock – Timer Projects](#)

1825. [How to Make a PIP-Boy using an Arduino](#)

So what exactly is a PIP-Boy, you ask? For those unfamiliar, a PIP-Boy is a device used by the protagonist in the popular Fallout series of video games for navigation, radiation detection, data storage/playback, and inventory management. Being a major fan of the franchise, I...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1826. [Experimenters Guide for Arduino as Performed at OIT](#)

Resources Adafruit ARDX – v1.3 Experimentation Kit for Arduino Experimenters Guide for Arduino (PDF) Bread Board Layouts (PDF) Arduino Tutorial Bundle (Instructable) This Arduino Tutorial is going to be very similar to the Arduino Tutorial Bundle Instructable but because we are working on this in...... Listed under: [Other Projects](#), [Projects](#)

1827. [ZAPpelin, or how to train your blimp with an Arduino and IR remote](#)

Is it flying seal? A flapping alien? No it's a ZAPpelin, an Arduino controlled indoor blimp, setup to learn in the signals from an IR remote to command it. This project came to life at the third Arduino Jam Februari 15th to17th 2013, at Timelab,...... Listed under: [Game – Entertainment Projects](#), [Radio Projects](#)

1828. [Digital Zoetrope using Arduino](#)

A zoetrope is a mechanical device that animates a series of pictures by spinning them fast enough that the images appear to merge together and move, My digital zoetrope works on a similar principal, by flashing the LEDs while they are spinning it is possible...... Listed under: [Video – Camera – Imaging Projects](#)

1829. [The machine of answers](#)

Should you ask your boss for a raise? Call that cute guy you met at a party? Sell your stock? Wouldn't it be nice to have a handy method of handling some of life's more pressing dilemmas? This machine give you the answer to all...... Listed under: [How To – DIY – Projects](#)

1830. [ABC 123 Toddler Trainer using Arduino](#)

Here is a kid tested and teacher approved trainer for the kids in your family and / or extended family that are learning their ABCs and their 123s. It was kid tested on my granddaughter, who really loves it, and was approved by my wife,...... Listed under: [Home Automation Projects](#)

1831. [Aergia: Android controlled TV Remote(with Speech Recognition) using Arduino](#)

Have you ever faced this situation while sitting on your favorite spot on the couch or recliner, comfortably watching your favorite TV program? You're snugly tucked under the blanket, the air conditioning is pleasantly cool, the sun outside is shining it's delicate warm golden rays...... Listed under: [Arduino Android](#)

1832. [The Arduino AA Undershield](#)

I recently bought an Arduino Diecimila board. It's awesome and the applications, you can use it for or with is almost unlimited. However there's a problem when you want to use it in portable applications. You can use the Liquidware lithium backpack, which is a...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

1833. [Bluetooth RGB Shelf Lighting using Arduino](#)

Being the giant fan of LED's that I am i'm always trying to come up with new ways I can put them throughout my house. Today i'm going to show you how to create a simple, yet extremely eye catching, RGB Bluetooth controlled Shelf lighting...... Listed under: [Home Automation Projects](#), [LED Projects](#)

1834. [L.O.G. $10 Arduino](#)

There are probably thousands of articles on making an Arduino. So who needs another Arduino? Well, this Lazy Old Geek(L.O.G.) needs one. Here's the features I would like: Features: Low cost More permanent than a breadboard Not a custom PCB More prototyping area than a...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1835. [Love Gauge](#)

I'm working together with my wife. But sometimes one of us has an external appointment. So, if one of us is thinking about the other, we want to show it together. For this, I have made an Love Gauge for us. It stands on our...... Listed under: [Other Projects](#)

1836. [Arduino Powered Autonomous Vehicle](#)

A few months back I started playing around with Arduino micro controllers as a learning exercise (and for fun); this project is the culmination of that. The goal of the project was to create a vehicle that can autonomously navigate through a series of waypoints...... Listed under: [Car Projects](#)

1837. [Emotidora: Hats with Emotions using Arduino](#)

This project, Emotidora, will help a user express his/her emotions about events in day-to-day life. Weve all been in situations where something very exciting or unfortunate has happened to us and we want to share it with other people. This usually involves the expression of...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

1838. [Traffic Signal / Stop Light Wiring with Arduino Controller](#)
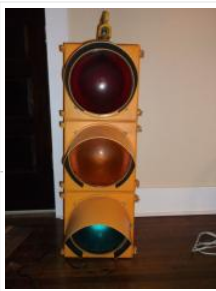
I always wanted an old traffic signal and finally got one recently. However, it was very simply wired so that all the lights were fixed on. What fun is that? I also wanted to try out an Arduino controller and thought this would be a...... Listed under: [Other Projects](#)

1839. [WAVEbuoy using Arduino](#)

The WAVEbuoy is a arduino lamp connected to the internet that displays the current wave height of any of the National Data Buoy Centre's wave buoys. This lamp is currently connected to the Sevenstones Lightship buoy that gives an indication of swell approaching Cornwall in...... Listed under: [Home Automation Projects](#)

1840. [Arduino Keyboard and Mouse Control Code](#)

This example illustrates the use of the Mouse and keyboard libraries together. Five momentary switches act as directional buttons for your cursor. When a button is pressed, the cursor on your screen will move, and a keypress will be sent to the computer. Once you...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1841. [Arduino ADK LED Lighting](#)

Have you ever wanted to control electronics with your smartphone? The Arduino ADK (Android Development Kit) is the Arduino Mega with a built in USB host device, ready for your smartphone to be plugged in! We'll make a simple introductory project with a few LED...... Listed under: [LED Projects](#), [Projects](#)

1842. [Pixel Drop Ceiling using Arduino](#)

In our living room we have a small patch of drop ceiling right in the middle of the room, basically a giant piece of duct tape to cover up bad carpentry. It was constantly getting water damage from what looks like a giant hole in...... Listed under: [Home Automation Projects](#)

1843. [Arduino Leonardo Pinout Diagram](#)
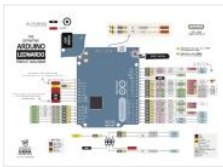
Arduino Leonardo Introduction: The Arduino Leonardo is a microcontroller board based on the ATmega32u4 (datasheet). It has 20 digital input/output pins (of which 7 can be used as PWM outputs and 12 as analog inputs), a 16 MHz crystal oscillator, a micro USB connection, a power jack, an ICSP...... Listed under: [Pinouts](#)

1844. [Push-button using an Arduino](#)
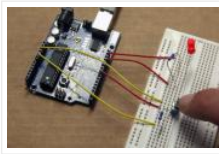
Pushbuttons or switches connect two points in a circuit when you press them. This example turns on the built-in LED on pin 13 when you press the button. image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect three wires to the Arduino...... Listed under: [How To – DIY – Projects](#), [Projects](#)

1845. [Create an internet controlled robot using Livebots](#)

Here you will learn how to create an internet controlled robot or other installation using Livebots. Livebots is a project I'm working on which consists of an easy to use website for all the robots that people can interact with through the internet. As an example I...... Listed under: [Robotics – Automation Projects](#)

1846. [Model Airplane Autopilot using Arduino](#)

Hi All! I am twenty years old. I picked up my arduino for the first time this Christmas, and I've been keeping busy on my arduino applications so that I can bring you this instructable. I hope that it helps!!! The purpose of this project...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1847. [Using the Arduino Uno to program ATTINY84-20PU](#)
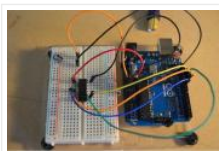
Using the Arduino Uno to program ATTINY84-20PU (Newark item # 68T3783). This Instructable shows how to use the Arduino platform to work with physically smaller processors, such as the ATtiny84 (84/44/24), ATtiny85 (85/45/25), and ATtiny2313. This example is specifically for the ATtiny84-20PU processor (Newark item...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

1848. [Home Made Bezel / Window for LCD, LED, TFT Displays.](#)

I've been working on a project that used a 16×2 LCD display and wanted a nice finish that also allowed me to seal against water and other liquids. I also needed impact resistance, low cost and the ability to be changed easily if worn or...... Listed under: [LCD Projects](#), [LED Projects](#)

1849. [MaKey MaKey Monome using Arduino](#)

Objective: build a monome – a complex electronic music instrument – using easy-to-learn, inexpensive components and a process that's so easy a kid could do it. Gist: This touchscreen music instrument is essentially 4 parts: MaKey MaKey (or Arduino) Neopixels copper tape cardboard Sound is...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sound – Audio Project Ideas](#)

1850. [Arduino and Xbee wireless setup](#)

The Arduino Wireless shield allows your Arduino board to communicate wirelessly using Zigbee. This documentation describes the use of the shield with the XBee 802.15.4 module (sometimes called "Series 1" to distinguish them from the Series 2 modules, although "Series 1" doesn't appear in the official name...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1851. [Arduino or Twitter Mets Apple](#)

Whenever I go to Citi Field with my kids to see the Mets, they go crazy for the Home Run Apple.To me, the Apple is part of what makes baseball exciting for kids. Even though my kids may not watch most of the games, I...... Listed under: [Internet – Ethernet – LAN Projects](#)

1852. [Control Fluorescent Lights with a Laser Pointer and an Arduino](#)

A few members of the Alpha One Labs Hackerspace do not like the harsh light given out by fluorescent fixtures. They wanted a way to be able to easily control the individual fixtures, perhaps with a laser pointer? I got right on it. I dug out a...... Listed under: [Sensor – Transducer – Detector Projects](#)

1853. [How to make your own Arduino board](#)
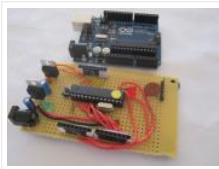
If your are like me which I am guessing you are, then ever since you got into doing stuff with arduino you have wanted to make your own arduino board. You may be surprised to find out that making the prototyping board is actually very...... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)

1854. [Polydexter: Arduino Robotic Translation Arm](#)

Polydexter was the introductory project in the Creative Architecture Machines (CAM) advanced options architecture studio at the California College of the Arts (CCA), taught by Jason Kelly Johnson (co-founder of Future Cities Lab) and Michael Shiloh. Parts developed for this robot would go on to...... Listed under: [Robotics – Automation Projects](#)

1855. [Boot Bot Arduino Bootload Shield](#)

The Boot Bot Shield lets you burn the arduino boootloader onto a blank Atmega 328 chip. The bootloader is that magic piece of software that turns a mundane chip into the open source programmable miracle known as the arduino. Blank chips cost a few dollars...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

1856. [Arduino Power outlet with exposed pins](#)

I found my self often trying to plug stuff at home with Arduino. So I thought it would be good to have a system that you can just plug your sensor, plug the appliance and code something to see how it goes. I never liked...... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)

1857. [Arduino Orb Build Warden](#)

An Arduino based Ambient Orb designed explicitly for monitoring Source Code Autobuild systems. This orb can easy be repurposed for monitoring really anything that can have alerts from time to time. Step 1: Purpose Some time ago a co-worker passed me an article about "Extreme...... Listed under: [Other Projects](#), [Projects](#)

1858. [Spinning Tardis with blinking LED (Powered by littleBits) using Arduino](#)

Construct a Tardis that spins and blinks! Total Build Time: 30 mins · Coding: 5 mins · Construction of the Tardis: 20 mins · littleBits LED and motor assembly: 5 mins Tardis.wmv(320×240) 10 KB Step 1: Gather all needed parts. LittleBits: · (2) Wires ·...... Listed under: LED Projects

1859. 4x4x4 RGB LED Cube using Arduino

A while ago, when I first started using Arduino, my first project was a 4x4x4 LED cube, I built it from a Guide I found here in Instructables, I didn't know anything about programming, and little about electronics, yet I was able to build it...... Listed under: LED Projects, Projects

1860. Simple Basement Security System using Arduino

In this project I will show you how to build a very simple security system for all kinds of rooms. It might be simple but still effective. It is based around an Attiny85 and uses a reed switch and a key switch as inputs to...... Listed under: Security – Safety Projects

1861. Monitor – Thinking Skins using Arduino

This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Thinking Skins, please check this page: http://hci.rwth-aachen.de/m3_ss14 Given were small shared space containers for 6/8...... Listed under: LED Projects

1862. Make Voice Call using Arduino

This sketch connects a voice call from your GSM shield and Arduino to a remote phone number entered through the serial monitor. You'll need to attach a speaker and microphone to hear the connected phone and send your voice.   First, import the GSM library...... Listed under: Phone Projects, Projects, Sound – Audio Projects

1863. Arduino Peak Power Tracker Solar Charger

This project is an update of my original Peak Power Tracker Battery Charger Project. It is designed to control a 12V solar panel charging a 12V lead acid battery. The updated version of this project uses the Arduino Duemilanove development board (from www.sparkfun.com) as the...... Listed under: Battery Projects, Projects

1864. Ping Organ using an Arduino

I was trying to think of a quick toy I could build for my kids. I came up with this idea of an ultrasonic range finder, an Arduino, and a speaker. Basically the Arduino plays a tone out of the speaker based on the distance...... Listed under: Game – Entertainment Projects, Projects

1865. Papercraft Automata Race Game littleBits Circuit using Arduino

This instructable will show you how to create a game using littleBits. The game will start with a sound trigger. Each player will have to press a button repeatedly. The first person to press their button 25 times wins. A buzzer will sound to end...... Listed under: Game – Entertainment Projects

1866. [Arduino decision box (Attiny85)](#)

So I was a bit bored this weekend (actually I wrote this some months ago) and since I had ordered a bunch of Attiny85 chips the week after I decided to make a quite random project with them. This is a decision box, it takes...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1867. [RGB LED with Arduino 101](#)

To Learn about the basic LED usage practice, read here. What is a RGB LED? With an RGB (Red Green Blue) LED you'll be able to produce any colour that is flashing everyone's eyes. At first glance, RGB LEDs look just like regular LEDs, however, inside the usual...... Listed under: [LED Projects](#), [Projects](#)

1868. [SmartMesh – Arduino and Android Controlled Pneumatic Facade](#)

This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Smart Skins, please check this page: http://hci.rwth-aachen.de/m3_ss14 During this project, the students were asked to...... Listed under: [Arduino Android](#)

1869. [LED Pattern Hat using an Arduino](#)

This is a (moderately) simple Arduino project that is a spectacular display from LEDs – that you can wear on your head! It also uses a program that is not intricate at all, so you can modify it for different patterns and cycles. It's also...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1870. [DIY Android Home Automation Box](#)

Here's a little show and tell of my Android controlled home automation box. It's a small extension box that's controlled by an Android smartphone. You can turn the individual outlets on by tapping a button from the app or use the speech recognition app, found...... Listed under: [Arduino Android](#), [Home Automation Projects](#)

1871. [Use foot switch to open Linux terminal using an Arduino](#)

So here is how i made my foot pedal used to start Linux terminal using an Arduino. It's made because I am board of pressing the terminal icon with my mouse. P.S. Sorry for my English. I am from Croatia. Tools needed: -Soldering iron and...... Listed under: [Projects](#), [RTOS – OS Projects](#)

1872. [Musical Table using Arduino](#)

The Musical Table is a toy table that allows kids to play musical phrases by moving toys around the surface. Each of seven switches can play different musical phrases in four bases, making 27 different musical phrases in total. Some of the phrases are...... Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)

1873. [ARDUINO WIRELESS HOME SECURITY SYSTEM](#)

In this project I will discuss how you can make a cheap wireless home security system.Though during starting of this project the main objective was only for security alarm but later I found this device can be used to solve several problems.These are the few...... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)

1874. [Assembling the ZIFduino USB 1.2](#)

The ZIFduino, for all intents and purposes, is an Arduino with a ZIF socket. It's geared toward those that want to do prototyping on the platform, but then move the ATMega chip to a stand-alone environment. The pin layouts are exactly the same, so it…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1875. [Using Servo Motors with Arduino](#)

In this instructable, I am going to show you what a servo motor is, how to use it, and ideas for starting projects using it. I used arduino to control my servo, I added how to use a 555 in some of the later steps……. Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Motor Projects](#), [Projects](#)

1876. [How to build a whole home energy monitor using Arduino](#)

This page and linked pages detailed below document how to build whole house energy monitor that has a display for easy, quick access to current energy use information, usb datalogging for detailed long term data storage and Internet connectivity for online graphing. First a quick…… Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1877. [Internet-Controlled RC Car using Arduino](#)

The Internet Controlled RC Car allows you to remotely drive around a small rc car from wherever you may be and see where it is going. This is fun because you can remote explore whatever space you leave it in, or hand over the keys…… Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#)

1878. [Arudino- No Blinky](#)

So you just bought this Arduino kit or Arduino-clone kit. You spent hours inserting parts and soldering components. You connect everything up and turn it on and stare at the little LED. You wait a second and nothing happens. You wait a minute and still…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

1879. [Arduino Seismic Activity Monitor – Ethernet Shield](#)

Have you ever wanted to impress your friends by saying something crazy like, "I think there's going to be an earthquake soon" moments before an earthquake hits? Or do you just want some warning, a few seconds that could save your life. This project will…… Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1880. [Arduino Traffic Light Controller with Remote Control](#)

I had a traffic light that I was refinishing. The only thing left to do was to build the controller for the light's signal patterns. To give it a twist I incorporated a remote control. This was also the perfect opportunity for me to try…… Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)

1881. [Light-Up Disco Table using Arduino](#)

Every apartment needs awesome furniture, so why not make your own? This coffee table contains LED strips that light up into various customizable patterns and colors. The lights are controlled by an Arduino and a hidden button, and the entire thing is battery powered so…… Listed under: [Game – Entertainment Projects](#)

1882. DIY Arduino FM Radio (Part 2)

If you have read my first blog on the topic, than you already know what I'm experimenting with. Low price FM Radio, build with TDA7088 / YD 9088. It was obvious, that technology from the early 90-x is outdated. I mean, simple "search and hold" function of...... Listed under: Projects, Radio Projects

1883. Theremin Toy using Arduino

I wanted to make a little toy for my granddaughter to play with when she visits. I know like most kids, she enjoys things that make sounds and have different colored lights on them and if she does something, the toy does something. I thought...... Listed under: Game – Entertainment Projects

1884. Using Servos with Arduino made easy !

Servomotors or simply servos are essential components of a robot which convert electrical energy into mechanical energy.They are widely used in the field of RC hobby and robotics. But unlike simple geared motors , these servos are made by integrating a geared motor with a...... Listed under: Motor Projects

1885. Face detection and tracking with Arduino and OpenCV

UPDATES Feb 20, 2013: In response to a question by student Hala Abuhasna if you wish to use the .NET Serial class, use the naming convention "\\\\.\\COMn" and replace n with a number > 9 to define your com port for COM ports above 9...... Listed under: Internet – Ethernet – LAN Projects, Projects, Sensor – Transducer – Detector Projects

1886. Teensy MIDI USB foot controller for controlling Mobius Looper using Arduino

Motivation: Playing in a 2 piece band, with the drums and lots of other samples being played back as backing tracks, there was a need to use a looper to add in more elements to the tracks. A hardware based looper fails in this respect,...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1887. Under $8 Arduino Serial Data Logger – Record to SD Card

Disclosure: This project operates the ATmega328-P-PU outside the published ATmel specifications: According to ATmel, the 328P requires slightly over 3.3V to reliably start the oscillator at 16MHz and to otherwise perform acceptably. Lab testing here at SofKinetics has shown that the 'board-duino' 328P-PU can withstand...... Listed under: Memory – Storage Projects, Projects

1888. DIY Solar Tracker using Arduino

Introduction We aim to introduce young students to engineering and teach them about solar energy; by having them build a Helios as part of their curriculum. There is an effort in engineering to push energy generation away from the use of fossil fuels and towards...... Listed under: How To – DIY – Projects, Sensor – Transducer – Detector Projects, Solar energy projects

1889. iAndroidRemote – Control Android mobile using an Apple Remote

I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😉) Also this is my entry to the...... Listed under: Internet – Ethernet – LAN Projects

1890. Arduino Digital Switch Code
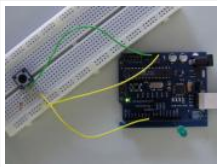
This is basic for your arduino projects, input switch read from digital input. When ever switch pressed, LED will turn on. [caption id="attachment_4235" align="aligncenter" width="600"] PushButton_arduino_code[/caption] Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED...... Listed under: [How To – DIY – Projects](#), [Projects](#)

1891. [Hacking my RC Car using Arduino and Android Smart Phone](#)

Have an old toy car? I hacked mine using Arduino and an H bridge circuit to control the motors, used my Sony Z1 Android phone to control it with the recent 1Sheeld I got from Kickstarter. I thought to use the Gyroscope sensor in to...... Listed under: [Arduino Android](#), [Car Projects](#), [Phone Projects](#)

1892. [Analog reading box using an Arduino](#)

I made this box for my music project to our school. This is only tutorial for the box, no for playing melody. It´s based on serial connected switches. You will need: Some wire 6x switch 1x LED 1x 330 ohm resistor 5x 2000 ohm resistor...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

1893. [Washing machine countdown timer using Arduino](#)

Hello, and welcome to my instructable for a washing machine countdown timer. The timer is operated with the very popular Arduino micro controller. See here for more information. Arduino Home Page Aim The aim of this project is to be able to delay the start...... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

1894. [Nintendo Keyless Entry System using an Arduino](#)
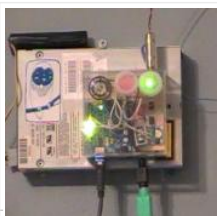
Use a Classic Nintendo controller to lock and unlock your door! The output from the Controller is read by an arduino and it looks for a particular combination of buttons, once the combination is entered it sends a signal to eject a Cd-Rom Drive which...... Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)

1895. [DIY Infrared Sensor Module using Arduino](#)

Have you ever wanted to make a line following robot but the infrared sensors were too expensive for you? Do you want to upgrade the robot in my other instructable? Well this instructable comes in two stages, Stage 1 is the prototyping stage, where you...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1896. [Rock Paper Scissors Spock Lizard using Arduino](#)

Introduction: Okay, I cheated. Any similarities between previous Instructables uploaded by me and the graphics, pictures, text and / or programming code is purely intentional. It certainly made putting this one together a whole lot easier. This Instructable is my Arduino version of the Rock...... Listed under: [Game – Entertainment Projects](#)

1897. [ADXL3xx Accelerometer using an Arduino](#)

This tutorial shows you how to read an Analog Devices ADXL3xx series (e.g. ADXL320, ADXL321, ADXL322, ADXL330) accelerometer and communicate the acceleration to the a personal computer. This tutorial was built using the breakout boards from Sparkfun. The

adafruit accelerometer breakout board also works, though...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

1898. [Make your plant smile using Arduino](#)

This is a funny project that makes our plants "talk" to us. It's very simple and you can create it in few hours. We use a sensor to read the soil moisture of our plant and a led matrix to dislay how the plant "feel"....... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)

1899. [Auto Fish Feeder using Arduino](#)

How often do you ever forget to feed your fish? Well, for me I don't forget that much. I just couldn't go out town for a couple of days and also be ridiculous if I should bring my tank along. When I won a Sparkfun...... Listed under: [Home Automation Projects](#)

1900. [PS/2 Keyboard Or Mouse using Arduino](#)

Arduino isn't limited to taking input from sensors: you can even connect up a full-size PS/2 keyboard just as if it were a "real" computer and type away! Connecting a keyboard to an Arduino may sound a bit odd (after all, it's just a little...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1901. [Laser-guided Ghost Climber using an Arduino](#)
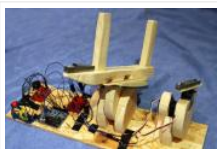
Almost inevitably, when I try to climb the same route I'll forget exactly what sequence of holds they used and end up following a slightly different path. Even when I remember exactly which course to follow, I'll still wonder whether I'm doing it as quickly...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1902. [The Jack'O Lantern Early Warning System using Arduino](#)

This was originally going to be a tutorial on how to hook up a pumpkin to the internet so that the lights inside it could be controlled via twitter, text message, motion or more. To get started I carved a pumpkin for the first time...... Listed under: [Security – Safety Projects](#)

1903. [Homemade Dual H-Bridge – L298 Breakout Board using Arduino](#)

This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials COMPONENTS: 1 x perf board 13×26 holes (3,5 x 7,0 cm) 2 x...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1904. [Make your own 1×1 22 IO pin Ardunio Compatible](#)

Tested ExtraCore boards and kits are now available for sale from Rugged Circuits. What is it? This Instructable will give you all the files and information you need to make your own Arduino Compatible in small surface mount package. It requires a board manufactured to...... Listed under: [How To – DIY – Projects](#), [Projects](#)

1905. [Led Star with Arduino and WS2811 Neopixels](#)

Description This little project makes a great ornament to hang in your window at Christmas time. It is a 20″ wide star with 50 "neopixel" leds around the perimeter. Each led is individually addressable and it is controlled by an arduino device which can be...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

1906. [4x4x4 LED-cube based Arduino and Flower protoboard](#)
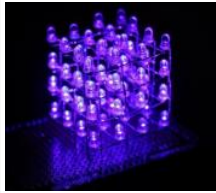
This instructable will teach you how to build your 4x4x4 LED cube with Flower ProtoBoard and control by Arduino. Why is Flower ProtoBoard ? not ProtoBoard ? Because of I often use protoboards to test out if a new idea works in practice. I do not use...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

1907. [Arduino Joystick Mouse Control Code](#)

Using the Mouse library, you can controls a computer's onscreen cursor with an Arduino Leonardo, Micro, or Due. This particular example uses a pushbutton to turn on and off mouse control with a joystick. Cursor movement from the Arduino is always relative. So every time...... Listed under: [Interfacing(USB – RS232 – I2c - ISP) Projects](#), [Projects](#)

1908. [Arduino The 5$ Karduinoss pad](#)

So, looking at these Kaoss pads and alike hardware, I found that there is hardly any point in this device being so expensive, when you just want to use it as MIDI controller. Going through my parts bin, I found a Synaptics touchpad from an old...... Listed under: [Sensor – Transducer – Detector Projects](#)

1909. [Arduino Modules – Flame Sensor](#)

Quick and simple start guide for using and exploring the Flame Sensor module with an Arduino. The model in the example I am using is from Deal Extreme [DX] and can be found HERE. (The instructable for the Rain Sensor is now available!) Materials needed:...... Listed under: [Sensor – Transducer – Detector Projects](#)

1910. [Arduino Row-column Scanning to control an 8×8 LED Matrix Code](#)
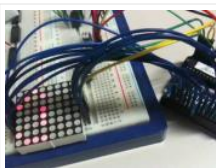
LED displays are often packaged as matrixes of LEDs arranged in rows of common anodes and columns of common cathodes, or the reverse. Here's a typical example, and its schematic: These can be very useful displays. To control a matrix, you connect both its rows...... Listed under: [LED Projects](#), [Projects](#)

1911. [Read ASCII String using Arduino](#)

This sketch uses the Serial.parseInt() function to locate values separated by a non-alphanumeric character. Often people use a comma to indicate different pieces of information (this format is commonly referred to as comma-separated-values), but other characters like a space or a period will work too. The values...... Listed under: [LED Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1912. [Arduino Controlled Lego Lighthouse](#)

Lighthouses have been guiding boats to safety for thousands of years. One of the earliest and most notable of these was the Pharos of Alexandria. This huge structure stood for nearly two thousand years. When deciding on a lego project, I wanted to build something...... Listed under: [Game – Entertainment Projects](#)

1913. [4x4x4 LED Cube (Arduino Uno)](#)

In this tutorial I'll show you how to make a 4x4x4 LED cube for around $15.00. The cube has 64 green LEDs which make up it's 4 layers(positives) and 16 columns(negatives). These are all wired to a Arduino Uno. An Arduino is a single-board microcontroller,...... Listed under: [LED Projects](#)

1914. [Arduino Chicken Coop Controller](#)

Over the last few years my family has been keeping ex-battery hens – they are about 18 months old and have had a horrendous life kept cooped up in small cages in large warehouses. As much as we love these little bundles of joys and...... Listed under: [Home Automation Projects](#), [Projects](#)

1915. [Debounce an input using Arduino](#)

This example demonstrates how to debounce an input, which means checking twice in a short period of time to make sure it's definitely pressed. Without debouncing, pressing the button once can appear to the code as multiple presses. Makes use of the millis() function to keep track...... Listed under: [How To – DIY – Projects](#), [Projects](#)

1916. [Arduino Calculator](#)

In this Instructable I will show you how to make an Arduino calculator that is just as good as any other calculator (well... sort of). Even though it's probably not practical due to it's size, repetitive use of the equals button (due to the lack...... Listed under: [Calculator Projects](#)

1917. [DIY AM Radio with Arduino](#)
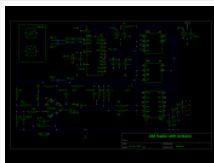
After I finished my last project, I coudn't stop thinking how to build an AM receiver, that would also operate in conjunction with my little friend Arduino. To minimize a workload and complexity, especially with RF part of the circuitry, I come up to conclusion,...... Listed under: [How To – DIY – Projects](#), [Projects](#), [Radio Projects](#)

1918. [Blink Without Delay using Arduino](#)

Sometimes you need to do two things at once. For example you might want to blink an LED (or some other time-sensitive function) while reading a button press or other input. In this case, you can't use delay(), or you'd stop everything else the program while...... Listed under: [LED Projects](#), [Projects](#)

1919. [DIY navigation device for blind people using Arduino and Android smart phone](#)

In this project you can cover your eyes and let your smartphone navigate you to avoid obstacles, the application is mainly a DIY navigation device for blind people. I knew that 1Sheeld is about to launch a new text to speech shield, and so I...... Listed under: [Arduino Android](#), [Home Automation Projects](#), [How To – DIY – Projects](#), [Medical – Health based Projects](#), [Phone Projects](#)

1920. [Arduino Timer Interrupts](#)
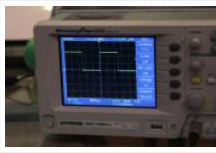
Timer interrupts allow you to perform a task at very specifically timed intervals regardless of what else is going on in your code. In this instructable I'll explain how to setup and execute an interrupt in Clear Timer on Compare Match or CTC Mode. Jump...... Listed under: [Clock – Timer Projects](#), [Projects](#)

1921. [Quiz Game Show Buzzer using Arduino](#)

A good friend of mine who's a teacher was doing quizzes in her class making students compete to answer questions... resulting in them complaining they raised their hands before the others. I decided to give her this quiz show type buzzer for Christmas to solve...... Listed under: [Game – Entertainment Projects](#)

1922. [Make an Arduino LCD shield](#)

In this short tutorial we make an Arduino LCD shield. Updated 18/03/2013 Today we are going to make an Arduino shield with an LCD module. More often than not I have needed to use an LCD shield in one of my projects, or with the...... Listed under: [LCD Projects](#), [Projects](#)

1923. [Web Client using Arduino](#)

This example shows you how to make a HTTP request using an Ethernet shield. It returns a Google search for the term "Arduino". The results of this search are viewable as HTML through your Arduino's serial window. Circuit The Ethernet shield allows you to connect...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

1924. [LED Head Arduino TED](#)

LED HEAD TED meet the world. I have always been interested in a bare-bones Arduino but never really saw the point if it was not practically useful, This is my entry into Little Bits contest, I tried to stay true to the " little bits"...... Listed under: [Game – Entertainment Projects](#)

1925. [Arduino Esplora Remote](#)

This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The application on the computer reads the sensors on the Esplora board and controls the buzzer and the RGB LED through a graphical interface. The image in...... Listed under: [Projects](#), [Radio Projects](#)

1926. [Access control with Arduino plus Keypad 4×4 plus Servo](#)

Hi guys, I bring a new instructable for arduino, the control access with password, 4×4 keypad and a servo. We will use the Password and Keypad librarie for arduino, besides using the servo library, but this project can also be modified by changing the servo,...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Motor Projects](#), [Projects](#)

1927. [Animatronic Eyes and Wii Nunchuck Part 2 using Arduino](#)

After I built the animatronic eyes in PART 1, I wanted to complete the face with a voice and possibly moving eyebrows. If you look back at my PART 1, you'll see that for the base I used a model from Thingiverse. Once you have...... Listed under: [Game – Entertainment Projects](#)

1928. iPod Information Screen using Arduino

My girlfriend, a music buff, asked me to come up with a better way for her to look at the track information of the current song playing on her iPod touch while she was using it in the car. Those of you that have or...... Listed under: Phone Projects, Projects

1929. Autonomous Race Car using Arduino

Build this autonomous driving robot car based on a old RC toy car. I removed the radio control board from the car and replaced it with a brain in the form of an Arduino UNO board (plus a motor driver board) and gave it an...... Listed under: Car Projects

1930. Arduino powered GLCD (Graphic LCD)

Displays are always nice. So far I've just been demonstrating how to use 7-segmented displays to display numbers using very few resources. But what if you want to display text? Or pictures? Or both? Well in order to do that, you're going to need a...... Listed under: LCD Projects

1931. ATTiny powered Arduino Projects

Arduino is a great platform. No question. But what if I told you that you could take your entire board and compact it into tiny package. And I mean really small. The chip in the picture is an ATTiny84, and that is the big version....... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

1932. Irrigation logic controller/project log using Arduino

Hello, I am going to explain my project in just a minute, but first I wanted to explain how I became involved in this project. I like to save money were I can, so it is not hard to understand why I carpool to work....... Listed under: Home Automation Projects

1933. Keyless Entry / Arduino

Keyless Entry System Enter the correct code into the keypad and the servo will unlock the door. Enter the incorrect code and Sorry you stay out. There was a couple of stipulations i wanted in my Keyless Entry system: Helper Light. A light that would...... Listed under: Calculator Projects

1934. An Arduino real time clock shield
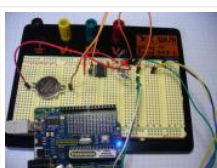
Today we are going to make a real time clock Arduino shield. Doing so will give you a simple way of adding ... real time capability to your projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time...... Listed under: Clock – Timer Projects, Projects

1935. Qtechknow Robot Obstacle Course using Arduino

Have you ever thought of controlling your FuzzBot wirelessly? Do you want to make a real – life video game? Do you want to learn about the tech behind NFC and RFID? – the Qtechknow Robot Obstacle Course How – To Guide is for you!...... Listed under: Robotics – Automation Projects

1936. Twitter Physical Client

In this project I'm building a physical Twitter client using Arduino and a flag, basically an arduino powered retweet indicator, whenever any of my tweets is retweeted some physical action will happen to notify me of that. You'll need: 1. Flag. 2. Arduino. 3. Laptop…… Listed under: Internet – Ethernet – LAN Projects

1937. Simple RFID access system using Arduino

In this tutorial you can make an RFID access system. It's very simple and can be used with a wide variety of end-uses. Updated 18/03/2013 The purpose of this project is to prototype a basic RFID access system. Although it is not that complicated, this…… Listed under: Projects, RFID – NFC projects, Security – Safety Projects

1938. Clock Four – Scrolling text clock using Arduino

Introduction Time for another instalment in my highly-irregular series of irregular clock projects. In this we have "Clock Four" – a scrolling text clock. After examining some Freetronics Dot Matrix Displays in the stock, it occurred to me that it would be neat to display…… Listed under: Clock – Timer Projects, Projects

1939. The Pill Reminder using Arduino

Back in January 2014 I was at a meetup of Baby Boomer Makers at TechShop in San Carlos, California. We were going around the table, each taking a turn to talk about projects we'd like to do. Bob spoke up to describe a problem his…… Listed under: How To – DIY – Projects

1940. Bear With Me

This instructable teaches how to make our Bear With Me system, a prototype that allows two users to tangibly send and receive hugs (as well as motion) in near real-time. The bears will be able to send tweets when physically hugged. Their hearts will glow…… Listed under: Game – Entertainment Projects

1941. Using switch to control Piezo speaker with Arduino

In this project, we will learn how to use a speaker (peizo sounder) and use switch button to change the pitch of the sound. Sorry about this one, you might find it a bit difficult to digest at first, and I didn't realise it's actually…… Listed under: Projects, Sound – Audio Projects

1942. DIY Arduino FM Radio Shield

I've been visiting local convenience store (Dollarama, here in Montreal, Canada) and notice nice looking FM Radio, just for only $3. Why not to try to interface it to my lovely Arduino? Idea looks quite challenging, the same time what is the point in interfacing…… Listed under: How To – DIY – Projects, Projects, Radio Projects

1943. Word Clock in German using Arduino

While in Germany last year, I saw a world clock in a store similar to this one in a store that was priced at 900€. I read several instructables online on how to create a World Clock so I decided to give it a shot....... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)

1944. [How to set up a Public Window](#)
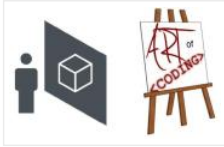
Public Window (http://www.publicwindow.net) is an open source project which allows artists to display their creations in a window and have people from all around the world interact with it. This is a step-by-step guide on how to set up a Public Window of your own. A...... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)

1945. [Sonar For The Blind using Arduino](#)

This is a project I'm calling Tacit. No, I didn't bother making an awkward backronym for it, it just seemed like an appropriate name that's a lot shorter (though less descriptive) than "Hand-Mounted Haptic Feedback Sonar Obstacle Avoidance Asstance Device". It measures the distance to things and translates that into pressure...... Listed under: [Medical – Health based Projects](#), [Projects](#)

1946. [Backpack Anti-Theft Alarm using Arduino](#)

If you're a student, like me, then you have heard of all the theft that occurs on campuses today. I can't even leave my backpack alone for five minutes without worrying about it getting stolen. To ease my mind and to help fellow students, I've...... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)

1947. [Arduino Breadboard Shield](#)

Are you tired of having a hard time trying up a circuit on a breadboard because your arduino takes up a lot of space? This shield can be a solution to your problem! The Arduino breadboard shield is again, an accessory for your arduino board...... Listed under: [Development Board – Kits Projects](#)

1948. [Arduino Serial Communication Code](#)

Arduino can send output through serial communication to your computer over USB. The output can be anything such as status, text, sensor reading, value, number etc. You can view the status output by clicking Serial Monitor button at Arduino Environment software. Instruction; 1) Connect your...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1949. [Connect several digital inputs to one analog input using Arduino](#)

I often run out of digital pins on my Arduino. Anything as complicated as, say, a video game controller, was near impossible with the amount of pins I had available. Multiplexing buttons works, but it requires lots of connections and soldering. So, I put together...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1950. [RC tank with a moving FPV camera using Arduino](#)

In this instructable I show you how to build remote control tank with FPV camera. At the beginning I build only RC tank without FPV camera but when I was driving it in the house I have not seen where it is. So I came...... Listed under: [Video – Camera – Imaging Projects](#)

1951. [Arduino home energy monitor shield](#)

Although products are becoming more and more available for monitoring your home power usage, I'm one of those idiots who can't leave well enough alone and who would rather shell out $100 and hours of my time in order to save $20 and learn something...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

1952. [Quiz Game Controller using "Lights and Sounds Buzzers" and Arduino](#)

Jeopardy style quiz games are favorites for creating excitement and educational instruction at the same time. Teachers, summer camp counselors, and even industry educators find this type of game to help generate interest and involvement from the participants. The idea behind the game is simple,...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)

1953. [Arduino Phone Book](#)

Ever wanted to have a Phone Book, controlled using a microcontroller, which is very easy to use, and you can use it while talking on phone, and is saving data on SD Card? then this instructable is for you. In this instructable you will learn...... Listed under: [Phone Projects](#)

1954. [Soundgraffiti with arduino mega](#)

So we haven been working on the new soundgraffiti board. This is an installation wich creates sounds using sprayed water. The connection is made with water. We used copper plates as our sensor. the plates had a cutout line in the middle of 0,1 mm....... Listed under: [Sound – Audio Projects](#)

1955. [Arduino: Electrical Engineering Basics](#)

In this week's arduino tutorial, we take a bit of a detour and focus on some key elements of electrical engineering design that we'll be using in future episodes. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to...... Listed under: [Other Projects](#), [Projects](#)

1956. [Temperature Sensor for Shower using Arduino](#)

With this device you diminish the use of water in your house or work. Instead of waiting to see vapor in the shower to get in, this device help you to know when the water its at the temperature you want and you can instantly...... Listed under: [Home Automation Projects](#), [Projects](#), [Temperature Measurement Projects](#)

1957. [Fifty Dollar Box Bot](#)

The objective is to construct a programmable hobby bot that is affordable and simple to make. The parts will be purchased from places such as Wal-Mart, Radio-Shack, any Hobby Store, or online store that is accessible to the public. The price range is 50 dollars...... Listed under: [Robotics – Automation Projects](#)

1958. [Motion Controlled Ultrasonic Lamp using Arduino](#)

Recently I've been learning about Ultrasonic waves and how to harness their power. It's simple enough to make some type of sonar device, but I wanted to take at a step cooler and see if I could use Ultrasonic waves to not only detect movement,...... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)

1959. [Arduino Interrupts and Debouncing](#)

Interrupts are an extremely useful, yet often feared element of microprocessors. Interrupts allow you to run a program, while still being able to react to asynchronous input from the outside world. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana"
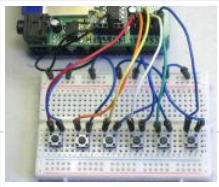
fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to...... Listed under: Other Projects, Projects

1960. Chat Server using Arduino

A simple server that distributes any incoming messages to all connected clients. To use, open a terminal window, telnet to your devices IP address, and type away. Any incoming text will be sent to all connected clients (including the one typing). Additionally, you will be...... Listed under: Internet – Ethernet – LAN Projects, Projects

1961. Monkey Automatons!

This instructable will guide you through the process of building a set of automaton monkeys in the style of "Hear No Evil, See No Evil, Speak No Evil." Our design ends with two monkeys reacting at the push of a button located in the Speak...... Listed under: Game – Entertainment Projects

1962. SOLAR POWERED ARDUINO WEATHER STATION

In country like India most of the people are dependent on agriculture.For effective planning in agriculture weather forecast is of utmost importance.So farmers are always interested in the Weather Forecasts.As farmers stay in remote areas, they have to wait for the news updates in tv,...... Listed under: Solar energy projects

1963. Arduino Controlled Motion Sensor

In this Instructable, I'll be explaining how to build a motion activated alarm! It uses an Arduino microcontroller, a PIR (passive infrared) sensor, and a type of alarm. You can use an LED indicator, a buzzer, or a piezo. That's the easy part. I will...... Listed under: Projects, Sensor – Transducer – Detector Projects

1964. MaKey MaKey Shield for Arduino
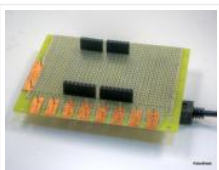
MaKey Makey is a project created by Eric Rosenbaum und Jay Silver. It's an Arduino based keyboard. A very special keyboard, because you can use apples, bananas or Play Doh as keyboard keys. Sounds strange, but it works very well. How it works: The trick is...... Listed under: Development Board – Kits Projects, Projects

1965. Classic Joystick to USB Adaptor using Arduino

If you grew up in the early 1980's and were into video games, you probably had an Atari 2600, ColecoVision, or similar game console. The controllers or joysticks for each of these systems had a distinct feel that is different from today's game consoles or...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

1966. LEGO T-Intersection LED Traffic Light using Arduino

Video not playing? See it on YouTube: http://www.youtube.com/watch?v=q0tiiWwC6Zo Background Every Christmas we set up a large LEGO train layout in a section of the living room. This year, I ended up winning an eBay auction for a number of older-model LEGO road plates, one of...... Listed under: Car Projects, Game – Entertainment Projects, LED Projects, Projects

1967. Six wheeled All Terrain Vehicle (6WD) using Arduino

Hello, In this post we"ll be making a Six wheel drive all terrain vehicle (ATV). These are rare and hence expensive robots (at least in India). I made this ATV as my summer project. Dagu manufactures a similar 6WD chassis but its way too expensive...... Listed under: [Robotics – Automation Projects](#)

1968. [The CoaTracker](#)

Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you...... Listed under: [Sensor – Transducer – Detector Projects](#)

1969. [Model Police Car using an Arduino](#)

We wanted to build a model police car with working lights and sirens. Then we decided to add a motor and instead of using a switch to turn everything and off we used a photodiode. For our car the photodiode signal is a simple on off...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

1970. [Open a box with the flick of a switch!](#)

Have you ever given something to someone and wished that the box you gave it in opened automatically? No? Well neither have I (well, maybe) :D. However if you have, this is the guide for you! With just a flick of a switch the box...... Listed under: [Robotics – Automation Projects](#)

1971. [How to turn inkjet printer to print on Coffee using Arduino](#)
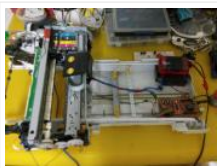
The aim of this project is to make latte printer, I used 1 printers and 1 scanner , it prints one line a time, all what I have done is hacking the sensors of the printer and I used Arduino Uno to send different values...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)

1972. [Arduino + fischertechnik TX-C – Connecting I2C True Colour Sensor](#)

Colour reading is a real issue for industrial models. I've been working on it for more than 12 months now, since December 2009. After many months of hard work, • starting with the standard colour reader (season 1) with features a red LED, •...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

1973. [The 4x4x4 LED cube using an Arduino](#)

In this instructable I will show you how to make a 4x4x4 LED cube that will be controlled by an Arduino Demulionove. now yes you might say" that Arduino has only 14 I/O pins well also the 6 analog pins can be used as pins...... Listed under: [LED Projects](#), [Projects](#)

1974. [Froggy World 3 The Seesaw](#)

Froggy put on a little eye makeup before heading out for the new ride, "The Seesaw." The Seesaw is the third ride in the amusement park for adventurous plastic frogs. This ride received Froggy from "The Boot" and slides him over to a waiting rail...... Listed under: [Game – Entertainment Projects](#)

1975. [Arduino DIY SD Card Logging Shield](#)

Ready-made SD card logging shields for the Arduino typically cost in the range of $15 – $25. This is quite reasonable, but we might save a couple of bucks if we make our own. Not to mention all the fun in building it. Forget about…… Listed under: [Other Projects](#), [Projects](#)

1976. [Virtual USB Keyboard Using Arduino](#)
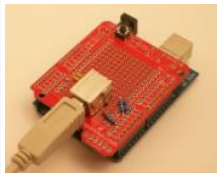
Communicating with a host computer can allow a simple Arduino-based system to gain access to a wide variety of devices and information. Most people link an Arduino to a host using serial communications across a USB connection with custom code running on the host to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

1977. [Smart Homer Web-enabled TV remote using Arduino](#)
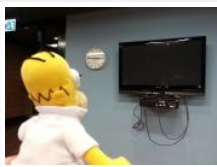
Smart Homer, a Web-enabled TV remote puppet Smart Homer is a Web-enabled puppet that turns on your TV when Simpsons is on. As Homer is too lazy to browse the Web himself, a script in the cloud checks the online TV program for him. If…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)

1978. [The Musical FootBall](#)
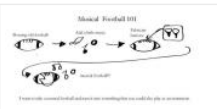
This project is to construct a musical football. The reason for my project is that I was inspired by a little kid with austim who love sports and music. So what better way to have fun then have a ball that you can play with…… Listed under: [Game – Entertainment Projects](#)

1979. [Simple Arduino L.E.D Police Lights](#)

This was one of the first programs i wrote for the arduino after having it a few days ☺ we will be making l.e.d police lights with minimal materials Step 1: You will need. You will need Arduino (or suitable clone) Breadboard 2x 240ohm resistors…… Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)

1980. [Lightning Shutter Trigger for a Camera using Arduino](#)

I knew there were devices that could trigger a camera to fire during a lightning strike, but their circuits were more complicated than I wanted to make. I'm a software guy not a hardware guy so I decided to use an Arduino and that allowed me to write a…… Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)

1981. [Dr Blinkenlights… (or how I learned to afford the BlinkM)](#)

I love the idea of the BlinkM (individually addressed RGB leds controlled with 2 pins), but not so much the price (nearly 15 quid each!). Luckily, the hardware is open source and somebody has brought out an alternative firmware (although if you know where to…… Listed under: [LED Projects](#)

1982. [Arduino wall avoiding robot](#)

This instructable assumes very little with respect to prior knowledge. If there are any areas you feel could be improved or clarified, please feel free to message or comment and I will update. Here are all the details you need to produce a simple wall…… Listed under:
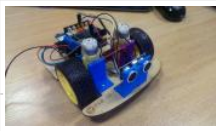
Robotics – Automation Projects

1983. [Power Quality Meter (PQ Monitor) using Arduino](#)

Arduino UNO project, Power Quality Meter, someone would call it's PQ Monitor or PQ Analyzer. I had already published one blog devoted RMS voltage measurements on full band 20 – 20 000 Hz audio signals. (Following my own style, I'd refer to already published…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

1984. [Audio VU meter with Extra wide Dynamic Range 69 dB using Arduino](#)

O'K, after having some fun with stereo version of the VU meter I described in my previous blog-post, now it's time to do a serious stuff. Studio grade VU meter !!! 24 steps, equally spaced every 3 dB, covering Extra wide Dynamic Range from -63 up to…… Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sound – Audio Projects](#)

1985. [Light Suit](#)

Why build a light suit? Probably because I've watched tron a few too many times (the 1984 version of course). I'd just discovered arduino and was very excited, I'd made LED's flash and buzzers sound but now I wanted to make something new and interesting,…… Listed under: [LED Projects](#)

1986. [Dot Matrix Printer from a CD/DVD Reader with Arduino](#)

Hey! Some time ago while going through the pages here in Instructables, something catch my attention, a printer made of a CD reader, and i was amazed. I thought: "This is incredible, I have to make one!" I know that these kind of projects don't…… Listed under: [CNC Machines Projects](#), [Video – Camera – Imaging Projects](#)

1987. [Arduino powered hangman giftbox/lockbox](#)

A medium sized box that requires the user to succeed in a game of hang man in order to gain access to the contents of the box. Great gift Idea!!! my Arduino sketch will be included in this instructible sorry for the poor quality pictures!…… Listed under: [Game – Entertainment Projects](#)

1988. [Measure RPM – Optical Tachometer using Arduino](#)

This Instructable will show you how to make a Portable Digital Optical Tachometer using an Arduino Uno. This project is inspired from This instructable and is an enhanced version of it with an LCD display and a modified code. Instead of a slotted sensor ,…… Listed under: [Metering – Instrument Projects](#)

1989. [How to build an Arduino WiFi 4×4 with Android Controller](#)

RC cars can be WiFi Cars…? RC cars are cool, but cheap RC cars have limited range and can only be controlled with the particular controller that was included with the car. I purchased a RC jeep, complete with 4 wheel drive, flexible suspension, and…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1990. [Autonomous Control of RC Car Using Arduino](#)

This instructable shows how to modify an inexpensive RC car so it can be controlled by an on-board microcontroller. You can program the controller to make the car do any number of driving patterns and stunts. Once you have the car being controlled from the…… Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)

1991. [How to make a robotic dart shooting sentry](#)

Tools: Hot Glue Gun Laptop with Arduino software 22 awg hookup wire (black, red, yellow) wire strippers usb cable drill 1/16th drillbit exacto knife Parts: 2 tongue depressors 1 clothespin 1 rubber-band 1 dart 1 cup (paper or plastic) 1 arduino 1 breadboard 1 led 1 momentary button…… Listed under: [Robotics – Automation Projects](#)

1992. [Controlling Hand Drill with Roboduino using Arduino](#)

This will explain how we re-purposed a hand drill to re-spool solder using a roboduino (arduino compatible), two servos, and a DIY encoder. While one could use TRIACs to play with the AC power going into the drill, just using a servo to control the throttle…… Listed under: [Motor Projects](#), [Projects](#)

1993. [Adding CV inputs to the Auduino granular synth](#)

When I first got into the Arduino I went looking for audio projects. One of the first things I built was TobaTobias' Auduino granular synth. I was so impressed I built a permanent unit in a heavy duty enclosure and incorporated it into my occasional…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

1994. [GoFly – paragliding/hangliding/gliding altimeter-variometer from Your car navigation using Arduino](#)

GoFly is a project based on PNA (car navigation devices with Windows CE), LK8000 tactical fligh computer software and variometer (altimeter) external input based on Arduino board and pressure sensor. Why? -You can build this for about 150$, -Your ordinary PNA (Personal Navigation Assistant) changes…… Listed under: [Car Projects](#), [Metering – Instrument Projects](#), [Projects](#)

1995. [Quick and Easy Arduino Nightlight](#)

Honestly, how many people have been in this scenario (leave a yes or no in the comments) : It is 2:30 in the morning and you wake up with a need to do something whatever that may be (bathroom, forgotten homework assignment, project due in…… Listed under: [LED Projects](#)

1996. [Using an Arduino to Control an Infrared Helicopter](#)

In this Instructable we will explain how infrared signals are used by a remote to control a toy or device, then show how a simple circuit can be added to an Arduino to operate the same device through free, Open Source software. This document is part of…… Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

1997. [USA Flag made with diffused LED using Arduino](#)

USA flag constructed using a total of 2,301 diffused red, white and blue LEDs completed with Arduino sketch animations, I hope this instructions helps anyone who wants to try this out. This flag can be displayed during the 4th of July, memorial day or during…… Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [LCD Projects](#)

1998. [Arduino Skateboard Speedometer](#)

Using an Arduino, it is easy to make a speedometer/tachometer for virtually any man-powered vehicle. I made one for my skateboard that used a small magnet to count revolutions and utilized an LCD display screen. This Instructable will show you how you can do the...... Listed under: Game – Entertainment Projects, Metering – Instrument Projects, Projects

1999. Automate Your Garage Opening Times

1. Background My 1st project with Apduino Online was about to solve a simple problem, close the garage door after sunset, when it has been left open. We have a garage in the basement, which is used not only for car parking, but gardening tools...... Listed under: Home Automation Projects

2000. How to control arduino board using an android phone and a bluetooth module

In this tutorial you'll learn how to use a bluetooth module and MIT's app inventor to create a wireless serial link between an android phone and an arduino board. Here is a short video showing an example app I created. I'll describe how to do...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

2001. Quantifying Access to your Mind using Arduino

So, I manage a creative technology lab at California College of the Arts. It's essentially an educational hackerspace for art and design students. Pretty awesome, right? After graduating from the University of Minnesota with a degree in mechanical engineering, I was desperately trying to find...... Listed under: How To – DIY – Projects

2002. Control Servo with Light using Arduino
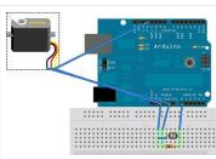
Hello! In this Instructable i will teach you how to control a servo using a Photocell. This is very simple and good for beginners. Step 1: Materials 1 x Photocell 1 x 10k Resistor 1 x Arduino 1x Breadboard 1x Servo and some jumpers Step...... Listed under: Motor Projects, Projects

2003. Arduino Wireless Animatronic Hand
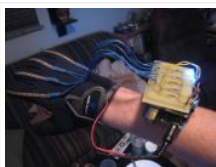
BTW!!!!! This instructable is awsomeeeeeeThis is a very simple but at the same time a very hard project depending on your skill level. Lets get to building! What this is, is a wireless animatronic hand that doesn't need a computer to operate. The user wears...... Listed under: Projects, Sensor – Transducer – Detector Projects

2004. Binary/ Analog Clock

I was inspired by the digital/ analog clock to make my own special clock as my second instructable. I browsed the internet and found that servo clocks are rare and binary are common. So i decided to combine the two and this is what I...... Listed under: Clock – Timer Projects

2005. Control anything remotely with Infrared signals using Arduino

Who would have thought that just about every Arduino attachment can be controlled in some way with a TV remote? Now its time to find out how. Arduino.skp141 KB Step 1: Setup and Materials The setup for this is quite basic. The real challenge is...... Listed under: Projects, Radio Projects
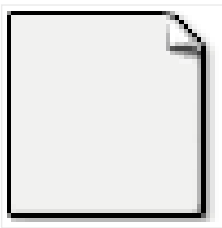
2006. [How to make an Arduino from scratch](#)

Frugal Engineering is the best way forward for science. If you're interested in making some arduino's from scratch , you've come to the right place. You can see a video tutorial of this instructable : here It will supplement any loopholes or doubts you may...... Listed under: [How To – DIY – Projects](#)

2007. [Arduino Bluetooth Serial Connections](#)

This is an introduction on how to setup, make a basic connection, and send data to and from an Arduino using Bluetooth! Bluetooth is great for transmitting data over medium distances and what's more, Arduino just treats it like a serial data connection. This means...... Listed under: [Other Projects](#), [Projects](#)

2008. [To blink LED from mobile phone or iPod or another computer via WiFi](#)

Hello Everyone, I like this site too much, the site really played very important role in awakening my enthusiasm and creativity. This is my first project and its really for the first timers project. I got this project from Instructible site , modified to access...... Listed under: [LED Projects](#)

2009. [RGB LED Strip Circuit with Arduino](#)

This Instructable covers the assembly of a circuit capable of PWM-ing (pulse width modulating) a high-power RGB LED strip and programming an Arduino to cycle through a range of colors. In this context, "high power" is 9-12 volts. I will discuss how to mount a...... Listed under: [LED Projects](#)

2010. [Arduino – Control LEDs with a Remote Control](#)

Step 1: IR library First you need to go to this page and download the IR library. You just need to follow the read me file to install. I think that any IR remote control can do this, I'll be using a Philips Universal one....... Listed under: [LED Projects](#)

2011. ['Knock Back' – A Knock Echoing Arduino](#)

This is a simple Arduino sketch that was originally designed to experiment with arrays and the built-in timing functionality. I based it on the tutorial sample code http://www.arduino.cc/en/Tutorial/Knock The system consists of a piezo sensor connected to an analog pin that listens for a knock from...... Listed under: [Sensor – Transducer – Detector Projects](#)

2012. [How to Build a Robotic Hand with Haptic Feedback using Arduino](#)

For science fair this year, I felt like building something instead of doing an experiment. All I needed to do was look around Instructables for a project idea. I was inspired by njkl44's robotic hand since it reminds me so much of stuff out of...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2013. [Arduino Tutorial: Capacitive Touch Sensors](#)

Hello everyone! This instructable is a tutorial that will guide you on using the Capacitive touch sensors with Arduino. A Capacitive sensor is a kind of touch sensor, that requires little or no force to activate. In this Instructable about capacitive touch sensing, I'll show...... Listed under: [Sensor – Transducer – Detector Projects](#)

2014. [Make Wired Robotic Arm Edge to "Wireless" with DIY Arduino and XBee](#)

UPDATE: Added Schematic, Top Layer PCB, Bottom Layer PCB, and both Top, Bottom PCB images When I finished the "RevIO" – an Arduino Clone that has the different way of exposing pins usage. I decided to go further to the next project. To test my...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2015. [7-Key Slider/Wheel Tutorial with Synthesizer](#)

This is a tutorial for using the 7-Key Slider/Wheel Breakout from Rachel's Electronics. I'll show you how to solder up the header pins for maximum usability. Rachel's has the QT1106 datasheet on their site, and a great arduino library for this breakout. The kit from...... Listed under: [Sensor – Transducer – Detector Projects](#), [Tutorials](#)

2016. [Arduino Watch with Nokia 3110 screen](#)

My goal for this project is to make a watch with selectable dials, stopwatch and millidays. This idea started with an Aprils fools prank about metric-time. (http://www.youtube.com/watch?v=K35xG1buyFA) First I wanted to make a metric clock but soon this idea evolved from a metric watch into...... Listed under: [Clock – Timer Projects](#), [Phone Projects](#), [Projects](#)

2017. [Uber Home Automation w/ Arduino & Pi](#)

A few years ago, I became a dog owner for the first time. I didn't like leaving Cody in the kennel alone all day. I had a webcam on him, but I couldn't watch it all day long. What if he was in some kind...... Listed under: [Home Automation Projects](#)

2018. [Come Home! Connecting Distant Spaces EASILY over Web using Arduino](#)

Can you believe that we live in an age where you can touch an object (any object – if it has metal on it) and a light will turn on in your loved-one's space – even if they live in a different city, state, or...... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)

2019. [Simple 2-way motor control for the arduino](#)

When I say simple, I don't mean use a speed control. But control the motor directly without any external circuitry. Here's how: How this came about: I recently was working on an instructable about charlieplexing with an arduino. And I was wondering if the same principle...... Listed under: [Motor Projects](#), [Projects](#)

2020. [Assembling the 8×8 LED Board Kit](#)

These are step by step instructions for assembling the 8×8 LED Board kit from moderndevice.com. I had never played with LED displays before using this kit. I suggest reading through all the assembly steps BEFORE starting to solder because assembly order DOES matter
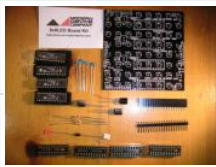
with this...... Listed under: [LED Projects](#)

2021. [CatGenie: A smart, resettable SaniSolution cartridge](#)

The project This project follows on from the excellent work by ScotSEA and his Arduino reset program (see http://www.instructables.com/id/CatGenie-Resetting-a-SaniSolution-Cartridge/). I had never taken my Catgenie apart as Scott did, but had built a small contact board instead. I had previous updated Scott's program to...... Listed under: [Security – Safety Projects](#)

2022. [My Ninth Project: Robot Arm with Joystick Shield using Arduino](#)
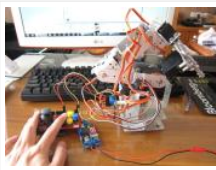
Although it is great controlling the robot arm with computer or mobile phone, I think using joystick is also cool, so I've bought a joystick shield and make a new project. This joystick shield is compatible with Arduino. It also support Nokia 5110 LCD module,...... Listed under: [Robotics – Automation Projects](#)

2023. [Beat Sync using an Arduino](#)

Beat Sync is a single frequency audio spectrum volume meter. It can isolate around a certain frequency (I choose the bass) and display it on a creative 8 segment LED bar graph. This is meant to be quite simple, yet allowing room for...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2024. [Laser Tag Stuffed Animals](#)

Ever feel like there aren't enough toys at the intersection of cuddly and terrifying? Wish your stuffed animals could double as weapons? Then I've got the toy for you. These Laser Tag Stuffed Animals easily transform from being a cuddly night light to the world's...... Listed under: [LED Projects](#)

2025. [Arduino and L293D Robot (Part 1)](#)

Here is part 1 of the Arduino and L293D Robot.This is part of a series of instructables leading to a Line follower Robot. This is a basic Robot made by controlling two motors via the L293D chip through an Arduino Board. I have done this project in...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2026. [Mini BillBoard using Arduino](#)

Designing a Mini BillBoard using LED Lights(different colors) , Arduino and Bread Board. Thought of creating a mini billboard, that could display my name ("Josh") . This is for one of the build nights (required us to use LED lights). This billboard would blink in...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

2027. [D-Led Shield v1.0 (for monitoring)](#)

Good day fellow enthusiast! Here is one of my latest and simplest shield designs for an arduino board. The thing here is, sometimes we have a hard time checking out which I/O pins are LOW or HIGH, especially when we are dealing with LED, motors,...... Listed under: [LED Projects](#)

2028. How to Make Musical Floppy Drives using an Arduino

My brother posted a video about this on facebook almost a year ago. Some old floppy drives playing Bach's masterpiece Toccata & Fugue and it got me really interested. So I read about it when the author posted a how-to on his blog and did a couple of tweaking...... Listed under: Game – Entertainment Projects, Projects, Sound – Audio Projects

2029. Pimp My Zoomobil using Arduino

I recently put together the Playmobil Zoomobil for my kids. As I was busy snapping all the pieces together, I became more and more convinced that this cart had been made to have lights. It's hard for me to believe the original product designers at...... Listed under: Game – Entertainment Projects

2030. Using a Dot Matrix LED with an Arduino and Shift Register

The Siemens DLO7135 Dot matrix LED is one amazing piece of optoelectronics. It's billed as a 5×7 Dot Matrix Intelligent Display (r) with Memory/Decoder/Driver. Along with that memory, it's got a 96-character ASCII display set with upper and lower case characters, a built-in character generator...... Listed under: LED Projects, Projects

2031. SYNTHDUINO
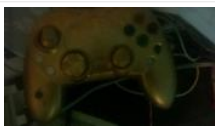
The synthduino is a fun arduino project to do and as a beginner it is a great way to learn new things about arduino's many features. With only using household items to build the synthduino you will be satisfied with the finishing project and feel...... Listed under: Game – Entertainment Projects

2032. Arduino Controlled ATX Power Supply

Can a microcontroller control its own power? Well nearly! An ATX power supply, either new or from an old PC, is a great way to power Arduino and other microcontroller projects. That is covered in several 'ibles such as this one. However, because of some...... Listed under: Other Projects, Projects

2033. Reading Digital Callipers with an Arduino

How to use an Arduino to read the signal from a set of digital callipers and send the reading over USB. Why? This might be useful for accurate position sensing in home made / hacked computer aided manufacture systems. Adds USB functionality to your callipers....... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

2034. Personalised Word Clock using Arduino

Build a unique personalised gift that's cool and reflects the character of the recipient. What's different about this Word Clock is that it is small enough to sit on a bedside desk, displays the recipients name and has personalised messages that appear at different times...... Listed under: Clock – Timer Projects

2035. Arduino String Instrument

Sure you can use LDR's, potentiometers and buttons to generate sounds, but what about strings? When I began thinking about an Arduino string instrument, I realized what I wanted to create was a soft potentiometer. I found my inspiration from Hannah Perner-Wilson's Fabric Potentiometer http://www.kobakant.at/DIY/?p=543. Step...... Listed under: Metering – Instrument Projects

2036. [Autonomous Paintball Sentry Gun using Arduino](#)

Make your own, custom AUTONOMOUS SENTRY GUN! A Microcontroller Contest Finalist and Runner Up Winner. This instructable is out-of-date. For the most recent version of the tutorial, see the website . Cheers! This sentry gun autonomously tracks, aims, and shoots at targets, using: -An airsoft or...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

2037. [BUGBot – Light Follower Robot using Arduino](#)
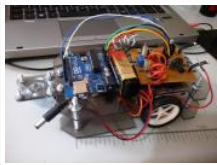
The figures above shows the basic idea of any robot, where we have some inputs and output devices connected to the brain and some outputs controlled by the brain. In our case we will have the Arduino like the brain. The central Brain, controls all...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2038. [The "all in one box" aquarium feeder using Arduino](#)

Step 1: Things you will need the images show you what you need. you will also need (but is not shown in picture soldering iron shrink tubes lighter 5 volt power supply usb cable (to program you're arduino)   info on the foamed pvc sheet...... Listed under: [Home Automation Projects](#)

2039. [Dirt cheap Arduino LED light bar](#)
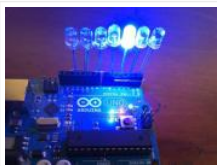
This instructable was designed for beginners in mind, but advanced users can easily adapt it to fit their needs and wants. It only uses a few common components, so you shouldn't have much trouble putting this together. It's a good waste of 5 minutes with...... Listed under: [LED Projects](#), [Projects](#)

2040. [Intelligent Solar Garden Light using an Arduino- Part 1](#)

I bought a solar powered garden light. The solar panel charges the batteries and when it gets dark the lights (3x LEDs) turn on until it either gets lights again or the batteries run out. It has a small amount of intelligence (turns on when...... Listed under: [Battery Projects](#), [Home Automation Projects](#), [Projects](#)

2041. [Kickstarter Backer Alert with Stats Scroller, using Arduino Yun](#)
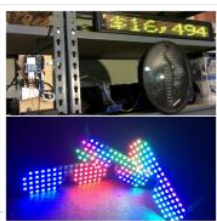
The Arduino Yún is a curious addition to the Arduino family. There is a fairly widespread community surrounding the Arduino concept, platform and software. There's another popular community dedicated to hacking and improving inexpensive wireless routers, which often run Linux. The Yún combines the two...it's...... Listed under: [Car Projects](#)

2042. [Interactive Stereoscopic Installations: visual rupture with the Diplopiascope](#)

What is it? This is an ongoing project that i've been working on to see the potential of interactive stereoscopic installations in examining the perceptual process. I use a setup that i've called a Diplopiascope to investigate this. The Diplopiascope has gone through a few...... Listed under: [Video – Camera – Imaging Projects](#)

2043. [Make a 24X6 LED matrix using an Arduino](#)

After making a 8X10 matrix a lot of people asked me about expanding the matrix to some thing bigger, and some wanted to write stuff to the matrix via a PC, so one day I looked at a pile of LEDs that I had leftover...... Listed under: [LED Projects](#), [Projects](#)

2044. [8×8 LED Matrix Animations using an Arduino](#)

For a party we were about to have I wanted a cool light display to use with my new Xmas present – an Arduino Uno. Having looked at the LED matrix's here I wanted a bigger one that I could hang on the balcony. I also wanted...... Listed under: [LED Projects](#), [Projects](#)

2045. [Arduino-Based Blue Box (Phone Phreaking)](#)

History and Story In the 1950s, 1960s, 1970s, 1980s and even up into the 1990s phone phreaking was an amazingly cool way to explore an unknown world of phone switching networks. To "phreak" a telephone switch, can be done by using frequencies, or tones to...... Listed under: [Phone Projects](#)

2046. [Serial Servo Controller with Arduino](#)
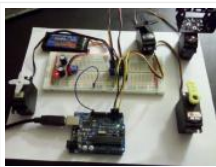
I'm going to show you how to use your Arduino to control up to 12 servos at once with minimal jitter. Using a simple serial interface you can control the position of up to 12 servo channels. Up to 10 snapshot positions can be saved...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Motor Projects](#), [Projects](#)

2047. [LED Watch using an Arduino](#)

This instructable will show you how to make your own arduino based watch that tells time using a matrix of LEDs. This is my first instructable, so if something is unclear leave me a comment or send a message! I was inspired by all the...... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)

2048. [DIY a Spelling Game with an Interactive Robot using Arduino](#)

Did you hear before about Social Robot? Did you you see the Pepper Robot or Jibo robot? These kinds of robots that can hear you, understand you and make a social contact with you via sound, facial expressions and body gestures. Social robots have various...... Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#)

2049. [DinoCalc Version 1.0](#)

(Arduino Pro Mini Protoboard Version) Latest Release: http://code.google.com/p/dinocalc/ Development: https://github.com/WeaselJones/DinoCalc This is a calculator without a LCD that tells you if your math answer is right or wrong, without giving you the answer. This instructable will show you how to make this simple math checking...... Listed under: [Calculator Projects](#)

2050. [MP3 Interface for Arduino](#)

I have added a follow-on to this Instructable: http://www.instructables.com/id/Cheap-and-Easy-MP3-Shield-for-Arduino/ The follow-on shows you how to design, etch and build a PCB shield to connect the MP3 to the Arduino. Replaces the analog switches with a 74HC244. SIngle layer board with large surface mount component design. Only...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [Sound – Audio Projects](#)
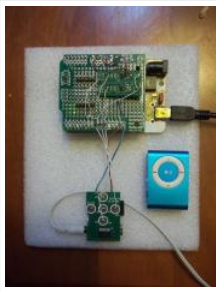
2051. [Ethernet Switching – with Arduino](#)

Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.06 Please read the below steps to Step 2 if you are viewing this article for the first time. Please go to step...... Listed under: [Internet – Ethernet – LAN Projects](#)

2052. [Virtual Etch A Sketch](#)
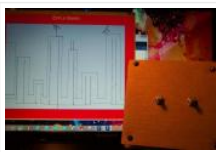
The Etch A Sketch: famous, creative, and unique. Unfortunately I have no clue where the one from my childhood is, so I decided to make my own virtual one! Check it out (and my awful drawing skills) below. This Etch A Sketch is quite like...... Listed under: [Game – Entertainment Projects](#)

2053. [ATtiny programmer using Arduino ISP](#)

Thanks to: http://jeonlab.wordpress.com/ For relatively small (less number of pins than ATmega328) projects, ATtiny series, ATtiny45 or Attiny85 are good choice in terms of its physical size (8-DIP or 8-SOIC) and low power consumption. There are many ways to program it. One of the popular...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2054. [TurtleDuino Object Avoidance Robot using Arduino](#)

Hello, in this instructable I'll be showing you step by step how to build the TurtleDuino, an object avoidance robot, with an Arduino UNO microcrontroller on board. I designed the TurtleDuino using material from the hardware store (Home Depot) and all the electronics from sparkfun.com...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2055. [Home Automation: Drapes using Arduino](#)

Hate having to manually open and close your drapes? Hate getting back from work/school and your room is dark and dreary? Do you want curtains that open and close themselves? Then you need Dr. Drape! Dr. Drape is an easy DIY project using an Arduino...... Listed under: [Home Automation Projects](#)

2056. [Convert a toy piano to work as a midi device and use it with Synthesia](#)

Goal of this project: Convert a cheap toy piano to work as a midi device and use it with Synthesia (http://www.synthesiagame.com/) Other programs that use midi inputs can also be used. Approach: The pushbuttons of the piano are used to make a simple pull-down circuit...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sound – Audio Projects](#)

2057. [Tankbot – Internet Controlled Tank Robot using Arduino](#)

Do you remember a game called Tank Wars? This is an attempt to make a physical version of that classic arcade game. You, the player drive an Arduino powered tank and fire a laser at a target. This project uses an Arduino to control a tank...... Listed under: [Internet –](#)

Ethernet – LAN Projects, Projects, Robotics – Automation Projects

2058. Guitar Tuner for the Blind (using an Arduino)

How to modify a guitar tuner so it can be used by a blind person This build uses an Arduino Pro mini microcontroller, (all code is provided). This project was undertaken for the charity Remap, which provides custom-made equipment for people with disabilities. Summary Begin with…… Listed under: Sound – Audio Projects

2059. An FM Stereo Broadcaster PLL using Arduino

I have two good AM transmitters – one I'd built using a single 6888 Tube plus an old KnightKit Broadcaster that I'd refurbished, as well as a high-quality solid state transmitter from SSTRAN that I use to play music over the several antique AM radios I've repaired…… Listed under: Projects, Radio Projects

2060. AC Arduino dimming circuit

THANKS TO CONCERNED VIEWERS, I HAVE LEARNED THAT THIS IS NOT SAFE AND SHOULD NOT BE REPLICATED. SO PLEASE DONT TRY THIS ☺ THANKS TO EVERYONE WHO COMMENTED, I LEARNED A LOT I am not an engineer, just an experimenter and hacker and prototyper etc,…… Listed under: Home Automation Projects, Projects

2061. Tiny Altoid Tin Robot With Personality

I love robots. Normally the ones I build are quite large and wouldn't fit in your pocket, but for a change of pace I decided I would try something small and fun! This robot is exactly that, and in fact fits inside of an altoids…… Listed under: Robotics – Automation Projects

2062. 5×5 LED Cube using Arduino Uno

This is a step by step explanation of how to build a 5×5 LED cube using an arduino. I did this project for my undergraduate electronics class and it took me about 2 weeks to complete. Note: Apparently, some of the links for the supplies…… Listed under: LED Projects, Projects

2063. Self-Watering Plant using an Arduino

Plants liven up any space by adding a sense of airiness and life. That is – of course – when you don't forget to water them, and they shrivel up and die. I am very bad at remembering to water plants. That is why I…… Listed under: Home Automation Projects, Projects

2064. Froggy World 5 The Coffee Gripper

In Froggy World, the amusement park for adventurous plastic frogs, it became necessary to to move the frog from a train car back to the catapult. Because I couldn't know whether the frog would be upright or sideways– and in what orientation–the gripper was a challenge……. Listed under: Home Automation Projects

2065. Dual H-Bridge – Arduino L298 Breakout Board

This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials This is the basic schematic. It works perfectly. A more advanced schematic and…… Listed under: [Arduino Android](#)

2066. [Interfacing a Digital Micrometer to a Microcontroller](#)

We had a project that required connection to a digital micrometer with a data output jack. The idea was to connect a microcontroller to the micrometer, to read the measurements and make decisions based on the readings. The micrometers that we used are made by…… Listed under: [Metering – Instrument Projects](#)

2067. [Bubble Wall | Interactive, Inflatable Panel](#)

Bubble Wall | Breathing Wall Panel System Interactive, Inflatable, Playable Wall Brief Project Description This was an artistic piece installed for a digital fabrication show at the University of South Florida School of Architecture and Community Design. While this brief is specific to this panel,…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

2068. [Big Spectrum Analyzer with Arduino](#)

Let's put together a pixel strip with an HL1606, an Arduino UNO and the Spectrum Shield to build a seven bands "large" Spectrum Analyzer of simple construction. The Strip used uses the HL1606 controller to allow direct management of each of the LEDs. The chip…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

2069. [Wii Nunchuk Controlled Model Train using Arduino](#)

Using an Arduino microcontroller, an Adafruit motor shield, and a Wii Nunchuk, you can create a intuitive, programmable, model train controller to run your layout. Amaze your friends. Entertain your kids. Not quite DC, not quite DCC. You're headed for the hacker lands of PWM…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

2070. [A Facebook-Connected, Arduino-Powered Music Party](#)

Music party is a new way to listen to music with others. By tapping an RFID/NFC device that is synced to a Facebook account on an Arduino RFID reader shield and sending that unique ID to Music Party server using the Arduino WiFly shield, we…… Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)

2071. [DIY Arduino Board Water Meter](#)
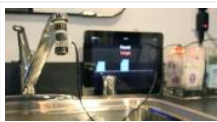
Working with the interaction design team, a bunch of us at Teague have been tinkering with measuring water, analyzing usage data in realtime to affect behaviors, and storing it to see patterns over time. At the heart of the exploration was a need to cheaply measure water…… Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)

2072. [Arduino LCD Metronome](#)

Connecting the LCD The first step is to wire up the LCD. The HD44780 has 16 pins: Pin 1 – Vss Pin 2 – Vdd Pin 3 – Vo Pin 4 – RS Pin 5 – R/W Pin 6 – E Pin 7 – DB0…… Listed under: [LED Projects](#)

2073. [Custom Large Font For 16×2 LCDs using Arduino](#)
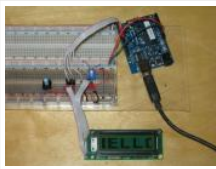
A couple of years ago i was learning to use the Ardiuno and started playing around with an Hitachi HD44780 based 16×2 LCD screen. I soon learned that the screen has 8 customizable character slots. I had found a project where someone used those slots...... Listed under: [LCD Projects](#), [Projects](#)

2074. [Garduino-Automated Gardening System using Arduino](#)

This instructable is a guide for setting up an automated gardening system using an arduino and other cheap electronic parts. It allows sustainable gardening by using sensors to determine soil moisture, as well as a webscraper to determine future weather. It uses this information to save water by only...... Listed under: [Home Automation Projects](#), [Projects](#)

2075. [Self-Contained 7x7x7 LED Cube](#)
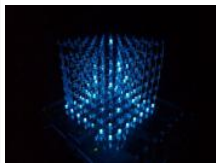
LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered...... Listed under: [LED Projects](#)

2076. [Burning the Bootloader on ATMega328 using Arduino UNO as ISP](#)

I had one remote controlled project that needed an Arduino running 24/7 but I didn't want to leave my $32 Arduino UNO, so I decided to buy some pieces and created my own Arduino. The most important part was buying the microcontroller. These were my...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2077. [How To Make A Board Game Using Arduino](#)

In this Instructable, we'll teach you how to create your own "Would you rather… " board game using conductive paint, an Arduino microcontroller, and some electronics components. Players take turns moving along the game path as directed by an electronic dice roll. Along the way,...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2078. [FuzzBot](#)

The FuzzBot is an awesome, fast, fully autonomous small Arduino robot that everyone loves!!! It uses the compact Pololu ZumoBot Chassis kit for a great drive system, and uses a Parallax Ping sensor to sense proximity, to make the FuzzBot fully autonomous. I like to...... Listed under: [Robotics – Automation Projects](#)

2079. [Arduino camera Lens Controller](#)

My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I...... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)

2080. [Capacitive touch Mood light using Arduino](#)

This instructable is a quick write-up of my experience creating a multifunctional moodlight. Some basic knowledge of electronic circuits is expected. The project has not yet finished, some adding functionality and tweaking has to be done but it is already functional. If you guys are...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2081. [Arduino-plex 2.0: Modular Plexiglas Arduino Work Surface](#)

Last year I needed a board that I could stick my breadboards to, that would also securely hold my Arduino. I used some Plexiglas I picked up at Skycraft in Orlando and I glued everything together with Crazy Glue. This worked well, but it didn't...... Listed under: [Development Board – Kits Projects](#)

2082. [The morse code generator by a PS\2 keyboard using Arduino](#)

Hi, all! Today I' m trying to explain you my last project: "The morse code generator by a PS\2 keyboard" I' ve used an PS/2 keyboard to send input to my Arduino board (like described in here) and transform it in morse code that activate...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

2083. [Nokia LCD & Sensors using an Arduino](#)

Arduino: Nokia LCD & Sensors PROBLEM: Making my Arduino, a Temperature-Relative Humidity sensor and a Nokia3310LCD screen work together. Now, I'm a Lazy Old Geek, so what I wanted was an Arduino kit that would take shields. This Freeduino was the cheapest that I could...... Listed under: [LCD Projects](#), [Phone Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2084. [Program an ATtiny with Arduino](#)
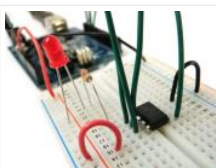
Follows are directions for programming the ATtiny microcontrollers using the Arduino IDE. In plain English, this is how to program 8-pin Atmel chips as you would normally an Arduino. This is cool because the ATtiny is tiny, and – well – this allows you to...... Listed under: [Arduino Programmer Projects](#)

2085. [Stupid Simple Arduino LF RFID Tag Spoofer](#)

RFID tags are all over the place. They're used in building access control systems, passports, inventory tracking . . . This instructable will show how you can use an Arduino and a few simple components (wire coil, transistor, capacitor, resistor) to make a device...... Listed under: [Projects](#), [RFID – NFC projects](#)

2086. [Ultrasonic Tape Measure using Arduino](#)

Have you ever wanted an ultrasonic tape measure, like this Stanley? (See picture). Well, I have but then I am a Lazy Old Geek. I don't really need one but I thought I'd try to make one. And naturally, I thought of an Arduino. August...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

2087. [Interface Arduino to MySQL using Python](#)

Here's a brief tutorial that should get you up and running interfacing your Adruino with a MySQL database. For the sake of this tutorial, I am assuming you know how to set up and use MySQL. This tutorial does not require much Python experience, but...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Internet – Ethernet – LAN Projects](#)

2088. [LDR Robot using an Arduino](#)

LDR Robot with IR and a Servo The LDR/IR Robot is designed to seek out light and avoid obstacles. The robot uses the Light Dependent Resistor to seek out light and the Infrared Sensor to detect and avoid objects in its path. The following are…… Listed under: [Projects](), [Robotics – Automation Projects]()

2089. [Jeopardy Ring-in Buttons with Built-in Rules using Arduino]()

There are several good Jeopardy/Game Show lockout buttons/buzzers, but none incorporate the timing rules of Jeopardy. I am learning about the Arduino and I thought that this would be a great project to practice with. The rules include a question reading period with no timeout…… Listed under: [Game – Entertainment Projects](), [Projects]()

2090. [Frankenstein Laser Engraver]()

This Frankenstein Laser Cutter was built out of an old scanner and printer. The whole thing evolved around the instructable of Groover and his 'Pocket Laser Engraver'. This is a Making-Of. Although a lot, if not everything, of the mechnical construction requires ingenuity I tried…… Listed under: [Metering – Instrument Projects]()

2091. [Low cost Ethernet shield with ENC28J60 using Arduino]()

Economical alternative to original Arduino ethernet shields, allows data rates up to 10 Mbps and is achieved with a traditional assembly components. One of the most interesting shield that you can mount on the Arduino platform is certainly the ethernet shield, because enable numerous networking…… Listed under: [Internet – Ethernet – LAN Projects](), [Projects]()

2092. [Pan & Tilt Servo bracket controlled by Arduino]()
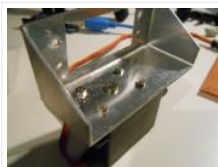
Hi, in this instructable i am showing you how to build a very nice and very sturdy pan & tilt turret for your rc / arduino projects. (Please don`t judge my english grammer etc. i`m from holland) The things that you need for this project…… Listed under: [Other Projects](), [Projects]()

2093. [Clock with Tics (presentation prototype) using Arduino]()

Clock with Tics is an Arduino-powered 24-hour digital clock that displays expletives at random intervals. A clock 'ticks'. A 'tic' (note the different spelling) can be a mental disorder and can manifest itself in a number of ways; most seriously, someone suffering from "Tourette's Syndrome"…… Listed under: [Clock – Timer Projects](), [Projects]()

2094. [Cheap lcd screen for the Arduino]()

We have used the pda with a desktop computer (robot) and with the Nslu2. Here we are going to use an old pda with serial port.to act as an lcd. Everyone either has one or knows someone who has an old pda that they do…… Listed under: [LCD Projects]()

2095. [Starting with robotics (Arduino)]()

Starting with robotics can be hard, if you don't know where and how to start. Best way to start is to make mobile robot. In this step-by-step we will show you, how to make cheap robot with parts available in your local store and household……. Listed under: [Robotics – Automation Projects]()

2096. [Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield]()

I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately $29.43 and is more affordable compared to $39.00 for a commercially available system...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Motor Projects, Projects, Sensor – Transducer – Detector Projects

2097. Rainbow Word Clock using Arduino

At long last I have managed to finish the Rainbow Word Clock! Once again, this one was inspired by Doug and his creations http://www.instructables.com/id/The-Wordclock-Grew-Up/ I have a fixation with RGB LED's at the moment and I wanted to do something a little different. So, while it...... Listed under: Clock – Timer Projects, Projects

2098. Persistence of Vision Wand using Arduino

Persistence of Vision (POV) Wands are a fun way to create interesting long exposure photographs and light displays. The wand consists of a single row of LEDs controlled by an Arduino Uno. When the wand is turned on it appears to be flickering in a...... Listed under: Game – Entertainment Projects, Home Automation Projects, Projects

2099. Big Ball Maze Game using Arduino

This project was the result of an urge to contribute something to the Creative Games section of my kids' elementary school fair. The kids loved it for it's simple old-school game aesthetic mixed with Wii-style and Kinect-style video game control. It's a spin-off project of...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

2100. Batgirl Birkin Bag

What a girl wants. What a girl needs. What's more exclusive and has more cachet than scoring a Birkin bag? Pow!!! A Batgirl Birkin bag! Holey Haute Couture, Batman! Yes, you too can knock off a version of this famous bag. Okay, even mine started...... Listed under: Home Automation Projects, Phone Projects, Sensor – Transducer – Detector Projects

2101. Internet Devices for Home Automation using Arduino

This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast...... Listed under: Home Automation Projects, Internet – Ethernet – LAN Projects, Projects

2102. Arduino powered Solar Battery Charger

The following design is for a Solar battery charger ran by an Arduino Nano. It can handle a standard lead acid 12V battery, like for a scooter or a car. Furthermore the design has been tested and runs with 90% efficiency under 70°C (158°F). It...... Listed under: Battery Projects, Solar energy projects

2103. Code generator for custom Android or Arduino menus

Introduction This is the first of two instructables that make up a complete customizable Home Automation for Beginners example. See DIY Home Automation for Beginners for the second part. It is aimed at the absolute beginner. If you can handle a sharp knife without cutting...... Listed under: [Arduino Android](#)

2104. [Programmable Temperature Controller + Hot Plate](#)

Heating things up is one of the most performed tasks in a lab. Quite a lot of times it is not enough to simply hold something at a certain temperature, but the rate at which something is heated and for how long is just as...... Listed under: [Arduino Programmer Projects](#), [Metering – Instrument Projects](#), [Temperature Measurement Projects](#)

2105. [DCF77 master clock MK2](#)

Features Arduino 328 Microprocessor is used to decode and display Time & date from the DCF77 "Atomic" Clock in Mainflingen near Frankfurt Germany The DCF77 signal is decoded using the fantastic new DCF77 library written by Udo Klein meaning the clock stays in sync and...... Listed under: [Clock – Timer Projects](#)

2106. [Arduino-powered LED Clock](#)

A fun, simple LED clock, that will give you the time to the nearest half hour using single-color LEDs. Parts needed are as follows: Arduino Nano 400 tie-point Breadboard Ribbon Cable DS1307 RTC IC 32.768 kHz Crystal (12) 10mm LEDs (12) 180 Ohm resistors (2)...... Listed under: [Clock – Timer Projects](#), [LED Projects](#)

2107. [Arduino Programmable Constant Current Power Resistance Dummy Load](#)

Glad to see you have arrived on this page to learn how to build a programmable constant direct current dummy load. This load will allow you to draw a set current from any source. This load can also be set to a constant resistance or...... Listed under: [Arduino Programmer Projects](#)

2108. [Network Time Protocol (NTP) Client using Arduino](#)

In this example, you will use your Ethernet Shield and your Arduino to query a Network Time Protocol (NTP) server. This way, your Arduino can get the time from the Internet. Circuit The Ethernet shield allows you to connect a WizNet Ethernet controller to the...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

2109. [Drive by wire go kart using Arduino](#)

I just got a new go kart engine, i went from 6hp to 10hp. This new kohler engine I got I think was not built to put on a go kart, so I had some trouble finding a way to attach the gas petal. Well...... Listed under: [Car Projects](#), [Motor Projects](#)

2110. [Programming Arduino Wirelessly](#)
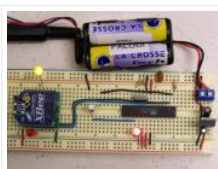
The Arduino system offers an easy and open-source method for programming microcontrollers. Normally this means using a serial cable or USB cable attached directly to the microcontroller project. But what if your project is floating in a weather balloon, glued to the bottom of a swimming pool...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

2111. [Put a Cylon in it!](#)

Last year the comedy sketch show 'Portlandia' made fun of an arts and craft trend, where craft artists would take ordinary items and 'put a bird on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and...... Listed under: [LED Projects](#)

2112. [Water Flow Gauge using Arduino](#)

Measuring the consumption of a resource that has units by volume can be more tricky than it sounds. Use of resources such as water, gas, and even electricity is typically measured by gauges that determine either instantaneous flow rate or cumulative volume over time. Both...... Listed under: [Other Projects](#)

2113. [Modern RGB LED Clock using Arduino](#)
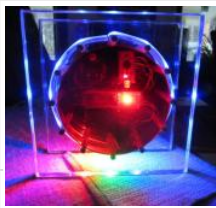
As hard as it might be to believe, I had never built an electronic clock of any kind. I've always thought electronic clocks were passe and not worth the time to design and build one. In addition, I thought that all interesting electronic clocks designs...... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)

2114. [Low resolution display done right](#)

A resolution of 8×8 pixels may not sound like enough for anything interesting, but with the right setup, it is possible to create beautiful, complex animations and even add some interactivity. In the next pages I will detail the steps needed to build the low-res...... Listed under: [LCD Projects](#)

2115. [64 pixel RGB LED Display – Another Arduino Clone](#)

This display is based on an 8×8 RGB LED Matrix. For testing purposes it was connected to a standard Arduino board (Diecimila) using 4 shift registers. After getting it to work I permatized it on a fabbed PCB. The shift registers are 8-bit wide and...... Listed under: [LED Projects](#), [Projects](#)

2116. [RFID cat door using Arduino](#)

Intro: RFID Cat Door This is a cat door /flap that can only be opened by the animal that wears the appropriate RFID tag. Arduino controls the process. It features a custom made antenna large enough to function as a gate, which makes it easy...... Listed under: [Projects](#), [RFID – NFC projects](#)

2117. [Automatic Multi-Photo Taker (Photobooth Style)](#)

This is a tutorial on how to program your DSLR camera to take photos photobooth-style. It's a simple Arduino setup that allows you to take continuous photos with 3-second delay intervals. This was built for a college electronics project. A motion sensor detects motion in...... Listed under: [Video – Camera – Imaging Projects](#)

2118. [How To Smell Pollutants using an Arduino](#)

This Instructable explains how to use a gas sensor with your Arduino. This lets your Arduino smell (and hence you program responses to) overall gas levels for a variety of nasties, including ethanol, methane, formaldehyde, and a bunch of other volatile organic
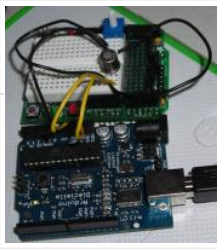
compounds. My cost...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2119. [Gas detector / indicator (USB powered) with arduino](#)

ArduSniffer This Instructable shows how to build a gas detector / indicator using an arduino. The finished product is USB powered and displays the amount of detected gas on a led display. In this design the reset button on the arduino is also working. This...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2120. [BoB the BiPed](#)

Did you buy an arduino after seeing all the cool instructables and now you tired of just making LEDs blink? Are you envious of all the cool walking robots people are building but don't have the experience or cash for all of those servos and expensive brackets?...... Listed under: [Robotics – Automation Projects](#)

2121. [Arduino Programming With Atmel Studio 6.0](#)

How to import the compiled Arduino IDE libraries into Atmel Studio 6.0 using a program written by Omar Francisco. This will allow you to use the feature rich programming environment of Atmel Studio to program the Arduino Uno. Other Arduino boards such as the Mega...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

2122. [How to Control arduino by bluetooth from PC](#)

I wanted to make it possible to control an arduino board from my phone. So that I could control other devices. the easiest way seemed to be using bluetooth. but when I received the parts needed I found it want quite as simple as I...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [RTOS – OS Projects](#)

2123. [DIY Motion Sensor Alarm System](#)

Are you constantly being scared when people sneak up behind your back? Do you have bad hearing and can't hear people approaching you? Do you want to just build a super fun Arduino project? If you answered yes to any of those questions, then this...... Listed under: [How To – DIY – Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)

2124. [Android talks to Arduino board](#)

This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2125. [Motion Triggered Fog Machine using an Arduino](#)

Fog machines can be unruly beasts. Especially the non-professional models you buy for halloween. With low duty cycles, causing massive amounts of fog when you don't need it, and no fog when you do. Wouldn't it be nice to have fog only when people come...... Listed under: [Other Projects](), [Projects]()

2126. [The Boss Box Bot]()

Welcome to the Boss Box Bot instructable, or as we like to call it, the Bo-Bo Bot. The Bo-Bo Bot was designed to use extremely low cost materials to allow people to construct a robot without high-priced kits. Our Bo-Bo Bot will be made using...... Listed under: [Robotics – Automation Projects]()

2127. [Daft Punk Coffee Table 5×5 LED Matrix using an Arduino]()

Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built...... Listed under: [Home Automation Projects](), [LED Projects](), [Projects]()

2128. [Capacitive-Touch Arduino Keyboard Piano]()

Using only an Arduino, a few resistors, a buzzer, and some bits of aluminum foil, you can create your own touch-sensor piano keyboard in just a few minutes! Using an Arduino Uno, you can create a piano with up to 18 keys; or with an...... Listed under: [Development Board – Kits Projects](), [Sound – Audio Projects]()

2129. [Arduino MIDI-in shield]()
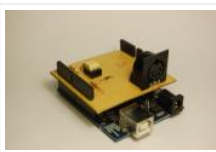
This instructable shows how to build a shield to connect devices that send MIDI signals (e.g. a masterkeyboard) to an Arduino. The basic schematic is derived from: http://www.arduino.cc/cgi-bin/yabb2/YaBB.pl?num=1187962258/ Step 1: The schematic Basically the schematic is just an optocoupler with some resistors to decouple the...... Listed under: [Projects](), [Radio Projects]()

2130. [Arduino Servo Basic Code]()

In arduino projects, you might add servo to your projects. This short tutorial, show you the basic how arduino and servo works together.   Instruction; 1) Connect all jumper wire as shown in diagram. 2) Connect the signal wire from servo to digital pin 9....... Listed under: [Motor Projects](), [Projects]()

2131. [Arduino EMF Detector]()

Here's a small, quick project you can do with an arduino, the EMF Detector! Step 1: Circut All you need for this project is 10- 330 ohm resistors 10- LED's 1-3.3m resistor 1-Solid core wire (this will serve as the probe) breadboard, wires, battery &...... Listed under: [Projects](), [Sensor – Transducer – Detector Projects]()

2132. [Arduino I2C and Processing]()

As promised, this week brings another communications tutorial! In this video, we'll use both the serial and processing knowledge that we gained last week, plus an I2C enabled temperature-sensing IC. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to...... Listed under: [Other Projects](), [Projects]()

2133. [Scratching with Arduino]()

MIT has developed a fantastic visual programming language called Scratch. It is also an amazing learning tool for children, because it is simple, cute, and by providing interaction with the real world by a board called "Scratch Sensor Board". This Instructable shows the development of a shield...... Listed under: Projects, Sensor – Transducer – Detector Projects

2134. Build Your Own Arduino

Setting up an Arduino on a breadboard has become a process I have grown to love. Within a few minutes you can have a fully working Arduino platform to work with as you will see in this tutorial. There have been several occasions when I...... Listed under: How To – DIY – Projects, Projects

2135. High Speed Photography
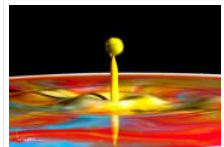
With this device you'll be able to: take pictures from anything you can sense or detect: – movement – sound – ... You don't need to modify your camera or flash for this. It's compatible with the old High Voltage flashes and the new TTL...... Listed under: Sensor – Transducer – Detector Projects, Video – Camera – Imaging Projects

2136. 3 wires interface for LCD display using Arduino

This post is based on the work made previously by tomek in wiring LCD displays using 4 bits. The basic idea is to group the 7 pins that are needed to drive the LCD in only 3 using a shift register. This is a cheap...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, LCD Projects, Projects

2137. Cheap working homemade arduino joystick

Hello everyone! Today I present you : Arduino Joystick! One day I was checking the inside of old joystick. System wasn't that hard to understand, so I thought of making my of system. The whole build is made only by me. I didn't check the...... Listed under: How To – DIY – Projects, Projects

2138. Artoo [R2] (ATtiny2313 Wall Avoiding Robot)

Since I had a lot of ATtiny2313s lying around I wanted to do something cool with them, I thought for a while and then decided to make a simple wall avoiding robot with the ATtiny2313, an ultrasonic sensor and 2 motors. Its an easy to...... Listed under: Robotics – Automation Projects

2139. Pet Curfew: An Arduino Controlled Pet Door

The Problem: You want to restrict the time when your pet is allowed to go outside. This could be because the neighborhood is not safe for your cat or small dog at night (marauding coyotes comes to mind). But you would like your pet to...... Listed under: Home Automation Projects, Projects

2140. Garage Door Opener with iphone using Arduino

What do I need to start? The hardware requirements to start is: *Note: where can I purchase the material with all the components to build myself the system: http://iwup.altervista.org/shop/reference_list.pdf 1.-) Arduino UNO with USB cable 2.-) Ethernet Shield Arduino 3.-) Relay (for arduino 5 V)...... Listed under: Home Automation Projects, Interfacing(USB – RS232 – I2c -ISP) Projects, Phone Projects, Projects

2141. R/C LEGO® Car Redux

After I built R/C Lego Car, that used hacked motors and motor housings from the toy Car and toy R/C cars. I realized most of the parts from that toy R/C car that I took the motor out of became wasted. This way was not very…… Listed under: [Game – Entertainment Projects](#)

2142. [Hercules: The Motion Controlled Android Robot using Arduino](#)

When I was in the 8th grade, I was intrigued while playing the motion games on Nokia 5800. I was thrilled, how I could control the racing car by only tilting the phone. I used to dream of making this same car in the real…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)

2143. [2-Player Pong Game with Arduino Uno](#)
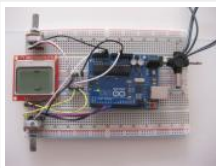
Classical Pong game implemented on an Arduino Uno using a PCD8544 LCD screen which is better known as the Nokia 5110 screen. Player bars are controlled by a potentiometer for each player. If you want the bar to go left, just turn the potentiometer left……. Listed under: [Game – Entertainment Projects](#), [Projects](#)

2144. [James – Your first Arduino Robot](#)
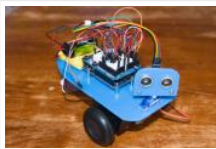
Edit: Thank you so much everyone for voting for James in the Toy Contest! He got first place and I won a $500 Shapeways voucher! Expect to see more robot instructables from me in the future! 😃 So you want to make a robot? Don't…… Listed under: [Robotics – Automation Projects](#)

2145. [Build a transistor circuit board for controlling Air Conditioner remote control with Arduino](#)

I was supporting a group of student on their graduation project. One of the difficulties they faced was on controlling an A/C unit with Arduino microcontroller. The first experiment we tried to work it out was by record the A/C remote control beam signal for…… Listed under: [Home Automation Projects](#), [Projects](#)

2146. [uDuino: Very Low Cost Arduino Compatible Development Board](#)
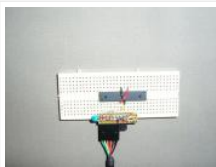
Arduino boards are great for prototyping. However they get rather expensive when you have multiple concurrent projects or need lots of controller boards for a larger project. There are some great, cheaper alternatives (Boarduino, Freeduino) but the costs still add up when you need many…… Listed under: [Development Board – Kits Projects](#), [Projects](#)

2147. [Mini Arduino environment monitor ** UPDATE – Added RTC ***](#)

This is an Example of how you can use the Arduino to monitor various environmental parameters And display them on a LCD screen. Note: I Added a Real Time Clock!! To see the steps, added parts and Sketch I added new steps.. Step 1: Parts List…… Listed under: [LCD Projects](#)

2148. [Stargate LED Lighted Necklace](#)

Ever need to have a Stargate handy? You can wear one around your neck and have it at the ready. Ears starting to bleed from the volume of the music at the club or that Euro-chic clothing retailer outlet? Activate the Stargate to jump to…… Listed under: [LED Projects](#)

2149. [Twitter Mood Light using an Arduino](#)

How's the world feeling right now? This box tells you. Powered by: an Arduino, a WiFly wireless module, an RGB LED, Twitter.com and a 9v battery. I'm a news junkie. I want to know everything that is going on in the world as soon as it happens. I want to wake up and…… Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2150. [Bootload an Arduino with a ZIF Socket](#)
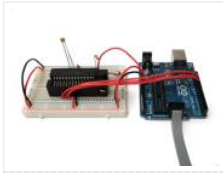
Bootloading an Arduino with a ZIF socket allows you to easily program a lot of chips at once without worrying about mangling the pins. The reason for this is that ZIF stands for "zero insertion force," and as the name implies, ZIF sockets don't require…… Listed under: [Projects](#), [RTOS – OS Projects](#)

2151. [Designing and building an synthesizer with Meeblip and Arduino, added videos!](#)

For my internship at Create Digital Music/Meeblip I've created quite a fun little synthesizer. This thing is meant to be more flexible than other synthesizer by making it completely independent; it is battery powered, has its own amplifier/speaker and is controlled by a manually operated sequencer. Inspiration…… Listed under: [Sound – Audio Projects](#)

2152. [Arduino V-USB / HID 14 channel data logger](#)
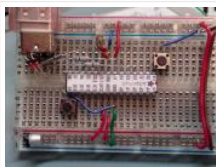
UPDATE: Please see Addendum 2 at the end of this article for an Excel automatic logging implementation. There are several good articles on Instructables about building your own Arduino. Depending on your horde of electrical parts, you may be able to build an Arduino clone…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2153. [How to use a 1602 16X2 LCD display with Arduino, TI Launchpad, and standalone MSP430 video instructions](#)

I show how to use a standard 16X2 LCD display in three different use cases. 1. With an Arduino Uno 2. With a TI Launchpad MSP430 running Energia 3. Directly on a breadboard on an MSP430G2553 running Energia This LCD display is low cost -…… Listed under: [LCD Projects](#), [Projects](#)

2154. [The Arduino Internet Gizmo](#)
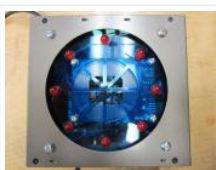
The Arduino Internet Gizmo is a USB, Arduino, and RFID device for web surfing. The gizmo works by placing an RFID tag on the top of the gizmo. The gizmo reads the RFID tag and sends the tag number via USB to a program running…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

2155. [Arduino Motors and Transistors](#)

This week, we'll finally be using the Arduino to control some motors! First up, we'll control a standard DC motor running off a 9V battery with the help of an NPN transistor and a PWM (Pulse Width Modulated) signal from the Arduino. [box type="note" color="…… Listed under: [Motor Projects](#), [Projects](#)

2156. [Oscilloscope / Logic Analyzer using Arduino](#)

One of the frustrating things about developing and debugging electronic circuits is that you can't look inside the circuit to see what is happening. Even with a circuit laid out before you on a workbench and powered up it may seem like you're in the…… Listed under: [Other Projects](#)

2157. Digital Book Cricket Game with ATtiny 85 using Arduino
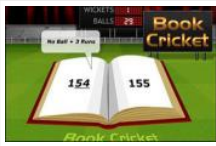
The project described here is a digital implementation of "book cricket game" which Indian students normally use to play in their childhood time. The heart of the project is 8 bit MCU from AVR family called ATtiny85. ATtiny85 are small and cheap microcontrollers which are…… Listed under: Game – Entertainment Projects, Projects

2158. Arduino Weather Station Part2

So my last project was a Arduino wind chill machine. http://www.instructables.com/id/Arduino-Wind-Chill-Machine/ Naturally, this Lazy Old Geek wanted to add a weather vane (wind direction) to my weather station. Who cares, you may ask? Well, I am a Geek. Actually, wind direction has some importance. Here…… Listed under: Arduino Programmer Projects, Projects, Security – Safety Project Ideas, Sensor – Transducer – Detector Project Ideas

2159. Interactive Arduino Powered Coffee Table

One quick fore note: this is my first Instructable and my first large Arduino project, so if you see any stupid errors or have an idea of how things could be done better, then please let me know. Now that that's out of the way I'll begin, I…… Listed under: Game – Entertainment Projects, Home Automation Projects, LCD Projects, LED Projects, Projects, Sound – Audio Projects

2160. Larson Scanner with Relay Module using Arduino
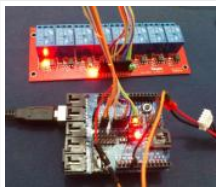
This time I'll show how I used an Arduino to control a relay module with eight channels. Arduino in offers several advantages such as: – Open source; – Easy programming; – You can assemble your own board; – Is supported on various forums on the…… Listed under: Other Projects, Projects, Sensor – Transducer – Detector Projects

2161. Ultrasonic Combination Switch using an Arduino

Time for a follow-up to the Single Button Combination Lock by creating another oddball type of switch/lock. To activate this switch we make use of a Parallax Ping))) Ultrasonic sensor, an Arduino-style board and some other hardware – to make a device that receives a four-number code…… Listed under: Medical – Health based Projects, Projects

2162. Arduino Street Traffic Light – Breadboard Edition
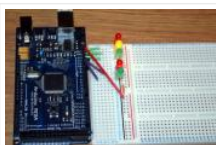
Build a simple Arduino powered Traffic Light with us! This instructable is meant to walk you through almost every step, but there are a few assumptions. Read over the intro and the first step to make sure you are fully prepared! This is the breadboard…… Listed under: Car Projects, LED Projects, Projects

2163. Arduino SD Cards and Datalogging

This is my first in a series of more advanced Arduino tutorials. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to Jeremy , for this articles[/box] Now that we've covered the basics in tutorials 1-10 (you have watched them…… Listed under: Metering – Instrument Projects, Projects

2164. Introduction to Packet Radio and Arduino Controlled LED Strips

This time on the show we continue coverage of Toorcamp 2012 – the American Hacker Camp. This time Darren speaks with Rob Eby about packet radio as an extension of the Internet. Plus what could be better than flexible individually addressable RGB LED strips? %1…… Listed under: [LED Projects](), [Projects](), [Radio Projects]()

2165. [Arduino Controlled Digital Window Sticker]()

A bumper-sticker sized L.E.D. matrix that displays images in sequence from an SD card, to produce an animated sign or "window sticker." Arduino controlled! Also includes Windows, Mac, and Linux code for converting .xbm image files into Digital Window Sticker files. Perfect for a shop…… Listed under: [LED Projects](),
[Projects]()

2166. [Robopod the Arduino Powered Robot]()
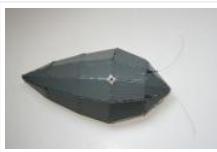
Robopod is a simple arduino robot that uses antennas to detect obstacles. Robopod's motors are controlled by an H bridge and   powered by a nine volt battery. Robopods circuit is based on a breadboard for easy modification. Step 1: Tools and Materials Material Arduino…… Listed under: [Robotics – Automation Projects]()

2167. [Turn your Arduino into the best gift of all]()
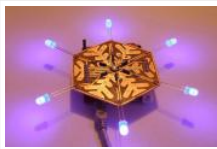
Please vote for me in the Holiday Gift contest and the Make it Glow contest! First, this started out as a gift, and not an instructable. So please excuse some hand waving here and there as I do not have any pictures of the etching and drilling portions. Second,…… Listed under: [Game – Entertainment Projects](), [Home Automation Projects](), [Projects]()

2168. [TSA Zombie Scanner Security Wand]()

Not even Zombies are exempt from a good pat-down. Scanner security wands are used at the most exclusive nightclubs and venues. Does not detect metal to indicate a presence of weapons but will indicate the lack of a soul which means a more rigorous body…… Listed under: [Security – Safety Projects]()

2169. [Android-Controlled Pneumatic Cannon Powered By Arduino]()

Every summer, Qualcomm hosts a Battle of the Schools competition, which gives employees the opportunity to represent their home universities. This year, entries were to be homemade contraptions, and they were judged according to how cool they were perceived to be. Virginia Tech's cannon project…… Listed under: [Arduino Android](), [Internet – Ethernet – LAN Projects](), [Projects]()

2170. [IR Remote Agent using Arduino]()

Remote control is almost a standard accessory for most home applications, like TV, Hi-Fi, air conditioner and so on. Though remote control brings us leisure, when you really need it but have completely no clue where it is, or which one it is, you have…… Listed under: [Arduino Android](), [Internet – Ethernet – LAN Projects](), [Projects]()

2171. [Making Music with Makeblock]()

Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only…… Listed under: [Sound – Audio Projects]()

2172. [How to use an array with Arduino]()
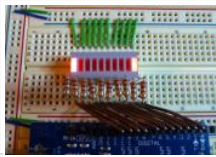
This variation on the For Loop example shows how to use an array. An array is a variable with multiple parts. If you think of a variable as a cup that holds values, you might think of an array as an ice cube tray. It's like a series...... Listed under: [How To – DIY – Projects](#), [Projects](#)

2173. [Play a Melody using the tone() function with Arduino](#)
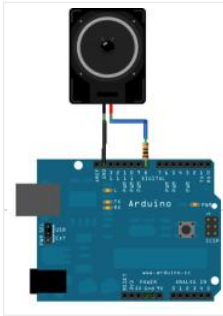
This example shows how to use the tone() command to generate notes. It plays a little melody you may have heard before. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 8 through...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2174. [Arduino Web Enabled RGB Lighting](#)

I just happened to see some large strips of LED lighting when I was picking up some parts at Maplin which were on sale (if I remember correct they were around £12 per approx. 2m strip) however the controller/driver was still around £40, so I...... Listed under: [LED Projects](#)

2175. [Programming a ATtiny2313 with Aceduino](#)

What is an ACEDUINO? It is the Philippine Arduino clone. See pic 2 and 3. Quote from Fall Electronics: If you have already tried you have found out you can't use the ATTiny chips in Arduino. This is because it doesn't have the cores for...... Listed under: [Arduino Programmer Projects](#), [Projects](#)

2176. [Simple 18dof Hexapod, Arduino nano (optionally with pololu maestro)](#)

Hello, Here is a simple hexapod that can be built by hand very quickly. The mechanical design is not great, but it is very much in the KISS (keep it stupidly simple) style and should be doable in a weekend for builders of novice to...... Listed under: [Other Projects](#)

2177. [A watering controller that can be home networked using an Arduino](#)

A couple of weeks ago, I published a great little controller module that provided 6 relays able to be controlled from a computer via a network. After I published it, I got to thinking that the same basic design, with a couple of changes could...... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2178. [3D Printed Arduino Controlled Eggbot/Spherepot](#)

First off this project was a combination of of two great online resources. I had been looking into building an eggbot for a while and since I had a lot of ping pong balls on hand after one of my other videos the time was right for...... Listed under: [Robotics – Automation Projects](#)

2179. [Cup Cooler using an Arduino](#)

This is my first Instructable, so please judge harshly so that I can learn ☺ Its a simple project minimal skills needed. Drawings are made using: Fritzing Code Written using Codebender The cold plate got to -20c Watter in the cup measured @ 5.5c compared...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2180. Arduino – Simple Simon Says Game

In this instructable, I will show you how to make a simple Simon Says Game using an Arduino. it's not just simple but we can get a psychological benefit. I have a bad memory to remember something fast or a new things. So this project...... Listed under: Game – Entertainment Projects

2181. The LED Blinky ball using Arduino

Update: I'll add some clarifications after reading comments on various forums. It doesn't need a 70Mhz ARM CPU, all it does is shift bits into a shift register, that'd be a total waste. There aren't 16 CPU's. the slices are designed to be either slave...... Listed under: LED Projects, Projects

2182. Drive a webpage in real-time using Arduino, SensorMonkey and Processing.js
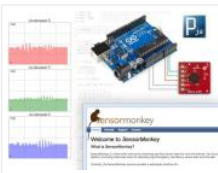
Remote visualization of real-time sensor data. This tutorial describes in detail how to use the free SensorMonkey service to push real-time sensor data from an Arduino to a webpage for visualization using Processing.js. No server-side coding or Ethernet shield is required. A standard, run of the mill...... Listed under: Internet – Ethernet – LAN Projects, Projects

2183. Google Play Music Internet Radio (Raspberry Pi and Arduino)

I was looking for a project to do with my Raspberry Pi and found thisInstructable and thought I would have a go at something similar which worked with Google Play Music. I had a rough idea of what I wanted the final item to end up like and was...... Listed under: Radio Projects, Sound – Audio Projects

2184. Memsic 2125 Accelerometer using Arduino
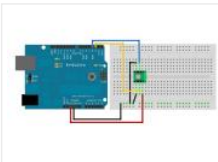
The Memsic 2125 (datasheet) is a two-axis accelerometer capable of measuring acceleration up to plus or minus 2g. It has a simple digital interface: two pins (one for each axis) emit pulses whose duration corresponds to the acceleration of that axis. By measuring the length...... Listed under: Metering – Instrument Projects, Projects

2185. R/C LEGO® "The Bull" Buggy

There are more than 20 models of LEGO®'s Dune Buggy type car, even more than the models in LEGO® Race Car category. Dune Buggy is usually four wheels drive off road vehicle, which would not be used on the road. Now that I got excited on...... Listed under: Game – Entertainment Projects

2186. Arduino Esplora Microphone (Sound Sensor)

This sketch shows you how to read the microphone sensor. The microphone will range from 0 (total silence) to 1023 (really loud). It uses the sound level to set a brightness level for the green LED. When you're using the sensor's reading (for example, to...... Listed

under: [Projects](#), [Sound – Audio Projects](#)

2187. [Beach Buddy: 3-in-1 Solar Phone Charger, Boombox, and Sunburn Timer Calculator](#)

Imagine the ideal beach trip. The sun is shining, the skies are blue, the water is warm, and the humidity is low. You and your friends have everything you need to soak up the sun, sand and surf: a cooler filled with drinks and snacks,…… Listed under: [Battery Projects](#), [Solar energy projects](#)

2188. [Add Linux, WiFi, Ethernet and USB to Arduino](#)

Web site: http://www.dragino.com/products/yunshield/item/86-yun-shield.html Project Summary: The model of this shield named Yun Shield, the feature of this shield is as its name. User can add this shield into Arduino (Leonardo, UNO, MEGA2560 etc) and "turn" the Arduino into device which has similiar features as Arduino…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Internet – Ethernet – LAN Projects](#)

2189. [Bike Turn Signal & Brake Light Handlebars](#)

This project was inspired by a very cool kickstarter called Helios Bars. Essentially what this project does, is put an arduino, LEDs, and buttons into your bike handlebars. The LEDs can be used as turn signals, brake lights, or display ambient colors while riding. It's…… Listed under: [Car Projects](#), [LED Projects](#)

2190. [A Robotic lawn mower powered by Solar Energy with an Arduino heart](#)

This robot will mow the grass of your garden, staying within a defined area, avoiding all obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with solar energy and able to…… Listed under: [Robotics – Automation Project Ideas](#), [Solar energy projects](#)

2191. [Arduino based Graph](#)
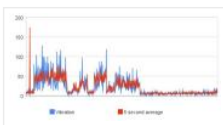
This example shows you how to send a byte of data from the Arduino to a personal computer and graph the result. This is called serial communication because the connection appears to both the Arduino and the computer as a serial port, even though it…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2192. [Hexapoduino: tiny hexapod 3D printed, Arduino controlled](#)

A few time ago, i found out a 3d printed Micro-Hexapod on Thingiverse. I started to work on it in the following ways: – create new accessories/components 3D printable – explore the possible ways to drive this hexapod. Here the results: – a parametric battery holder that fits…… Listed under: [Arduino Programmer Projects](#)

2193. [DIY Binary Clock with Arduino](#)

Yesterday I was going to start watching a movie, when me and my friend pedro decided to give up on the movie and build a binary clock. After sometime thinking on how to program it, we made it. It works beautifully, so I decided to show here…… Listed under: [Clock – Timer Projects](#), [How To – DIY – Projects](#), [Projects](#)

2194. [Arduino stepper motor and servos shield](#)
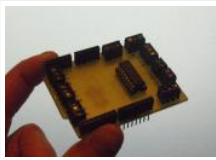
This instructable will show you show to build an Arduino shield which can be used to control 3 servos and 1 stepper motor using 4 potentiometers. You will need: access to a laser printer/cnc router/etching chemicals 7 x 3 pin 3.5mm terminal blocks 2 x…… Listed under: [Motor Projects](#), [Projects](#)

2195. [Home automation system using Arduino and SIM900 GSM module](#)

Hi there! As I've almost finished my studies at Faculty of Engineering, I had to make a graduation project and my thought was to make a jaw-dropping thing (I know that's hilarious 😄) to show everybody that I'm a good prototype maker and I…… Listed under: [Home Automation Projects](#)

2196. [Track-and-explode wolf collar…](#)

Don't worry! First, this is a rebuild out of a movie so it won't explode for real and it won't be worn by a real wolf. However there is fursuiting for which I am a big fan of and my own character (fursona) is a…… Listed under: [Game – Entertainment Projects](#)

2197. [Aquarium Light V1](#)

Version 0 My first attempt at an LED Aquarium light started as an excuse to buy some of those LED light strips off of eBay. I gutted the old 18″ fluorescent fixtures and soldered together row after row of 18″ RGB LED strips. They mounted…… Listed under: [Home Automation Projects](#)

2198. [Super Brite LED Sneakers 1.0 using an Arduino](#)

Create your own Super Bright LED-lined sneakers that blink with multiple patterns. 1.0 FEATURES: – 1 color LEDs – 6 patterns – reed sensors + magnets that give you control to step through patterns – detachable velcro design – small, wearable microcontroller + power Step…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2199. [Control Android mobile by an Apple Remote using Arduino](#)

I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😉) Also this is my entry to the…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2200. [Psychic Fortune Teller – An automaton that reads the mind of Twitter](#)

Creepy fairground attraction and Twitter App! The Psychic Hive-Mind Fortune Teller is a fairground arcade-type attraction which can tell your fortune. Even better than that though – it's also a web-connected Twitter application that can harvest tweets and regurgitate them as fortune readings! The Fortune…… Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)

2201. [Bike Dashboard](#)

In this Instructable I'll show you how to make a electronic dashboard for a bicycle. We'll be using an Arduino and a few off-the-shelf parts to create a system with light control and an LED speedometer. Step 1: Materials Arduino Micro (RadioShack #: 276-258) 12V…… Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)

2202. [Game maker Rover using an Arduino](#)

In this Instructable I will be giving you step-by-step instructions on how to interface The Arduino, A Motor Controller (L293D), and a laptop to make a Wifi controlled rover you can drive around your house or work from anywhere in the world. I started and...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2203. [Bluetooth Controlled Message Droid using Arduino](#)

This is an instructable for a bluetooth controlled Message Droid. I call it R2Blue2. It moves around and displays messages that you type using your phone or computer. Atleast it was supposed to. Due to many problems such as underpowered batteries and bad cable management...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2204. [Build your own Arduino – Bare Bone System](#)

I've read through a lot of tutorials online to make an Arduino Clone on a breadboard, and some of them are great, but none of them really seem to have it all, so I'm going to attempt to bring it all together here and provide...... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)

2205. [Twittering Laser Tripwire with Webcam Capture using Arduino](#)

This instructable will show you how to construct a laser tripwire that can twitter and grab an image from a webcam, as well as execute any command you can put in a bash script. This instructable is actually quite simple and is even suitable as a beginner...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

2206. [DIY 360 Degree SODAR Device](#)

First off, why did we decide to call this thing SODAR? SOnic Detection and Ranging, or SODAR, is a lot like SONAR and RADAR. However, we don't feel comfortable calling it SONAR because we have no desire to use it for navigation and we aren't...... Listed under: [Sensor – Transducer – Detector Projects](#)

2207. [RGB's with Arduino and Processing](#)

Here is an easy(enough) project to introduce you to the Arduino microcontroller, as well as Processing. This is my first Arduino and Processing project and I didn't have too much bother getting it working. This is my entry to the Sparkfun Microcontroller contest so if...... Listed under: [LED Projects](#), [Projects](#)

2208. [PixelBrite](#)

I originally started this project because I wanted to recreate the scene in the movie the Close Encounters of the Third Kind where the humans are communicating with the Mothership via a huge color organ. So I glued various bits of software together and made...... Listed under: [LED Projects](#)

2209. [Analog Read Serial using Arduino](#)
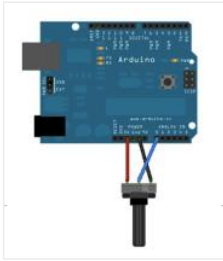
This example shows you how to read analog input from the physical world using a potentiometer. A potentiometer is a simple mechanical device that provides a varying amount of resistance when its shaft is turned. By passing voltage through a potentiometer and into an analog input on...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2210. [Hack a voice changer to add an Arduino input](#)

Another quick hack. I purchased a voice changer because I was looking for something cheap that could be hacked into an voice input device. Basically I wanted to animate a skull when I spoke. Added bonus, now the skull puppet would also have a scary...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2211. [DIY Arduino Remote Control and Lego RC Vehicle!!](#)

UPDATE (8/29/13): Thank you readers for your enthusiasm and kind remarks regarding this project! It has been a tremendous journey since I started this project back in March, but I am very glad with the resulting product and the excitement with which it has been received...... Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)

2212. [3-dimensional Star Cluster using an Arduino](#)

This instructable will guide you through the process of making your very own star-cluster from LEDs and acrylic. I made this piece for my electronics final project at college and had access to a machine shop. This instructable assumes that you have access to similar...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2213. [Matrix sound machine: Generative music with a particle system using Arduino](#)

This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Creating emergent patterns that can be converted into sounds fascinates me. So this is my first experiment in building an arduino platform for...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2214. [ArduinoPhone](#)

Combining Arduino and other shield modules, we make a mobile phone named Arduino Phone. Meanwhile, we printed a shell for it with the 3D printer. Although it's not such fine as you think, even a little bit clunky, it's still very cool. That is the...... Listed under: [Phone Projects](#)

2215. [Lite Brite LED clock using an Arduino](#)

Lite Brite pegs look like LED's don't they? That's what I though the other day after working on an LED cube for a few hours. I happened to see my daughter's Lite Brite sitting there, and I looked at the pile of LED's on my...... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)

2216. [DIY 3D Controller using an Arduino](#)

Make a 3D interface using an six resistors, aluminum foil, and an Arduino. Take that, Wii. Update: a much more thorough explanation of this project is available from Make Magazine. It might be easier to follow their instructions, and I think their code is more...... Listed under: [How To – DIY – Projects](#), [Projects](#)

2217. [Analog Fabric Joypad using an Arduino](#)

How to make an "analog" input device from fabric and a few other necessary materials. "Analog" in parenthesis because, although it is made up of 4 analog inputs, the only analog transition between the directions (up, right, down and left) comes from the buffering material...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2218. ["12 Thumbs" R/C LEGO Dragster](#)

Impressed by these two LEGO® Dragster sets, a 250 pieces LEGO®TECHNIC Dragster 8847 (released in 1983) and a 391 pieces Top Fuel Racing 5533 (released in 1999). These two Dragsters inspired me to build my own LEGO® dragster, the "12 Thumbs". The name "12 Thumbs" came after I...... Listed under: [Other Projects](#)

2219. [An Arduino Powered (Scale) Speed Trap](#)
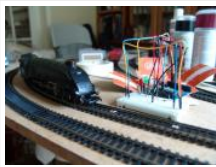
After a break of around two decades I've recently started building a model railway. One of the issues I've faced is trying to work out how fast I should be running the trains so that their speed reflects reality given the scale at which they...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

2220. [Strandbot – a solar & arduino powered R/C motorized Strandbeest](#)
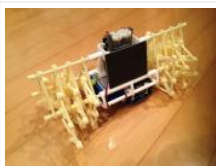
The Strandbot is a DIY upgrade for the Strandbeest originally designed by Theo Jansen. Strandbeests are amazing mechanical creatures that are able to move on their own using just a little bit of wind power. Unfortunately my tiny apartment is short on wind, so I...... Listed under: [Motor Projects](#), [Robotics – Automation Projects](#)

2221. [Make your own programmable thermostat for $66 with Arduino](#)

This project will show you how you can create your own programmable thermostat with temperature probe, an LED readout and ability to remote control outlets. The core of this project is actually a driver for a 4 digit seven segment display. There are lots uses for...... Listed under: [Projects](#), [Temperature Measurement Projects](#)

2222. [Online Thermometer using Arduino](#)
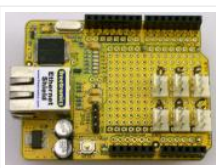
One of the projects in Practical Arduino is the "Online Thermometer", which combines an Ethernet shield with a number of DS18B20 1-wire temperature sensors to allow you to read multiple temperatures and make the values accessible using a web browser. In that project I chose...... Listed under: [Temperature Measurement Projects](#)

2223. [Self-balancing skateboard/segw*y project Arduino Shield](#)

General purpose Arduino shield for self-balancing machines. Why did I make it? I previously made an Instructable in 2010 on how to build a self-balancing skateboard. http://www.instructables.com/id/Easy-build-self-balancing-skateboardrobotsegway-/ There are >500 comments on this and many express confusion setting up the balance sensors, software and electronics....... Listed under: [Development Board – Kits Projects](#)

2224. [How to control LED's with Processing and Arduino](#)

The other day I was confronted with an interesting problem, I needed to control a series of lights from an interaction on a computer screen and it had to be as inexpensive as possible. I instantly thought of an Arduino. It had everything that I needed,...... Listed under: [LED Projects](#), [Projects](#)

2225. [Arduino Waveform Generator Shield](#)

Waveform generators (also called function generators) are useful for testing and debugging circuits. They can be used to test the frequency response of electronic components like op amps and sensors or to characterize and troubleshoot audio effects boxes and pedals. This waveform generator shield is...... Listed under: [Projects](#), [Radio Projects](#)

2226. [DIY Flex sensor using Sugru and graphite powder (Resistencia flexible usando Sugru y polvo de grafito)](#)
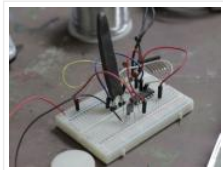
Este es el primero de 5 instructables que surgieron del Instructables & Sugru build night (and day en nuestro caso) que hicimos en el Laboratorio de Juguete, el 20 de julio del 2013: una Resistencia Flexible o Flex Sensor hecha con Sugru y polvo de grafito:...... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

2227. [Arduino Audio DAC Options](#)
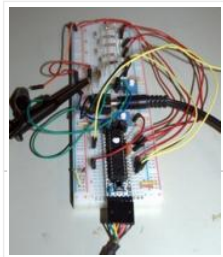
DAC is short for Digital to Analog Converter. In this article we play around the code Michael Smith created for a PWM based DAC. I modified his code so that other DAC options could be tried. I compare the 8-Bit PWM DAC with the R2R...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2228. [Laser Shooting Game](#)

This laser game is a simple project that utilizes an Arduino mini. All target boards have an Arduino, sensors, and servo control ports. Shooting the target center triggers the servo and the board falls flat. Step 1:What you need [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 "...... Listed under: [Game – Entertainment Projects](#)

2229. [Clock Two – Single digit clock using Arduino](#)

Time for another instalment in my irregular series of clock projects. (Or should that be "Time for another instalment in the series of irregular clock projects"?) In contrast with the extreme "blinkiness" of Clock One, in this article we describe how to build this single-digit...... Listed under: [Clock – Timer Projects](#), [Projects](#)

2230. [Your Image on an Arduino! – TFT LCD Screen Guide](#)
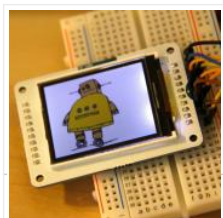
Have you ever heard of TFT LCD screens? They are great ways to display information from your Arduino, or display pictures. The Arduino team just released an official TFT LCD screen with their new Robot at Maker Faire 2013. It's very easy to get started...... Listed under: [Video – Camera – Imaging Projects](#)

2231. [Multiplexing 7 Segment displays with Arduino and Shift Registers](#)

In this instructable, I will be teaching the basics of multiplexing 7 segment displays using an Arduino and a couple of shift registers. This project is well suited for displaying numerical information or if you want to control a bunch of LEDs. For beginners, like me,...... Listed under: [Calculator Projects](#), [LCD Projects](#)

2232. [DIY 3D Laser Scanner Using Arduino](#)

Maker Alessandro Grossi sent us this great DIY build for a 3D scanner built using a laser, a DSLR, and an Arduino controller. Allesandro is a Mechanical Engineer, holding a Ph.D. in product design. His day job involves helping designers and manufacturing firms develop and…… Listed under: How To – DIY – Projects, Projects

2233. IPod Information Screen Rev. 2

I'm not usually one to revisit a project after I've finished it, but I made an exception because the problems with the original design were making this device unpleasant to use. For those of you just now viewing this project, it is the second iteration…… Listed under: LCD Projects

2234. An Arduino RSS Feed Display

This Arduino project will display RSS feed headlines on an LCD via an Arduino and a USB cable. It works quite well, and lets you keep up with the world news while you're sitting at your desk. Many of the values in the code can…… Listed under: Internet – Ethernet – LAN Projects, LCD Projects, Projects

2235. Arduino Powerd, RGB + White LED, Bluetooth controllable, Floor lamp

A couple of mounts ago i order a 1M long WS2801 RGB led strip, just for fun. I took me a while to get the strip working with my Arduino. The next step was to figure out what to do with the strip. after some…… Listed under: LED Projects

2236. Rainbow Jar – RGB Pixel Strip Controlled via Arduino

Our most popular item on our display at Maker Faires is always the Rainbow Jar. One customer has already replicated it so we thought we'd share how we made it so you can make your own! https://vine.co/v/hqxpVgdFQ9z (tried embedding this vine but it breaks instructables!) Step…… Listed under: LED Projects

2237. ARDUINO with XBEE- WIRELESS SETUP DEMO

This video describes how to configure two Series 1 XBEEs using Arduino UNO board.The ways of making 2 way communication is also tested on Wireless mode. Overview The Xbee shield allows an Arduino board to communicate wirelessly using Zigbee. It is based on the Xbee module…… Listed under: Development Board – Kits Projects, Projects

2238. Super Simple Arduino Powered Roomba Scheduler

Like most people I was skeptical about getting a robotic vacuum cleaner, so as a trial run I thought I would buy the now obsolete iRobot Roomba 530 which was heavily discounted (they're still available in Australia, showing how behind the times we are). Of...... Listed under: [Robotics – Automation Projects](#)

2239. [Arduino String Case Change Functions Code](#)

The String case change functions allow you to change the case of a String. They work just as their names imply. toUpperCase() changes the whole string to upper case characters, and toLowerCase() changes the whole String to lower case characters. Only the characters A to...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2240. [Blink LED using Arduino](#)
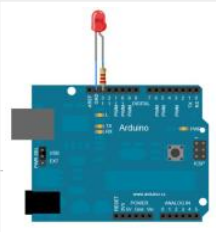
This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Circuit To build the circuit, attach a 220-ohm resistor to pin 13. Then attach the long leg of an LED (the positive leg, called the...... Listed under: [LED Projects](#), [Projects](#)

2241. [Yogy – The Arduino Powered Robot Made For Kids](#)

In this Instructable I will show you how to make a cute and kid friendly Obstacle Avoiding Robot I like to call Yogy. Yogy gets his name from the Yoghurt tub body he is made from. I am a sucker for seeing the best in...... Listed under: [Robotics – Automation Projects](#)

2242. [How to control 8 leds using Arduino UNO](#)

hey guys this is my first arduino project plz comment how u feel. Step 1: Things u need As this is easy project for beginner's so parts are also simple Parts: 1- Arduino uno or any other board will work 1-Beardboard 9-jumper wires or...... Listed under: [LED Projects](#), [Projects](#)

2243. [Analog Write with 12 LEDs on an Arduino Mega](#)

This example fades 12 LEDs up and the down, one by one, on an Arduino Mega board. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the longer, positive legs of (anodes) 12 LEDs to digital pins 2-13 through 220 ohm current limiting resistors. Connect...... Listed under: [LED Projects](#), [Projects](#)

2244. [Digital/Analog Clock – Arduino + PaperCraft](#)

In this instructable we will be recreating a clock inspired by Alvin Aronson's original design. When I first saw this clock I was very impressed by how clean an elegant the design was I immediately wanted to recreate this effect. I hope some of you feel...... Listed under: [Clock – Timer Projects](#)

2245. [Arduino Hello World Blink Code](#)

This is a basic example how arduino works. In this arduino projects you'll see how arduino control LED on for 1 second and off for 1 second repeatedly. Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED...... Listed under: [LED Projects](#), [Projects](#)

2246. [Autonomous Autonavigation Robot using Arduino](#)
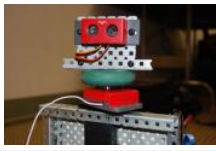
This is a step by step guide to build an autonomous navigation robot. We use the Arduino microcontroller to control this robot. We have two different programs for this robot. The first enables the robot to drive around and avoid anything that gets in its...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2247. [AAA Robot (Autonomous Analog Arduino)](#)
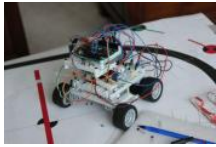
The AAA Robot is a perfect robot for beginners. It is versatile, easy to build, and discusses many of the topics roboticists need to learn, including but no limited to transistor switches, motor driving nad analog sensors. This Instructable includes step-by-step instructions on how to...... Listed under: [Robotics – Automation Projects](#)

2248. [An Arduino Thermometer with Digital Display](#)
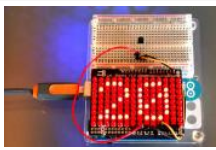
This is a project for Arduino to make a Thermometer with Digital Display, aimed at beginners. Arduino measures the voltage on a TMP36 Temperature sensor, converts the Voltage to Degrees Celcius and Displays the value on an LOL shield display. Objectives: * Learn how to...... Listed under: [LED Projects](#), [Temperature Measurement Projects](#)

2249. [Cell phone text using an Arduino](#)

Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but...... Listed under: [Phone Projects](#), [Projects](#)

2250. [Thermal Camera](#)
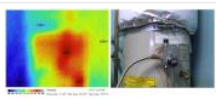
Have you ever had the desire to see what can not be seen? I never had the ability to see in thermal infrared, and it is rather cool to be able to see in the thermal infrared part of the electromagnetic spectrum. Unfortunately, most thermal...... Listed under: [Temperature Measurement Projects](#), [Video – Camera – Imaging Projects](#)

2251. [Arduino FM radio receiver shield](#)
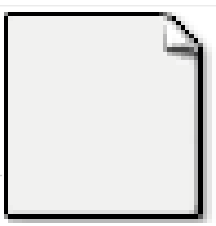
This Instructable will show you how to build your own FM radio receiver shield to be used with an Arduino board. The radio chip we are going to be using is the AR1010 on a breakoutboard found at Sparkfun or Electrokit and there will be code to get...... Listed under: [Projects](#), [Radio Projects](#)

2252. [ArrDrownHo! – Easily convert AVR to Arduino](#)

Cap'n ArrDrownHo! is the lovechild of Ardweeny and Boarduino and he's here to commandeer your AVR ships. ArrDrownHo! inherits pros of both and cons of neither. Pick up an AVR chip and start prototyping instantly on a breadboard! Want to replace that costly Arduino in your project with a...... Listed under: [Development Board – Kits Projects](#)

2253. [Kaosduino: Create your own kaosillitaor using Arduino](#)

This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Inspired by Korgs Kaossilator I took it upon myself to build an opensource version of it. This way people can design new ways...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2254. [The Point Shooter Cyborg Mouse](#)

Control cyborg technology and revolutionize your PowerPoint presentations – build a wearable mouse! So you converted some video glasses to a heads-up display glass. You built a wearable Raspberry Pi, pcDuino, or BeagleBone Black. Now, how do you control your cybernetic augmentations? You make a…… Listed under: [Robotics – Automation Projects](#)

2255. [Arduino Esplora Pong](#)

Want to play Pong on your computer with your Esplora? This example shows you how. This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The Esplora reads the slider and buttons and sends data to the…… Listed under: [Game – Entertainment Projects](#), [Projects](#)

2256. [Single button combination lock using Arduino](#)

Time for something different – a single button combination lock. Allow me to explain… Updated 18/03/2013 Normally a combination lock would require the entry of a series of unique numbers in order to unlock something or start an action. For example: A more contemporary type…… Listed under: [Projects](#), [Security – Safety Projects](#)

2257. [The Knock Box: Build a Knock-Sensitive Power Strip](#)

The Knock Box is a power strip with superpowers – it turns on your lamp whenever you knock on your nightstand. You get two outlets, individually controlled by knock-knock-knocking on a nearby hard surface. It's great for hitting the lights when it's pitch dark, but if an…… Listed under: [Development Board – Kits Projects](#)

2258. [Quasi real-time oscilloscope using Arduino](#)

Recently I was reviewing one of my oldest project, and decided to "refresh" previous design by taking full advantage of the new arduino Leonardo board. Based on AtMega32U4, which include PGA (programmable gain amplifier), oscilloscope's analog front end doesn't require external OPA this time, end…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

2259. [Arduino LED Bar Graph Code](#)

The bar graph – a series of LEDs in a line, such as you see on an audio display – is a common hardware display for analog sensors. It's made up of a series of LEDs in a row, an analog input like a potentiometer,…… Listed under: [LED Projects](#), [Projects](#)

2260. [The Raspberry Pi – Arduino Connection](#)
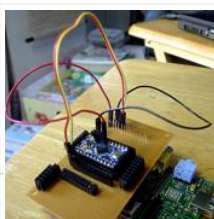
The Pi is a fine little computer board, though not nearly as good as the Arduino when it comes to I/O capabilities. The beautifully-engineered Gertboard is a plug-in add-on that neatly overcomes this deficiency by giving the Pi access to an ATMega328, but it's a very…… Listed under: [Development Board – Kits Projects](#)

2261. [High Heel Massage using an Arduino](#)

My project is to make a heel (shoe) that senses when your foot is tired and then eases the pain. I will have a force sensor measure how much pressure is on your foot for 3 minutes. If the pressure is at a certain measure…… Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2262. [How to use a Piezo element to detect vibration using Arduino](#)
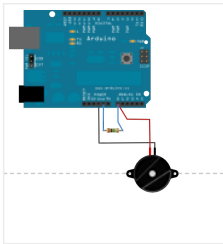
This tutorial shows you how to use a Piezo element to detect vibration, in this case, a knock on a door, table, or other solid surface. A piezo is an electronic device that generates a voltage when it's physically deformed by a vibration, sound wave,…… Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2263. [Paper Man: a machine created by Arduino and NFC](#)

Paper Man is a machine comprised of Arduino, NFC Shield, thermal printer and a papercraft shell—Iron Man. Thanks to the NFC Shield, you can directly sent messages from your mobile to the paper man, and the paper man will spit it out by printing with…… Listed under: [CNC Machines Projects](#), [Home Automation Projects](#)

2264. [Sending and Receiving String via UDP using Arduino](#)

In this example, you will use your Ethernet Shield and your Arduino to send and receive text strings via the UDP protocol (Universal Datagram Packet). You'll need another device to send to and from. The Processing sketch included at the end of the code will…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

2265. [Mr. Indecision – a small felt version of yourself that turns its head and looks at you using Arduino](#)
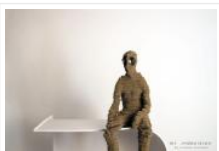
This is a tutorial on how to use 123D Catch to get a 3D scan of your whole body. Once you have the scan or "catch" the tutorial will take you through a technique to clean it up and manipulate it ready for 123D Make……. Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2266. [Arduino Beginner and Basic Electronics Kit Primer](#)

I learned that one of my nieces had an interest in programming. She was working with robotics at high school and has a summer internship where they had Arduinos. I think she was able to borrow an Arduino to experiment with at home but every…… Listed under: [Development Board – Kits Projects](#)

2267. [Scintillino – an Arduino-based quick&dirty scintillation counter](#)

Have you ever wondered about the radiation levels around you? Well today you can build your very own detector that measures ionizing radiation and displays data in real-time on an LCD (and also your computer if you want). The visual design, as seen below, is…… Listed under: [Calculator Projects](#)

2268. [Arduino Quadruped Robot Stalker](#)
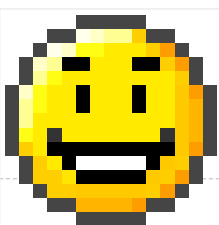
Arduino Quadruped Robot – Stalker I am going to build an Arduino Quadruped Robot. As usual, I will share my source code and show as many pictures as possible, to help those of you who are also building Quadruped robots. The way I do things might not…… Listed under: [Projects](#), [Robotics – Automation Projects](#)

2269. Dimmer using an Arduino

This example shows how to send data from a personal computer to an Arduino board to control the brightness of an LED. The data is sent in individual bytes, each of which ranges in value from 0 to 255. Arduino reads these bytes and uses...... Listed under: LED Projects, Projects

2270. Mystery Beeping Prank

The Mystery Beeping Prank is a device hidden in a hollowed out book that beeps intermittently at different frequencies. I made this because I am surrounded by a lot of incredibly creative people who have a penchant for pranking one another, and this seemed like...... Listed under: Game – Entertainment Projects, Sound – Audio Projects

2271. Arduino Controlled Catapult

I recently had the idea to create a catapult, But not just any kind of catapult, an electronic catapult! I wanted something I could just sit it down hit some buttons and watch it do its thing without being to big. This is what I...... Listed under: Other Projects, Projects

2272. How to Make a Tactile Feedback Compass Belt

Have you ever wondered how migratory birds manage to have such an amazing sense of direction despite being so generally clueless? They can sense the Earth's magnetic field with what is basically a compass built into their body. Wouldn't it be cool to feel what...... Listed under: Metering – Instrument Projects, Sensor – Transducer – Detector Projects

2273. Arduino Liquid Crystal Displays

I had initially planned to do an LCD tutorial a little further down the line, but there was very high demand for it, and I already had a circuit assembled for testing the new LCD that element14 sent me to evaluate. So, this seemed like...... Listed under: LCD Projects, Projects

2274. Interfacing Electronic Circuits to Arduinos

Interfacing Electronic Circuits to Arduino In this instructable I use an example of interfacing an Arduino to an ARINC 429 transceiver in order to demonstrate the general process of interfacing an Arduino to electronic circuits so you can use these techniques on your own designs....... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

2275. Analog Clock And Temperature sensor On An Oscilloscope using Arduino
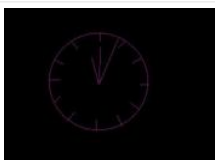
Scopeclock is an easy to use hardware to make your X-Y capable analog oscilloscope more useful .Using this simple to use hardware you can convert your analog oscilloscope into a scope clock.This project was me and my friend kshitij gupta at CEDT nsit under the...... Listed under: Clock – Timer Projects, Projects, Sensor – Transducer – Detector Projects, Temperature Measurement Projects

2276. How to make A light-up distance sensor
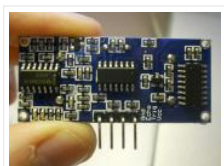
In this instructable, I will show you how to make a sensor that will light up more lights the closer you are to it. Step 1: Placing The Electronics This step will show you where and how to place the electronics on the breadboard Materials:...... Listed under: Sensor – Transducer – Detector Projects

2277. Home Automation (or Robot Butler called Geoffrey) – iPhone controlled, arduino based

Being able to control everything from your pocket has long been a dream shared by many. Previously we've had universal remotes that can both control our TVs and radios, then we had wireless wall sockets. Both great things, but how likely is it that you're…… Listed under: [Home Automation Projects](#), [Phone Projects](#), [Robotics – Automation Projects](#)

2278. [Save data of temperature and humidity on MySQL with Arduino Uno and Wifly](#)

Hello guys, i make this instructable for the people that liked the electronics and the botanic, with this you have the data about the temperatura and the humidity of your orchard and register this in a data base MySQL. For this proyect you need some…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Temperature Measurement Projects](#)

2279. [Arduino String Addition Operator Code](#)

You can add Strings together in a variety of ways. This is called concatenation and it results in the original String being longer by the length of the String or character array with which you concatenate it. The + operator allows you to combine a…… Listed under: [How To – DIY – Projects](#), [Projects](#)

2280. [Gut Check a Tweeting and Facebooking Fridge using Arduino](#)

I have a problem, I'm trying to lose weight but I love snacking late at night. And no one knows that I even do it. That being one of my biggest hurdles, I figured why not include all my social media friends and followers in…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2281. [Arduino led pendulum](#)

Step 2: Putting up the wires Strip both ends of wires -insert one end of each wire into sockets numbered -Gnd(black wire in my case)-this will be the common ground connection – 13 (green wire in my case) – 12 (yellow wire in my case) -…… Listed under: [LED Projects](#), [Projects](#)

2282. [Adafruit Flora NeoPixel LED Ring Headphone mod](#)

Wearable Arduino mod for your headphones. Non-invasive procedure for headphones that don't have room inside the drivers or you don't want to hack apart your high end cans. Adafruit just put out a tutorial for adding pattern blinking LED lights to headphones. This instructable takes it…… Listed under: [Sound – Audio Projects](#)

2283. [Candy Tossin Coffin using an Arduino](#)

When you flip a switch, the coffin lid opens and a smiling red eyed ghost arises. The ghost flings some candy, pushes the switch back and returns to rest. Then, the coffin lid closes. Step 1: Major parts include: 4.5 rpm motor #155821 Jameco.com 1.8…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)

2284. [Arduino Controlled Solar Fountain](#)

A fountain can make a nice decorative fixture for your garden. But it isn't always easy to run a power cord out to where you want it. So I decided to run it on solar power. The system is controlled by an Arduino. This allows…… Listed under: [Solar energy projects](#)

2285. [Arduino Photocell Theremin Synth (glitchamin)](#)
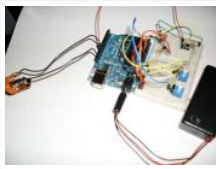
You know theremins, right? Those cool-looking boxes with antennae that produce noise without being touched? They are played by the likes of Jimmy Page of Led Zeppelin, and present in the soundtracks of countless films. Well, with this instructable, I will show you how to...... Listed under: [Solar energy projects](#)

2286. [Teclado MIDI Super Simple – Super Simple MIDI Keyboard](#)

Este tutorial te lleva paso a paso por la construcción de un teclado MIDI de una octava, programable via arduino gracias a su conector de 6 pines. Vas a necesitar: Componentes: 1 Atmega328p con el bootloader de Arduino 1 Zócalo de 28 patas 1 Cristal...... Listed under: [Sound – Audio Projects](#)

2287. [AIR Project using an Arduino](#)

CODE: download final project code: Arduino Code download additional wiring_analog.c code: Wiring Code download processing code: Processing Code download C code: C CODE FILE EXPLANATION: The final project code is the final arduino code for the project. The wiring_analog.c code should ONLY be used for...... Listed under: [GPS Based Projects](#), [Projects](#)

2288. [Arduino-Pneumatic Flight Simulator](#)

Hello, my name is Dominick Lee. I am a senior in high school who is also a programmer and inventor. I created the "LifeBeam Flight Simulator" (name of my project) because I wanted to challenge myself and utilize my software and hardware skills. I was...... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)

2289. [Arduino PIR motion water gun](#)

first what youll notice my grammer isnt the best ☺ ok what youll need: 1 transister/mosfet that can handle the current for the water gun motor, this is the one i used – http://www.sparkfun.com/products/10213 – then a diode, i used this one – http://www.sparkfun.com/products/8589 – then a 10k ohm resistor,...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2290. [Pee to Check-In to Foursquare – Mark Your Territory using Arduino](#)
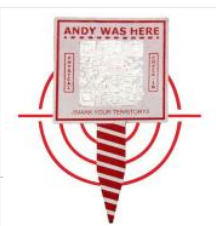
In case you are unfamiliar with the most amazing new way to physically "check in" to foursquare here is a video that will explain it all: Mark Your Territory is a fully open-source system but because it interacts with the physical world as well...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2291. [Mini invisible MIDI Harp](#)

English: This is a simple and easy to make MIDI harp, it runs on an Arduino UNO and uses infrared sensors as strings. It communicates with every recording software that has MIDI. Its really fun to play with and also very cheap, so enjoy!! Español:...... Listed under: [Sound – Audio Projects](#)

2292. [Arduino Electromagnetic Field Detector](#)

A while back I saw an EMF (Electromagnetic Field) Detector at makezine.com that used a led bargraph. I decided to modify it to use a 7-Segment LED Display! Here's my project. Sorry I don't have any pictures of it in use. Hopefully I can post...... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2293. Arduino Time-Lapse Controller

This project originally started out with a few simple parts thrown together to create a very simple time-lapse controller for a DSLR camera. After I was happy with the initial prototype, I wanted to make a final version which the programming of the "lapse time"...... Listed under: Video – Camera – Imaging Projects

2294. Self Balancing Unicycle
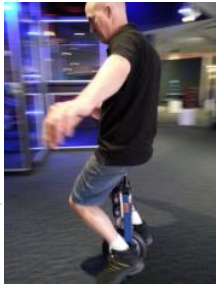
Following the popularity of our self balancing scooter and the SciChair we decided to try something a little edgier, the Self Balancing Unicycle. This project reuses a lot of stuff from our previous projects, using an arduino as the brains behind the scenes. Step 1:...... Listed under: Game – Entertainment Projects, Motor Projects

2295. My Arduino Ping Display Robot

Goals Hello all. I hope to please share a little robot that I have just finished building. There are many Ping Boat, perhaps with a tutorials and display less so without pretension, will illustrate what I could do. I gave myself the goal of realizing...... Listed under: LCD Projects, Projects, Robotics – Automation Projects

2296. A Gentle Introduction to Arduino for Scratch Users
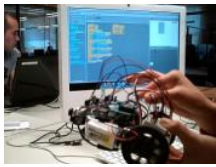
There are lots of people who are very comfortable with the Scratch programming environment but want to try something with Arduino to Blink Lights, Sense Buttons, Run Servos or whatever. They may find the C programming environment in Arduino IDE – Sketch, a bit too...... Listed under: Other Projects

2297. Arduino-controlled RGB LED Infinity Mirror

Update 11/22/2013: Thanks to everyone who voted for this project in theMicrocontroller Contest! It was one of three first-prize winners. Update 9/17/2013: Thanks to everyone who voted for this project in the Arduino contest (I was one of ten "second prize" winners)! If you want to try...... Listed under: LED Projects

2298. Visual Network Threat Level Indicator v2 using Arduino

By popular request this is a new wireless version of the Visual Network Threat Level Indicator. This uses a Roving Networks WiFly RN-XV Module to do 802.11 WiFi along with an Arduino to display the threat level on your network. Network monitoring is very important in todays...... Listed under: Internet – Ethernet – LAN Projects, Projects

2299. A cardboard televisor (with arduino and LEDs)

Recently I saw a documentary about the history of the television. And to my surprise they showed that there existed a mechanical television before the well known CRT televisions. Those mechanical televisions or televisors were pretty smart and simple. A CRT is simply an electron beam that...... Listed under: LED Projects

2300. Arduino Target Practice

A quick demo video for your pleasure. This is an instructable for a target practice system for airsoft and nerf weapons. The system has been designed to test a shooter's reaction times and accuracy. Sam and I have been meaning to do this project for a...... Listed under: Game – Entertainment Projects, Projects

2301. [Make your own Custom Electronic Widgets, like my Arduino LED Day/Night Widget](#)

This is just a brief run down on how easy it has become to make your own circuits complete with your own PCB's. Have you ever wanted to make something custom that suits your needs? Of course you have!! For me it really started when...... Listed under: [LED Projects](#)

2302. [Virtual Color Mixer using Arduino](#)
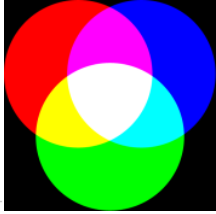
This example demonstrates how to send multiple values from the Arduino board to the computer. The readings from three potentiometers are used to set the red, green, and blue components of the background color of a Processing sketch or Max/MSP patch. Software Required Processing or Max/MSP...... Listed under: [How To – DIY – Projects](#), [Projects](#)

2303. [Arduino Keyboard Message Code](#)
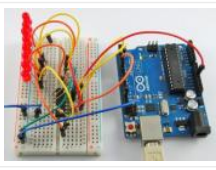
When the button is pressed in this example, a text string is sent to the computer as keyboard input. The string reports the number of times the button has been pressed. Once you have the Leonardo programmed and wired up, open up your favourite text...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2304. [Visual Computer Stress Meter using an Arduino](#)
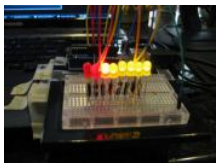
Have you ever wanted to, without going out of your way to clock your processor, see how much stress your computer is under? With this project you will have a simple bar graph that constantly shows how much stress your computer is under. If the...... Listed under: [Metering – Instrument Projects](#), [Projects](#), [RTOS – OS Projects](#)

2305. [Bluetooth Weather Lamp](#)

This was a 2 hour project I whipped up in order to learn how to use a new Bluetooth LE 4.0 module I picked up at redbearlab.com, called a BLE Mini. I've since thought of several much simpler ways (and more dependable) to accomplish the...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [LED Projects](#)

2306. [DIY Arduino Unit Converter: How to use LCD](#)

Step 1: Ingredients: Electronics Arduino Breadboard LCD* 2x 50k pots 150 ohm resistor Jumper wires, and tons of them! If you do not want to use a LCD then you will have to use serial monitor. Wherever you see lcd.print just change it to Serial.print....... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)

2307. [CHR's 8X8X8 LED Cube – Revisited with improvements!](#)

SEE STEP 11 for uploadable code for this cube. This instructable has mutated over the past few months, and you'll see a bunch of end results before we get into how to make the cube, and the improvements that have been made over the original...... Listed under: [LED Projects](#)

2308. [Arduino 4 led madness](#)

In this instructables you will learn how to wire 4 LED'S and make them flash 10 times. This is a great Starter project!! what you will need... 1: arduino (I am using an Duemilanove) 1: breadboard 4: LED's 10-15: jumper wires 3: resistors Step 1:...... Listed under: [LED Projects](#)
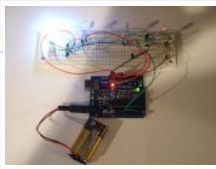
2309. [Fading using an Arduino](#)

Demonstrates the use of analog output (Pulse Width Modulation (PWM)) to fade an LED. PWM is a technique for getting an analog-like behavior from a digital output by switching it off and on very fast. Circuit An LED connected to digital output pin 9 through…… Listed under: [LED Projects](#), [Projects](#), [PWM Projects](#)

2310. [Arduino Guitar Tuner](#)

Build your own electric guitar tuner using the Arduino! I decided to make this because I wanted to experiment with audio input and frequency detection. I used Amanda Ghassaei's method for Arduino Frequency Detection in order to get frequency readings using the Arduino. I used LEDs that…… Listed under: [Sound – Audio Projects](#)

2311. [Pressure Activated Light-Up Umbrella using an Arduino](#)

Once upon a time, 2 girls greatly enjoyed walking in the rain with umbrellas. They decided the enjoyment of this experience could be maximized by building their own pressure-activated web of LEDs to install under their umbrella. Thus, with the help of an Arduino, some…… Listed under: [Home Automation Projects](#), [Projects](#)

2312. [TankWars: A Physical Video Game using Arduino](#)

This instructable will show the game TankWars, a web based game played on an iPad that drives a real robot tank to fire lasers at a robot. When you hit the robot target, the game is updated. The tank and the target are Arduino's equipped…… Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)

2313. [ATtiny programming with Arduino](#)

After this Instructable you should be able to program an A Ttiny85/45 with an arduino. It may sound complex but it really isn't. After doing some research I could not find to much info on how this could be done. I however did find http://www.instructables.com/id/Program-an-ATtiny-with-Arduino/. This Instructable…… Listed under: [Arduino Programmer Projects](#)

2314. [Electronic Dartboard or How I Learned to Stop Worrying and Love ECE 476](#)

Introduction Ever dream of having a darts game scored automatically without using those annoying plastic darts? We decided it was a dream most of us has had at some point, and so decided to implement an automatic scoring system for a "real" cork dartboard. As…… Listed under: [Game – Entertainment Projects](#)

2315. [Arduino 7-Segment Thermometer](#)
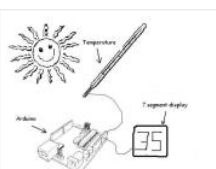
Using a dual 7-segment display, a DS18B20 temperature sensor and a couple of shift registers I figured that I could build a digital thermometer. Step 1: Temperature Sensor The sensor I'm using is the DS18B20, it's a 3pin sensor that just requires a single input…… Listed under: [Projects](#), [Temperature Measurement Projects](#)

2316. [Arduino String Comparison Operators Code](#)

The String comparison operators, ==, !=,>, < ,>=, <= , and the functionsequals() and equalsIgoreCase() allow you to make alphabetic comparisons between Strings. They're useful for sorting and alphabetizing, among other things. The operator == and the function equals() perform identically. It's just a matter…… Listed under: [How To – DIY – Projects](#), [Projects](#)

2317. [USB Freeform using an Arduino](#)

This is a project in attempting to improve it predecessor "Freeform Arduino" by putting it in an enclosure and having it serve the similar purposes as "Palm Arduino Kit" and "Palm Arduino II" which I can carry it in my pocket and be available to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2318. [Arduino Board Sound Alarm](#)

I've just completed my second Arduino project, a sound level detector which sets off an "alarm" when there's the sound level is to high for too long. I built it for use in a school that wants to provide visual feedback to students when they…… Listed under: [Projects](#), [Security – Safety Projects](#)

2319. [Flicker up to 6 LEDs with Arduino](#)

Hi there. Christmas is coming closer, and I was wondering if I could put some candles in my room to get in the "christmas mood". But after a friends house burned down of christmas tree candles, I don't want to burn real candles into my…… Listed under: [LED Projects](#), [Projects](#)

2320. [Displaying Images on 4D OLEDS using Arduino](#)
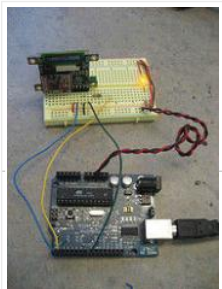
4D Systems makes some really nice serial OLEDS. They aren't hard to use, but the documentation for them is very scattered. This tutorial pulls together the various pieces i've found so that you can get up and running very quickly. Start by skimming through the…… Listed under: [Video – Camera – Imaging Projects](#)

2321. [Program your Arduino with an Android device](#)

Hi, in this Instructable I want to show you, how you can program your Arduino with your Android device. It is very simple and cheap. Also it allows us to program our Arduino where ever we want, this is usefull for permanently installed Arduino boards,…… Listed under: [Arduino Android](#), [Electronics News Updates](#)

2322. [Arduino stoplight web server](#)

At the place I work, we use xymon to monitor of our servers. All of the services monitored are important, but we wanted a separate indicator to simply show the overall health of the most critical systems. Furthermore, we came up with the following criteria:…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

2323. [Power off from an Arduino Sketch using the Pololu Power Switch](#)
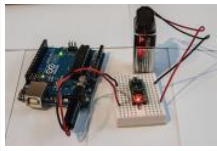
If you need an Arduino to shut off from within your Sketch, this is the solution. We will explore wiring the Pololu Pushbutton Power Switch, programming the Arduino to shut off the power, and making the unit "power on" only. The Pololu Pushbutton Power Switch...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

2324. [Wireless nunchuk controlled animatronic doll using Arduino](#)

This instructable will attempt to show you how to make an animatronic doll controlled by a wireless nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make...... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2325. [Digital Read Serial using Arduino](#)
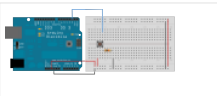
This example shows you how to monitor the state of a switch by establishing serial communication between your Arduino and your computer over USB. Hardware Required Arduino Board A momentary switch, button, or toggle switch 10k ohm resistor breadboard hook-up wire Circuit image developed using Fritzing. For more...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2326. [Arduino Esplora Joystick Mouse](#)

This sketch shows you how to read information from the Esplora's joystick and use it to control the movement of the cursor on your computer. You're making your Esplora into a mouse! This sketch will take over the mouse movement of your computer. If you...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2327. [Hookup an LCD to an Arduino](#)
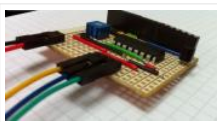
Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost – you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [LCD Projects](#), [Projects](#)

2328. [The Tetris Pumpkin using an Arduino](#)

Who wants grinning faces and candles when you can have an interactive pumpkin this Halloween? Play your favorite block-stacking game on an 8×16 grid carved into the face of the gourd, lit by LEDs and using the stem as a controller. This is a moderately...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

2329. [Switch Statement used with serial input using Arduino](#)

An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you...... Listed under: [How To – DIY – Projects](#), [Projects](#)

2330. [A laundry alarm for the hearing impaired and everyone else using Arduino](#)

This Arduino based project was designed to solve a recurring problem for my hearing impaired wife. Our laundry room is located remotely from our living area. If our laundry has finished washing and is not removed in time, it can sour or even get moldy. ...... Listed under: [Home Automation Project Ideas](#), [Projects](#), [Security – Safety Projects](#)

2331. [Android & Arduino Controlled Projector Screen](#)

This is my first time using Arduino, or any microcontroller. I'm glad it worked out so well but my wife may not be, due to the stacks of microcontrollers that will being showing up on our doorstep soon for future projects. Any feedback or questions...... Listed under: [Arduino Android](#), [Projects](#)

2332. [Freeform Arduino](#)

As an artist, sometime I created an art pieces without planning ahead what I want to draw or paint, just want to add colors or lines onto the drawing or canvas, and never think of the outcome of the piece. Let's our own instinct and subconscious leading...... Listed under: [LED Projects](#), [Projects](#)

2333. [L.O.G. sous vide](#)

So have you heard of sous vide? Well, this Lazy Old Geek (LOG) hasn't or hadn't. http://en.wikipedia.org/wiki/Sous-vide It's French. So it's kind of like boil-in-a-bag only you don't boil it. The equipment can be rather expensive. http://www.sousvidesupreme.com/Shop_Online/SousVide_Supreme_Demi/Department.aspx? DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodomkA6g I thought that was rather expensive for a......
Listed under: [Home Automation Projects](#)

2334. [Energy-Saving Light using an Arduino](#)
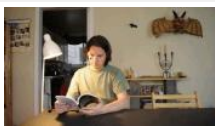
In the spirit of Earth Day, I have created a revolutionary new energy-saving lighting solution that is only ever on when your eyes are open. This is remarkably more efficient than normal lighting that remains on, even when your eyes are shut. Using my device, you...... Listed under: [Home Automation Projects](#), [Projects](#)

2335. [Make your own custom Arduino compatible](#)

I love Ardunio. I love the things that people make with them and I love to make my own. Last August I published an Instructable on how to make your own postage stamp sized Arduino compatible. This Instructable will show you how to to make a...... Listed under: [How To – DIY – Projects](#), [Projects](#)

2336. [Arduino String Appending Operators Code](#)

Just as you can concatenate Strings with other data objects using the StringAdditionOperator, you can also use the += operator and the cconcat() method to append things to Strings. The += operator and the concat() method work the same way, it's just a matter of...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2337. [Solar powered arduino on the back of a playing card](#)

Here's a six word tragedy: My arduino needs four AA batteries. Really? Isn't this 2012? Where's my jetpack?!! Here's a way to the future — a way to make a solar panel, from scratch, that can power any arduino off of sunlight or even light...... Listed under: [Battery Projects](#), [Projects](#), [Solar energy projects](#)

2338. [How to Build an Arduino Voice Controlled TV Remote](#)
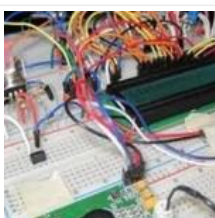
#include <EEPROM.h> #include <Wire.h> #include <SoftwareSerial.h> #include <LiquidCrystal.h> SoftwareSerial voice = SoftwareSerial(15, 16); LiquidCrystal lcd(5, 6, 7, 8, 9, 10); int pulses, A_SIG=0, B_SIG=1, menu=0, datacount, i, buttoncount=0; int count, j, k, m, ready=0, even=0, fail, first_but=0, second_but=0; word Power[100]; word Remote[100]; //word Remote2[100]; word...... Listed under: [Home Automation Projects](#), [Projects](#)

2339. [The useless alarmed Coke can using Arduino](#)

Hi all! This is the most useless project in the world! It consist in a Coke can attached to an Arduino trough a coaxial cable and two resistors that make a sound when an hand is near it. Step 1: Materials and Tools For make...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2340. [Building the YaNis EOS Controller using Arduino](#)

The YaNis EOS controller is a device that allows you to wirelessly control your Canon DSLR from your Android phone. What's really exciting here is that the Android interface allows you to change most of the camera's settings (like Shutter Speed, Aperture Size, ISO, White...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2341. [Arduino Combi-button Lock optional Android support](#)
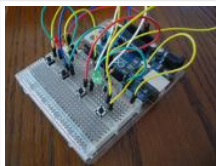
Recently, I decided I would like to attempt to make a passcode lock with my newly acquired Arduino Uno, but all the tutorials I could find made use of a modified keypad, something that not every Tom, Dick and Harry has lying about. I therefore...... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Security – Safety Projects](#)

2342. [PEZ Robo Dispenser Using Arduino](#)
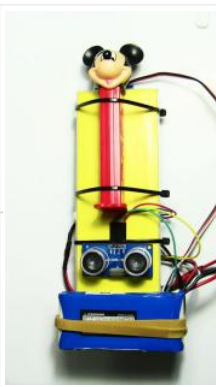
I was strolling down the candy aisle at the supermarket and there it was: the PEZ dispenser, conjuring up sweet (literally) childhood memories served up by my favorite cartoon characters in squarish sugary pellets. Then, all of a sudden, an LED went off in my...... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)

2343. [Quality of Life Meter](#)

Harsh new rules at work getting you down? Overtime sucking the life out of you? Or maybe things are great, either way now you can show your co-workers and management exactly how you feel about your job without a single meeting, memo, or team bonding...... Listed under: [Metering – Instrument Projects](#)

2344. [Arduino Switch Statement used with sensor input](#)
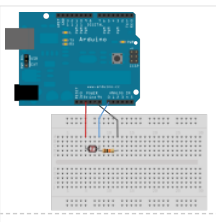
An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2345. [Modifying a Robot Arm using Arduino](#)

Essentially another tutorial involving controlling DC motors. In this post I'm going to first alter a robot arm I had built previously from a beginners kit so that it can be controlled from Arduino. Then I'm going to write a series of posts on different...... Listed under: [Projects](#),
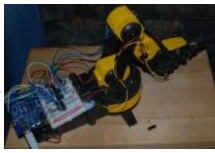
Robotics – Automation Projects

2346. RC Paper Tank – Bring your 3D models to life

Bring your 3D models to life! In this instructable we will custom make a remotely controlled tank. We will infuse paper-craft with an arduino based system. This tank will be controlled on a android based phone though a bluetooth connection. I've strived to create something with…… Listed under: Game – Entertainment Projects

2347. Barcode Reading using Roborealm Output on Arduino LCD

This Instructable shows how to create a Barcode Reader using only a webcam together with Roborealm and Arduino. The webcam used in this demonstration is the Logitech Quickcam and the LCD screen is labelled, JHD162A. What you need for this project: 1. Arduino UNO 2……. Listed under: Interfacing(USB – RS232 – I2c - ISP) Projects, LCD Projects, Projects

2348. Analog In, Out Serial using Arduino

This example shows how to read an analog input pin, map the result to a range from 0 to 255, and then use that result to set the pulsewidth modulation (PWM) of an output pin to dim or brighten an LED. Circuit image developed using Fritzing……. Listed under: Projects, PWM Projects

2349. Midi Light Show using Arduino
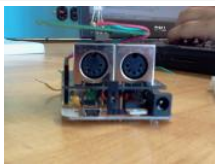
For a class, my teammate and I decided to develop a MIDI based system that has a responsive light for each note played. For example, if you plug our little setup to a keyboard, pending on which note you press, you'll get a specific color……. Listed under: Projects, Sound – Audio Projects

2350. 3D Printed Digital Camera

This is a 3D printed digital camera that you can build yourself. By making your own digital camera, it takes away some of the mystery around how such devices work, and are fabricated. Also, it allows you to fully customize the camera to your liking……. Listed under: Video – Camera – Imaging Projects

2351. The LED Strip Jellyfish Costume with Arduino & LPD8806 Led Strips

It all started when I saw a BBC documentary in 2002 about deep waters of the ocean. There was a biolimunescent jellyfish in the documentary, probably of the species "ctenophores" that grabbed my attention so in the later years I decided use it as a Halloween costume……. Listed under: LED Projects

2352. How to use a while loop to calibrate the value of an analog sensor using Arduino

Sometimes you want everything in the program to stop while a given condition is true. You can do this using a while loop. This example shows how to use a while loop to calibrate the value of an analog sensor. In the main loop, the sketch below reads…… Listed under: Metering – Instrument Projects, Projects, Sensor – Transducer – Detector Projects
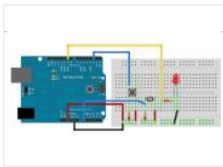
2353. [Arduino-l3dgecomm – Integrating L3DGEWorld and Arduino](#)

L3DGEWorld is a tool for monitoring and interacting with networks and computer systems. Within a 3D world, entities bounce, spin, scale and otherwise change. These entities all represent an entity in another context – be it a server, phone, router or other monitorable device. The...... Listed under: [Interfacing(USB – RS232 – I2c - ISP) Projects](#), [Projects](#)

2354. [Mailbox Phone Alert](#)

The mailbox phone alert sends you a text whenever you get mail. I remember anxiously checking my mail multiple times a day during the spring of my senior year of high school as I awaited letters back from colleges. Nervously, I would walk up to...... Listed under: [Phone Projects](#)

2355. [Tree Climbing Robot using Arduino](#)

After I got comfortable programming and building with an Arduino, I used my newly acquire microcontroller skills to build a robot. Using a microcontroller, four high-torque DC gear motors, spiked legs, a linear actuator, rotation sensors, and 3 L298 H-bridge circuits, this robot can climb...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2356. [Palm Arduino Board V3](#)

I design and create this Palm Arduino V3 prototype PCB, as I was tired of recreating Arduino Compatible on perf board every time I prototyping a new project, especially when I had to spend a lot of time tracing the wiring to see that I...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2357. [How to make a XY-plotter with Makeblock](#)

Last month, I made a XY-plotter by Makeblock and use it to built a Drawing Robot. This Drawing Robot was built with two Linear Motion Shaft D8x480mm, two Long Beam0824, the timing belt, two stepper motors, two stepper motor driver, and a micro-controller Arduino. You...... Listed under: [Robotics – Automation Projects](#)

2358. [Best RGB LEDs for any project (WS2812)](#)

When we're working with LEDs, we often like to control their state (on/off), brightness, and color. There are many, many different ways of going about this, but none are as compact a solution as the WS2812 RGB LED. In its tiny 5mm x 5mm...... Listed under: [LED Projects](#)

2359. [DIY Skee Ball Machine](#)

The skee ball machine is a wonderful thing. The simple experience of rolling a ball into a target is so freakishly satisfying that I used to play as much as I could as a kid at the local amusement park/mini-golf course. The sound of the...... Listed under: [How To – DIY – Projects](#)

2360. [The Dryer Messenger using Arduino](#)

The dryer in our house is in an out-of-the-way corner where it's hard to hear the buzzer. When we miss it, the clothes sit in the dryer getting wrinkly, so we start the dryer again, don't hear the buzzer again … it's an endless cycle……. Listed under: [Home Automation Projects](#), [Projects](#)

2361. [LED Shoulder Pads](#)

For this project, I was inspired by my best friend. She had been wanting some disco-fabulous armor-inspired wearable technology for music festivals and costume parties for some time. I took a pair of construction/gardening knee-pads and turned them into glitterific shoulder pads that shine bright…… Listed under: [LED Projects](#)

2362. [How to Create an Arduino Compatible Bluetooth 4.0 Module](#)

I had been looking for a cheap alternative to some of the Arduino Bluetooth devices I'd seen, which in my opinion are overpriced. Redbear's Mini: $39.95 (Note: This is a uC and BLE combo). Redbear's Uno Shield: $29.95 BLEDuino: $19.95 (if part of Kickstarter) Bluegiga…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#)

2363. [Homemade Arduino Friendly Pulse Sensor](#)
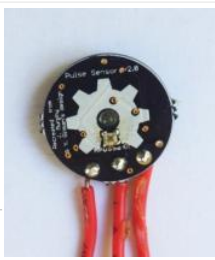
I saw the Open Hardware Pulse Sensor at thought I'd try to make it at home. Took me awhile, but here's my bumbling process. Step 1: Pulse Sensor — Overview I've been working on re-making the the Open Hardware Pulse Sensor so it'd be "easy" to send off to…… Listed under: [Medical – Health based Projects](#), [Sensor – Transducer – Detector Projects](#)

2364. [DIY Robotic Hand Controlled by a Glove and Arduino](#)

This project idea came to me when I was sitting on a bed on a hotel room on vacation. I thought: "It'd be really neat to have a robotic hand that I can control with my own hand!" Upon returning home, I embarked upon a…… Listed under: [Robotics – Automation Projects](#)

2365. [Arduino Barometric Pressure Web Server](#)

This example shows how to use SPI communications to read data from a SCP1000 Barometric Pressure sensor, and how to then post that data to the web by using your Arduino/Ethernet Shield combo as a simple web server. Using the Ethernet library, your device will…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2366. [Create an Internet Connected Pill Dispenser](#)

The P.I.L. Box – A Better Medication Reminder System Studies show the consequences of patients not taking medications according to doctor's orders can be serious, especially in older patients.With today's low cost micro-controllers and sensors (and the incentive of the

Radio Shack / Instructables Micro…… Listed under: [Internet – Ethernet – LAN Projects](#)

2367. [Android talks to Arduino](#)

This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android…… Listed under: [Arduino Android](#), [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Projects](#)

2368. [Create Interactive Electronic Instruments with MaxMSP](#)

This Instructable is part 3 in an Intro to MaxMSP series I've just finished teaching atWomen's Audio Mission in San Francisco. Part 1 is an introduction to MaxMSP and MIDI, part 2 is intermediate Max and Audio, and this Instructable is all about interfacing MaxMSP with hardware. I…… Listed under: [Other Projects](#)

2369. [Make another Arduino LCD shield](#)

In this tutorial we make an LCD shield for using 20 character by four row LCD modules with Arduino Uno. Updated 18/03/2013 In this article you can follow the process of making another LCD shield for the Arduino Uno or compatible boards. In the past (which explains…… Listed under: [LCD Projects](#), [Projects](#)

2370. [RGB LED Skate Light](#)

I like to go skating every week but I noticed that the my skates weren't cool enough so I decided it was time for some lights! I installed these lights on my Dad's skates as a thank-you present for taking care of the pool for…… Listed under: [LED Projects](#)

2371. [Homemade Infrared Rangefinder (Similar to Sharp GP2D120) using Arduino](#)

Here is my instructable on how to construct a pretty simple (for some!) short range infrared rangefinder/range sensor. Infrared rangefinders are very useful in a number of projects. The majority of these come from obstacle detection (in robots) or generally detecting distances! The one shown…… Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2372. [Make your own Enigma Replica](#)

EDIT: This Instructable has won Second prize in the 2013 Radio Shack Microcontroller Contest. Thank You to all who voted! This is our very first Instructable and this step by step guide will show you how to build a fully functional electronic replica of the…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

2373. [MIDI Note Player using Arduino](#)

This tutorial shows how to play MIDI notes from an Arduino. MIDI, the Musical Instrument Digital Interface, is a useful protocol for controlling synthesizers, sequencers, and other musical devices. MIDI devices are generally grouped in to two broad classes: controllers (i.e. devices that generate MIDI…… Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Projects](#)

2374. Serial Call and Response with ASCII-encoded output using Arduino
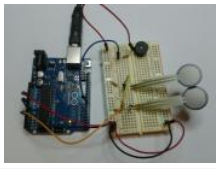
This example demonstrates string-based communication from the Arduino board to the computer using a call-and-response (handshaking) method. The sketch sends an ASCII string on startup and repeats that until it gets a serial response from the computer. Then it sends three sensor values as ASCII-encoded…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

2375. Trinity Assembly

Hey dudes! Lets build the trinity synt! ! More information about the synth at: www.bastl-instruments.com Before you start: the board solders from both sides and the component goes always above its printed sign so it hides the sign! You should know that there are some…… Listed under: Other Projects

2376. Serial Call and Response using Arduino
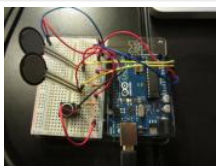
This example demonstrates multi-byte communication from the Arduino board to the computer using a call-and-response (handshaking) method. This sketch sends an ASCII A (byte of value 65) on startup and repeats that until it gets a serial response from the computer. Then it sends three…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

2377. A Self-Contained Data Logging Anemometer

I love collecting and analyzing data. I also love building electronic gadgets. A year ago when I discovered the Arduino products, I immediately thought, "I'd like to collect environmental data." It was a windy day in Portland, OR, so I decided to capture wind data……. Listed under: Metering – Instrument Projects

2378. Calibrating sensor input using Arduino

This example demonstrates one techinque for calibrating sensor input. The Arduino takes sensor readings for five seconds during the startup, and tracks the highest and lowest values it gets. These sensor readings during the first five seconds of the sketch execution define the minimum and…… Listed under: Projects, Sensor – Transducer – Detector Projects

2379. *duino Keg Temp Monitor, or the Quest for the Perfect Pint

I was looking for a project that combined my three favorite things – working in my shop, building cool stuff for my bar and of course, drinking beer. After a couple of weeks in the old country drinking "the Guinness", I decided my I'd put a keg…… Listed under: Temperature Measurement Projects

2380. Physical Pixel using Arduino
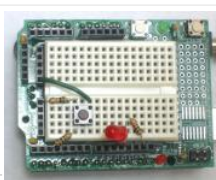
This example example uses the Arduino board to receive data from the computer. The Arduino boards turns on an LED when it receives the character 'H', and turns off the LED when it receives the character 'L'. The data can be sent from the Arduino…… Listed under: LED Projects, Projects

2381. SensoDuino: Turn Your Android Phone into a Wireless Sensors Hub for Arduino

UPDATES Nov 23, 2013: SensoDuino 0.160 gets a face left. Nov 19. 2031: OPINION: The Amazing Synergy Between Arduino & Android. Nov 19, 2013: SensoDuino 0.159 is out. Android phone date (y,m,d) and time (h,m,s) are supported as sensors. Support for Android KitKat (4.4/API 19). INTRODUCTION Think of SensoDuino…… Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)

2382. [Sleep n' Tweet using an Arduino](#)

Now I am lucky enough to work at the greatest company in the world as a University of Waterloo, co-op student. It might not even be a company you've heard of yet. They're named Upverter and we are trying to change the way people design,…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

2383. [Arduino Fingerprint Lock](#)

There is a short video for this Arduino fingerprint lock here: http://v.youku.com/v_show/id_XNjIxNzQyNzY4.html I live in a small apartment in Shenzhen with my wife and baby, 5 months old. Sometimes, I need to go out, for example, to go downstairs to buy candy or diapers for my…… Listed under: [Security – Safety Projects](#)

2384. [Slipper Shining with LED strip & Xadow](#)

mo.momi Led strips are amazing! Firewalker-led-sneakers(http://learn.adafruit.com/firewalker-led-sneakers) by Adafruit inspired me. I wanna change a way to control it, instead of "pressure-sensitive", I use a accelerometer sensor judging the motion of slipper. It's simple, I complete this version only calculating the acceleration on "z" axis, weather…… Listed under: [LED Projects](#)

2385. [Arduino Esplora Blink Code](#)

This sketch blinks the Esplora's RGB LED. It goes through all three primary colors (red, green, blue), then it combines them for secondary colors(yellow, cyan, magenta), then it turns on all the colors to create white. For best results, cover the LED with a piece…… Listed under: [LED Projects](#), [Projects](#)

2386. [Analog Input using Arduino](#)

A potentiometer is a simple knob that provides a variable resistance, which you can read into the Arduino board as an analog value. In this example, you'll connect a poterntiometer to one of the Arduino's analog inputs to control the rate at which the built-in…… Listed under: [Projects](#), [PWM Projects](#)

2387. [Sonic Switch: Use a Sonic Screwdriver to turn on your computer!](#)

What it is: An Arduino-based light-sensitive switch for turning on a desktop computer. Why its cool: Use a Sonic Screwdriver to turn on your computer! Story: This project started, as I'm sure a lot of them do, as a result of boredom and the thought…… Listed under: [RTOS – OS Projects](#)

2388. [Arduino and 7 segment LED display decoder](#)

In this instructable i will explain how to connect 7 segment display, decoder and arduino. It´s pretty easy. At first we have to learn something about decoder. I´m using BCD to 7 segment decoder. My is D147D, this is old chip, but the newer are...... Listed under: [LED Projects](#), [Projects](#)

2389. [Pixel Shipped Counter](#)

Many times, we often use LCD as display equipment, from tiny temperature monitors to large industrial equipment. The funny thing in this project is that it combines two Red LED Matrices as display. You don't need other devices except Arduino to drive it. This project...... Listed under: [Calculator Projects](#)

2390. [Capacitive Touch Arduino Lamp](#)

The Problem It is late night, and your cellphone rings. You can't see where it is, you blindly grope around your nightstand, trying in vain to find that illusive switch that will illuminate your side of the bed. You clumsily turn on the lamp, locate...... Listed under: [Home Automation Projects](#), [Projects](#)

2391. [SPlaying tones on Multiple outputs using the tone() function with Arduino](#)
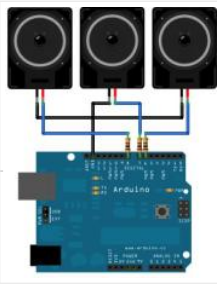
This example shows how to use the tone() command to play different notes on multiple outputs. The tone() command works by taking over one of the Atmega's internal timers, setting it to the frequency you want, and using the timer to pulse an output pin....... Listed under: [Projects](#), [Sound – Audio Projects](#)

2392. [Button State Change Detection using Arduino](#)

Once you've got a pushbutton working, you often want to do some action based on how many times the button is pushed. To do this, you need to know when the button changes state from off to on, and count how many times this change of state...... Listed under: [Calculator Projects](#), [Projects](#)

2393. [Redefining the TV Remote using Arduino](#)

We use them every day, but has no one got bored of pressing buttons on a stick, it's far too much effort pressing buttons! Surely there are better ways to control a device? After doing some work with my Nikon camera using IR to control...... Listed under: [Home Automation Projects](#), [Projects](#)

2394. [How to make a Ball Balancing Robot](#)

Last year, I have made this ball balancing robot.It can stand on a ball stable by the balance system of itself. There is only one connect point between the robot and the ground, so it is more flexible than the traditional wheeled robot. It can...... Listed under: [Robotics – Automation Projects](#)

2395. Using FM RC Controllers using an Arduino

I recently dug up my old RC transmitter and receiver and thought "How can i control my arduino with this?" so i powered on my scope to see what was going on at the receiver. Sure enough, it was sending out the standard PWM signal that servos...... Listed under: Projects, Radio Projects

2396. Simple keyboard using the tone() function using Arduino
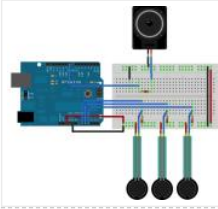
This example shows how to use the tone() command to generate different pitches depending on which sensor is pressed.   Circuit Connect one terminal of your speaker to digital pin 8 through a 100 ohm resistor, and its other terminal to ground. Power your three FSRs (or...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects, Sound – Audio Projects

2397. Arduino Powered Nixie Tubes: ArduiNIX Nixie driver shield assembly

www.ArduiNIX.com presents: ArduiNIX Nixie driver shield assembly The ArduiNIX shield is a user programmable platform for driving multiplexed Nixie tube or other high voltage displays**. The ArduiNIX is open source hardware Welcome to the assembly portion of the site. Here we will take you step by...... Listed under: LED Projects

2398. LED Show 2 using Arduino Esplora

This example shows you how to read different analog sensors to change the brightness of the three colors in the RGB LED. In this example you will read the amplitude from the microphone, the amount of light on the light sensor, and the position of...... Listed under: LED Projects, Projects

2399. The MicroSlice | A tiny Arduino laser cutter

A few years ago I saw an Instructable where Groover had used a pair of DVD-RW drives to make a pocket laser engraver. Inspired by the idea, driven by the recent purchase of a full-sized 50 watt CO2 laser cutter, and roused by the launch of the Microcontroller contest I took...... Listed under: CNC Machines Projects

2400. Wally – IR Detection Robot using Arduino

My First ever Robot. It tracks objects using Infra-red sensors, and has basic AI that follows and avoid objects. I will describe the how I made this robot, and upload some videos. Version 1 (16 Dec 2011): —————–The components used ——————- I actually planned this...... Listed under: Projects, Robotics – Automation Projects

2401. Secret Compartment Chess Set

I play chess pretty poorly and have always wanted to get better, but I don't even own a chess set. I decided I wanted to make my own set, but with a twist. I have made a chess board with a secret drawer that is...... Listed under: Game – Entertainment Projects

2402. Arduino Projects on a breadboard (no serial com)

Intro: If you've got an Arduino Uno and want to start duplicating projects without having to buy an Uno every time... get ready to live! This instructable will show you how to move your projects (that do not require serial communication) onto a breadboard for...... Listed under: Development Board – Kits Projects, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

2403. [Automatic Camera Shutter Switch](#)

The best part of haunted houses and amusement park rides is getting to see pictures of your friends screaming in terror. To get these kinds of pictures requires perfect timing. The best way to get this is with an electronic control circuit. So in this...... Listed under: [Video – Camera – Imaging Projects](#)

2404. [Timelapse Panning controller for GoPro Cameras](#)

This instructible will show you how I built (and you can also build) an Arduino Timelapse Panning controller for GoPro cameras. There are obviously some refinements that can be made to the design, but in general I am very happy with the results that I've...... Listed under: [Video – Camera – Imaging Projects](#)

2405. [Pong Playing Flexible Screen on a Shirt](#)

This is my Halloween costume for the year 2013. It's been in the works for about a year and has taken quite a few man hours to create. The screen is 14 by 15 pixels, so, pretty low resolution but it can still do some...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#)

2406. [Sky on the Wall (Mood Lighting-IR remote)](#)

I love LED and stars, and after saw another instructables about star constellation and some mood lighting that was very inspired and I decided I wanted to take that idea and want to create some mood lighting with some skies component such as stars, and...... Listed under: [Home Automation Projects](#), [LED Projects](#)

2407. [Pitch follower using the tone() function using Arduino](#)

This example shows how to use the tone() command to generate a pitch that follows the values of an analog input Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 9 through a...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2408. [Functional Lit Costume Goggles for Mr Freeze](#)

Egads! LED Goggles you can see through (surprisingly well, too)! They pulse subtly, making them so cold and dehumanizing. They were totally perfect for the character I was going after – Mr Freeze. It was my first time really playing with LEDs and Arduinos, so...... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

2409. [Basic Arduino Tutorials : 01 Blinking LED](#)

In this instructable, I'm going to show you how to make a simple circuit/code with an arduino, which will make an LED connected to it flash from off to on, with 1-second intervals, as shown below. This is a very easy, basic idea, however it...... Listed under: [LED Projects](#)

2410. [Phone Controlled Mood Lighting](#)

Dorm rooms are notorious for their dreadful lighting, so I wanted to make a cool alternative light source for my room at school. I made it phone controlled so there would be an easy and wireless way to change the color of the lighting. The...... Listed under: [LED Projects](), [Phone Projects]()

2411. [How to Make a Makeblock Music Robot with the Music Robot Kit（NEW）]()

Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only...... Listed under: [Robotics – Automation Projects](), [Sound – Audio Projects]()

2412. [Accelerometer Dice with 123D Circuits]()

This is the project that got Autodesk's CEO Carl Bass a little extra attention from the TSA on his way to MakerFaire Tokyo. Here's an article about that... We made this as way to demo a few things you can do with our apps, 123D Circuits and 123D Design : Design...... Listed under: [LCD Projects](), [Metering – Instrument Projects]()

2413. [Better LED as light sensor]()

As a result of the questions from lekirst on this ible of my hand: LED-as-lightsensor-on-the-arduino/ and the cleaner code made by hansc44 at: Arduino-Use-LED-as-a-light-sensor/ it was time to come with a better Ible. So here it is. (I didn't solve lekirst's problems yet so she probably is open for suggestions) What is...... Listed under: [LED Projects](), [Sensor – Transducer – Detector Projects]()

2414. [Arduino Mega-ISP Shield]()

Use this shield to re-burn the bootloader for any arduino. You can always make one on a breadboard, but having a shield is great. This is great for people who works with lots of arduinos. You can also use it with AVRDUDE. I will have...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](), [Projects]()

2415. [Frameless Laser Harp]()

We are a generation that love sound and light – can't do without them really. Our most preferred time of day is night, or what we would call evening. We are particularly well acquainted with technology; doesn't hurt these days. Our prerequisite for everything is...... Listed under: [Game – Entertainment Project Ideas](), [LED Projects]()

2416. [5X5 dot matrix on Arduino]()

With this you just type the text you want on your computer and your 5×5 dot matrix shows the message. Used: ~25 leds ~Arduino uno ~5x 100ohm resistor ~and a bit of skripting It took me a while to figure this all out but in...... Listed under: [LED Projects](), [Projects]()

2417. [Arduino Chessclock]()

I could not find instructions on a good Arduino chess clock so instead I built my own which I will describe here. Step 1: Parts list [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components

in Project" headbg="#FFEB70" headcolor="#985D00"] here are the...... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#)

2418. [Input Pullup Serial using Arduino](#)
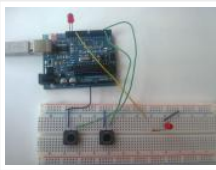
This example demonstrates the use of INPUT_PULLUP with pinMode(). It monitors the state of a switch by establishingserial communication between your Arduino and your computer over USB. Additionally, when the input is HIGH, the onboard LED attached to pin 13 will turn on; when LOW, the...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [Projects](#)

2419. [Arduino PMW enabled high power shield or non-shield on the cheap](#)

Micro controllers are great, but have you ever wanted to control something bigger then, lets say an LED? If you have, look no further (unless you want more then 0.6Amps for 4 channels, or 2.4Amps for 1 channel), unless you don't mind spending more money....... Listed under: [PWM Projects](#)

2420. [LOG Arduino Sketches 101](#)
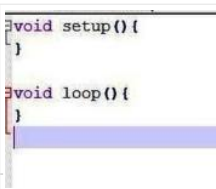
So this Lazy Old Geek (LOG) gets bored sometimes and wants something to do. Actually, sometimes I get tired of trying to solve hardware problems, which are sometimes software problems. So I decided to do a tutorial on Arduino sketches. What is a Sketch? I'm...... Listed under: [Arduino Programmer Projects](#)

2421. [Occupational Therapy Dexterity/Cognitive Aid](#)

The Need: Occupational Therapy Device Occupational therapy is used in treating Traumatic Brain Injury during many phases of recovery and rehabilitation. As the patient's condition improves, occupational therapy helps them regain skills ranging from basic self-care, to complex cognitive skills such as memory and problem solving. Occupational therapy can...... Listed under: [Medical – Health based Projects](#)

2422. [Laser Triggered Countdown](#)

This is a simple arduino based project that consists of a laser tripwire that, when triggered, will begin a countdown sequence on red, orange and green LEDs. I designed this to be an easy project for someone learning how arduinos work (like me). This is...... Listed under: [Calculator Projects](#), [LED Projects](#)

2423. [Mounting a Smapler v0002 step by step](#)

A Smapler is a circuit dedicated to the production of generative sound created by David Cuartielles and Ino Schlaucher from BlushingBoy.org. The Smapler v0002 -aka Singapore edition- is nothing but an Arduino shield to be used for playing funky stereo sounds. As an extra add-on...... Listed under: [Development Board – Kits Projects](#)

2424. [Poduino Case](#)

The 'Poduino Case'. A protective case for your Arduino (with breadboard work area): I just received my Arduino Duemilanove and breadboard today. After some careful thought, I realized there is no way this thing could possibly survive daily life on my desk. I saw some...... Listed under: [Development Board – Kits Projects](#)

2425. [LCD Temperature Shield Assembly Instuctions](#)
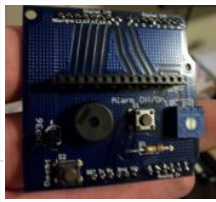
These are assembly instructions for the LCD Temperate Shield with buzzer that i am going to be selling soon. Please note, all the photos are my own, but are of one of my Prototype stage boards, and are subject to change, the production boards WILL...... Listed under: [LCD Projects](#)

2426. [Light and Water Reactive Raincoat](#)

This semester at college, I am in a class called Computing and Craft which is about incorporating circuitry and micro-controllers and craft to bring our projects to the next level. For our first big project, I decided to make a raincoat the reacted to light and water....... Listed under: [Home Automation Project Ideas](#), [Security – Safety Projects](#)

2427. [Smart Heart Monitor](#)

No longer will you have to pay hundreds of dollars for a heart rate monitor! The Smart Heart Monitor will be able to do all of your cardiac measuring needs for you! The Smart Heart Monitor measures the user's heartbeat using an LED and a...... Listed under: [Medical – Health based Projects](#)

2428. [Getting your Nokia 5110 LCD up and running on an Arduino](#)

We purchased one of these very cheap, very cool 84×84 LCD backlit screens off of eBay a couple of weeks ago. It's a very nice product for adding visual elements to your projects at a very low price. We paid £3.89 for the screen and...... Listed under: [Electronics News Updates](#), [Phone Projects](#)

2429. [Hidden light control using Arduino](#)

I've bought recently some cheap dual axis magnetic sensors at SureElectronics (http://www.sureelectronics.net/goods.php?id=944), I've tried first to use them as straight compass. Annoying problem : it's impossible to accurately compensate the tilt of the sensor without using a gyro sensor. On the other end, if you stay on...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2430. [Arduino Powered Mushroom Environment Control](#)

This is my first Arduino project aimed at helping me with my other hobby which is growing oyster and shiitake mushrooms indoors. In a nutshell, the controller takes in two temperature readings, 1 Humidity reading and 1 Co2 reading and triggers a set of four...... Listed under: [Projects](#), [Temperature Measurement Projects](#)

2431. [Paper Electronics: Make Interactive, Musical Artwork with Conductive Ink using Arduino](#)

If you've ever wanted to bring a piece of paper to life, now is your chance. This instructable will take you through all the necessary steps to create an amazing interactive flyer or artwork. This event flyer is no ordinary piece of print. It is printed using...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2432. [Diorama, Bat in the cave using Arduino](#)

The purpose of this instructable is to outline our development of this bat in the cave as well as provide instructions and tips for future engineers hoping to complete a similar project or use components of our project in theirs. The goal of this project...... Listed under: [Motor Projects](#), [Sensor – Transducer – Detector Projects](#)

2433. [Arduino-based master clock for schools](#)

If your school, or kids school, or other location relies on a central master clock that is broken, you may have a use for this device. New master clocks are available of course, but school budgets are under extreme pressures, and it really is a...... Listed under: [Clock – Timer Projects](#), [Projects](#)

2434. [Keyfob Deadbolt using an Arduino Board](#)
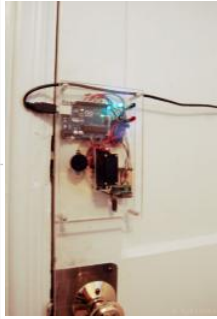
The key to my apartment never worked quite right because it is a copy of a copy of a copy. I am fairly certain that the dead bolt is original to the building and the property manager seems to have lost the original key years...... Listed under: [Home Automation Projects](#), [Projects](#)

2435. [Rainbowduino Sign using Arduino](#)

The Rainbowduino is a variant of the Arduino and among other things is capable of driving an 8×8 RGB LED matrix. I had just finished a backyard re-model and was in need of an entrance sign. Step 1: Carving and Painting the Sign I had...... Listed under: [LED Projects](#)

2436. [Another Arduino Traffic light](#)

After working with the arduino and not knowing what the heck I'm doing I made Another simple traffic light. I looked around the web to find one that looks about normal and came across none. They seemed too fast. So, I found and modded some...... Listed under: [Car Projects](#), [Projects](#)

2437. [Electronic Music Box Powered by Arduino (sort of)](#)
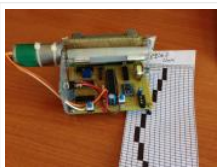
Music is the most universal means of expression. Regardless cultural language or age the idea conveyed though music would not differ much. It is safe to say everyone loves music, one type or another. When one's favourite piece is played there is a overwhelming desire...... Listed under: [Sound – Audio Projects](#)

2438. [Battery Reconditioner using an Arduino](#)
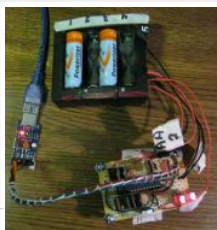
So if you are like this Lazy Old Geek, you have a lot of rechargeable batteries lying around. I wrote another Instructable with some battery tips. http://www.instructables.com/id/Rechargeable-Battery-Tips/ Amongst these batteries, I have a lot that no longer work or don't work very well. So I...... Listed under: [Battery Projects](#), [Projects](#)

2439. [Aqua Garduino Mini @hydroFishAqua82](#)

Arduino Powered Micro Aquaponic System with Pi Camera and Twitter Feed We are creating an automated aquaponic system with mobile updates via Twitter. Sensors and motors will be controlled from an Arduino while the entire system, including mobile updates, will be orchestrated by a Raspberry...... Listed under: [Home Automation Projects](#)

2440. Homemade arduino printer

If you want to make your own high resolution printer (maybe not so high res), you are at the right place. This Instructable will show you how to do with two dead cd/dvd drive and a pen (pilot, whiteboard marker, whatever you have) at the...... Listed under: How To – DIY – Projects, Projects

2441. My Arduino In Circuit Programmer
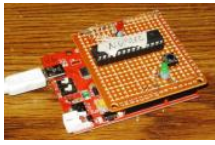
This Lazy Old Geek is also an Arduino Geek. If you are an Arduino Geek, one of the common microcontrollers used by Arduinos is the Atmega328 chip. In order to use Arduino software, the Atmega must have bootloader software on it. Okay, so I bought...... Listed under: Arduino Programmer Projects, Projects

2442. BLDC Motor Control with Arduino
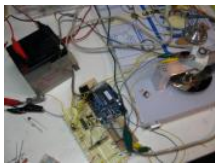
There is a lot of interest these days among hobbyists in controlling brushless DC (BLDC) motors, which have improved performance and better energy efficiency over traditional DC motors, but are more difficult to use. Many off-the-shelf products exist for this purpose. For example, there are...... Listed under: Motor Projects

2443. Beginner Programming of Arduino

This video is from a meeting of the Kids and Technology Meetup group in Washington DC. The youth who show up to these free meetings are eager to learn advanced uses of computers. The presenters were John Dukovich and Hugo Estrada.... Listed under: Arduino Programmer Projects, Projects

2444. Arduino Button Mouse Control Code

Using the Mouse library, you can controls a computer's onscreen cursor with an Arduino Leonardo, Micro, or Due. This particular example uses a five pushbuttons to move the onscreen cursor. Four of the buttons are directional (up, down, left, right) and one is for a...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

2445. Arduino String Character Functions Code

The String functions charAt() and setCharAt() are used to get or set the value of a character at a given position in a String. At their simplest, these functions help you search and replace a given character. For example, the following replaces the colon in...... Listed under: Development Board – Kits Projects, Projects

2446. Arduino-Radio Controlled Hydrogen Blimp

The blimp is controlled by a transmitter on the ground, operated by a human. There are three control levers–one for each motor, and one for the servo that rotates the axis they're attached to. You push / pull to make the motors speed up...... Listed under: Projects, Radio Projects

2447. Arduino Switch (case) Statement, used with serial input

An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects
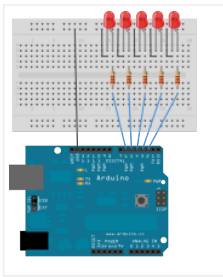
2448. [Potentiometer or variable resistor control LED Code](#)

The if() statement is the most basic of all programming control structures. It allows you to make something happen or not depending on whether a given condition is true or not. It looks like this: if (someCondition) { // do stuff if the condition is true } [Get Code]...... Listed under: [LED Projects](#), [Metering – Instrument Projects](#), [Projects](#)

2449. [MultiSerial Mega using Arduino](#)

Sometimes, one serial port just isn't enough! When trying to communicate with multiple serial enabled devices, while also sending info back to the main serial window, a few extra RX/TX ports can be a welcomed thing. This example makes use of one of Arduino Mega's...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2450. [Arduino 7 segment Displays Digital Clock With Charlieplexing LEDs](#)

This is my second instructable. I just had a mood of making a digital watch. But wanted to make it a learning process. I already had a sanguino i could have easily used that Atmega644 chip. it would have been more than enough. But i...... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#), [Projects](#)

2451. [Autonomous Arduino Car](#)

My questions for the Make-to-Learn Youth Contest 🙂 What did you make? This goal of this project was to take commonly available electronic equipment and create an inexpensive, self-controlled vehicle. In simpler terms, this is an attempt at basic autonomy. It uses an arduino logic...... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)

2452. [Remake the Mosquito Killer using Arduino](#)

Hi, everyone, i would like to introduce how i remake my mosquito killer here. With this remaking, my mosquito killer become "Smart", and really facilitate my life. I rented a room in very remote place to save my money, in the summer, the biggest trouble...... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Projects](#)

2453. [Build an RFID time-clock system using Arduino](#)

With this project you can build an RFID time-clock system to keep track of employees, children and more. Updated 18/03/2013 Recently I was listening to a friend who has three teenage children, of whom needed to arrive home before their parent. Unfortunately the parent needs...... Listed under: [Clock – Timer Projects](#), [Projects](#), [RFID – NFC projects](#)

2454. [Drifter – Arduino controlled RC car](#)

Drifter is based on a cheap RC toy car I found at Toys'r'us, named 'Fast lane Monster Drift'. I think it's the same model Frits has been used in an episode of TLIHR. It doesn't work well, you get what you pay for. But it is a...... Listed under: [Car Projects](#), [Projects](#)

2455. House Temperature Monitor using Arduino

Recently a family member had his furnace fail while he was away from his house for a long period of time in the winter. His pipes burst and caused quite the mess. This project describes a temperature sensor that broadcasts the temperature in his house to the…… Listed under: Home Automation Projects, Projects, Temperature Measurement Projects

2456. Time Lapse Digital Camera using Arduino

Following the instructable here, I was able to turn an old digital camera into a time lapse camera using an arduino, a relay, and an open source software program called makeAVI (windows). To modify the camera I disassembled the camera cover and removed the button that…… Listed under: Projects, Video – Camera – Imaging Projects

2457. Arduino Knight Rider Code

Arduino Knight Rider light effect, a simple variation of blink code. Instruction; 1) Connect all LED as diagram below, make sure cathode lead of LED at ground wire. 2) Connect all 330Ω resistor to anode lead of LED. 3) Connect all jumper wire to digital…… Listed under: LED Projects, Projects

2458. The Self-Balancing Robot using Arduino
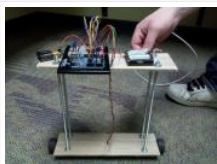
Introduction The idea of this project was to design and construct a robot that consists of a body and two wheels that would be able to balance on its own. This behavior is similar how a segway (a new mode of transportation) works. Our goal…… Listed under: Projects, Robotics – Automation Projects

2459. Arduino Thermal Camera
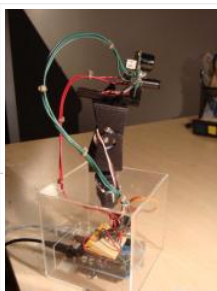
My recent arduino project was to build thermal camera on the cheap using an ir sensor and some pan/tilt hardware. If you look at the device picture to the left there is also acoustic range finder mounted to the top. The device works by sweeping…… Listed under: Projects, Video – Camera – Imaging Projects

2460. Arduino MP3 Player

I present this new Arduino project: A full MP3 player based on Arduino. As you can see in the photo, the idea was to build a standalone player, in the style of antique radios or 'tapes', in the age of Iphones …. The player uses a small…… Listed under: Projects, Sound – Audio Projects

2461. Analog VU meter and Clock using Arduino

This project brings back the old time Analog VU Meter, with the added functionality of a neat looking clock! When you turn off your music the meters automatically swing into to clock mode. Behind it all is the popular and easy to use Arduino. This…… Listed under: Calculator Projects, Metering – Instrument Projects, Projects

2462. [Arduino MIDI Foot Pedal Keyboard](#)

The Origin My dad is a musician. He can play a multitude of instruments. However, he only has two arms, BUT he also has legs! That's when we decided that we would reuse the foot pedals from an old organ and convert them into an...... Listed under: [Game – Entertainment Projects](#), [How To – DIY – Projects](#), [Projects](#)

2463. [Arduino Police Strobe Light Code](#)

Arduino Police Strobe Light effect, another simple variation of blink code. Instruction; 1) Connect all LED as diagram below, make sure cathode lead of LED at ground wire. 2) Connect all 330Ω resistor to anode lead of LED. 3) Connect all jumper wire to digital...... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)

2464. [Arduino RFID Lock](#)

The Arduino RFID lock How does it work? The Arduino RFID lock is a lock that can be opened easily, but is secure. The lock works with a server database that can register card codes. On the door there is a RFID reader connected to...... Listed under: [Projects](#), [RFID – NFC projects](#), [Security – Safety Projects](#)

2465. [48×8 SCROLLING MATRIX LED DISPLAY USING ARDUINO CONTROLLER](#)

A monochrome (single colour) LED dot matrix display is used for displaying the Characters and Symbols which is interface with a microcontroller. This project will deliberate on displaying a scrolling text message on a 48×8 LED dot matrix display. The microcontroller used is Arduino Uno...... Listed under: [LED Projects](#), [Projects](#)

2466. [Connecting Arduino LCD Display Code](#)

LCD display is great way to display output from your arduino when it not connected to your computer. The common display used in arduino projects is 16×2 parallel LCD display which compatible with the Hitachi HD44780 driver. It can easily recognize with it 16 pin...... Listed under: [LCD Projects](#), [Projects](#)

2467. [Build a fully featured Arduino Thermostat](#)

In this post I will attempt to describe the steps I took to build the arduino based thermostat shown in the following videos. The first video was taken when around just half of the coding of the menu system was complete, but gives you a...... Listed under: [Projects](#), [Temperature Measurement Projects](#)

2468. [DIY FSK RFID Reader using Arduino](#)

This page is describes the construction of an RFID reader using only an Arduino (Nano 3.0 was tested, but others may work), a hand-wound wire coil, and some assorted low cost common components. Credits The hardware and software designs for this project are based in...... Listed under: [How To – DIY – Project Ideas](#), [Projects](#), [RFID – NFC projects](#)

2469. [Arduino Voltmeter Code](#)

This arduino projects show how to make voltmeter with your arduino. It use voltage divider concept to estimate the voltage input. Instruction; 1) Connect all jumper wire as shown in diagram. Upload this code to your arduino /* Voltmeter Voltmeter base on voltage divider concept.   Code based on: http://www.clarenceho.net:8123/blog/articles/2009/05/17/arduino-test-voltmeter
Coded by: arduinoprojects101.com */...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

2470. [Arduino Temperature Sensor Code](#)

This arduino projects show how to read Celsius and Fahrenheit temperature with LM35 temperature sensor. Instruction; 1) Connect all jumper wire as shown in diagram. 2) Connect LM35 center lead to analog pin 1, make sure ground lead connected to ground and Vs lead to…… Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)

2471. [Web Server using Arduino](#)

In this example, you will use your Ethernet Shield and your Arduino to create a simple Web server. Using the Ethernet library, your device will be able to answer a HTTP request with your Ethernet shield. After opening a browser and navigating to your Ethernet…… Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

2472. [Arduino Stopwatch Code](#)

Arduino projects, running stopwatch on arduino. Instruction; 1) Connect all jumper wire as shown in diagram. 2) Connect digital input from switch to digital pin 2. Upload this code to your arduino /* Stopwatch Run stopwatch with arduino. Code based on: http://danthompsonsblog.blogspot.com/2008/11/timecode-based-stopwatch.html Coded by: arduinoprojects101.com */ // include the library code: #include <LiquidCrystal.h> // initialize the library with the numbers of the interface pins LiquidCrystal lcd(7, 8, 9,…… Listed under: [Clock – Timer Projects](#), [Projects](#)

2473. [LED Show using Arduino Esplora](#)

This example shows you how to read the values from the joystick. The output will be displayed through the serial monitor and as a color on the RGB LED. The joystick has two axes, X and Y. Each axis controls a color of the RGB…… Listed under: [LED Projects](#), [Projects](#)

2474. [Arduino RPM Counter / Tachometer Code](#)

Arduino projects, make arduino rpm counter with arduino. Instruction; 1) Connect all jumper wire as shown in diagram. 2) Connect IR LED to digital pin 13. 3) Connect IR Phototransistor (dark) to digital pin 2. Make sure shorter lead connected to digital pin 2…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

2475. [Arduino HC-SR04 How to use Ultra Sonic Sensor](#)

Arduino HC-SR04 The Arduino HC-SR04 is different from most of those commonly seen on the market, which have 4 pins compared to 3 pins. But the operation principle is the same, transmit signal, and depends on when the signal is received to estimate the distance……. Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

2476. [Arduino Hexapod Robot](#)

Arduino Hexapod Robot Design I will show you how to build an arduino hexapod robot, from building the body, to how to implement the algorithm. To learn about the implementation of the algorithm, read this first, if you are not sure what is IK, read…… Listed under: [Projects](#), [Robotics – Automation Projects](#)

2477. Real-Time Arduino GPS Tracker with iPhone app

[INTRO] This past semester, I decided to build a GPS receiver with an iPhone app that tracks it for my semester project. Here is a step-by-step tutorial to show you how you can build your own. [OVERVIEW] Architecture of my Real-Time GPS Tracker project. I'll...... Listed under: Blog, GPS Based Projects, Phone Projects, Projects

2478. Arduino GPS Tracking System

This was easily the most time I've spent producing an Arduino Tutorial. I've been sporadically walking around NYC with this Arduino GPS for weeks as I've tweaked the code and gotten it just right. If it wasn't obvious from the title, this tutorial will teach you...... Listed under: GPS Based Projects, Projects

2479. A arduino library for the MAX7221 and MAX7219
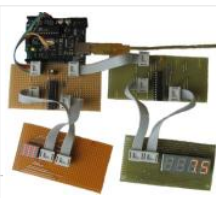
These two chips provide an easy way to control either an array of 64 Led's or up to eight digits made of 7-segment displays with a minimum of electronic components. Besides the chip itself you will need only a single resistor and one or two...... Listed under: Other Projects, Projects

2480. An amplifier for Arduino
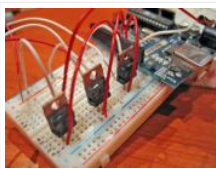
For my project, the Arduino output is not enough so digging on the net and asking to a friend some help, I managed to build an amplifier to feed my 3 computer fans. This circuit can be used as an amplifier to switch on and...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects, Sound – Audio Projects

2481. Arduino temperature controlled PC Fan

Oscar Gonzalez gives us a simple tutorial for speed controlling a PC FAN and reading a LM35 temperature sensor with an Arduino microcontroller. He covers the use of an optocoupler, PWM (Pulse Width Modulation) and reading analog voltages with the Arduino. He even has a...... Listed under: Projects, RTOS – OS Projects, Temperature Measurement Projects

2482. Power (Energy) Meter using Arduino

Part 1. Analog Front-End. Opto-Isolator. Looking at the Power Quality Analyzer display, I was wandering, if there is any error in the measurement results, introduced by transformer. Overall THD picture doesn't change much, suspiciously drawing same chart in the morning and in the evening, when...... Listed under: Metering – Instrument Projects, Projects

2483. Audio VU Meter using Arduino

Biasing AC input using resistor divider and scaling up / down if necessary; Sampling fast and accurately using direct access to Control Registers of ADC and Timer1; Subtract whatever was added at step #1 from result of Analog / Digital conversion and Square; Average /...... Listed under: Metering – Instrument Projects, Projects, Sound – Audio Projects

2484. [True Analog Audio Volume Control using Arduino](#)
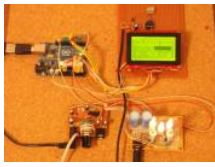
ow my Arduino can precisely measure audio input (VU meter), and obviously, next thing that comes to mind right after measurements, is regulation or control. There are many different ways how to electronically adjust audio volume or level of AC signal. I'll name a few:...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2485. [Sound Localization using Arduino](#)
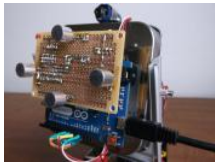
Well, it's elementary simple in theory, how to do sound localization based on phase difference of signals, that received by two spatially distant microphones. The Devil, as always, in details. I've not seen any such project created for arduino, and get curious if it's possible at...... Listed under: [Projects](#), [Sound – Audio Projects](#)

2486. [Speech Synthesizer using Arduino](#)

Synthesized speech was for a long time the Holy Grail of computing, and back in the 1980s when a 4MHz CPU made your computer the fastest machine in the neighborhood it just wasn't practical for software to create intelligible speech. In those days the only...... Listed under: [Sensor – Transducer – Detector Projects](#)

2487. [Spectrum Analyzer, Arduino project with FFT algorithm](#)

The basic idea was to create color organ / spectrum analyzer on arduino board, trying to minimize quantity of external components, like analog filters, LED display drivers, etc. Spend a lot of time in search on internet I was able to find only two !...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

2488. [Arduino Sound Alarm](#)
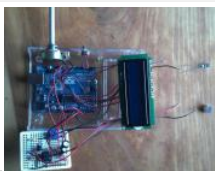
I've just completed my second Arduino project, a sound level detector which sets off an "alarm" when there's the sound level is to high for too long. I built it for use in a school that wants to provide visual feedback to students when they...... Listed under: [Projects](#), [Security – Safety Projects](#), [Sound – Audio Projects](#)

2489. [MEGAshield KIT for Arduino MEGA 2560 R3 and Arduino DUE](#)

Overview The Arduino Mega 2560 is a microcontroller board based on the ATmega2560 (datasheet). It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header,...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2490. [How To Control A Stepper Motor With An Arduino Uno](#)
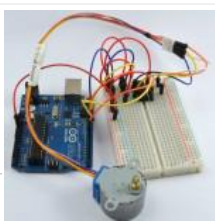
Overview Stepper motors fall somewhere in between a regular DC motor and a servo motor. They have the advantage that they can be positioned accurately, moved forward or backwards one 'step' at a time, but they can also rotate continuously. In this lesson you will...... Listed under: [Motor Projects](#), [Projects](#)

2491. [Arduino controlled Bluetooth-bot](#)

This instructable will show you how to convert an old toy R/C car from the thrift-store ($1.50) into a bluetooth controlled robot. To make the conversion, you will need an Arduino (any type), an L298N dual 2-amp motor-controller (or similar), and a bluetooth serial adapter...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2492. Arduino Battery
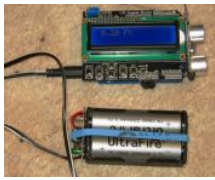
As many of you may know, this Lazy Old Geek loves Arduinos. Many of my projects are portable and need a battery source: http://www.instructables.com/id/Arduino-Pedometer/ http://www.instructables.com/id/Arduino-Nokia-LCD-Sensors/ http://www.instructables.com/id/Ultrasonic-Tape-Measure/   All pricing was determined about early 2012. So, I've been using Adafruit 6 AA Battery holder $5.00 https://www.adafruit.com/products/248...... Listed under: Battery Projects, Projects

2493. Data Logger Project using an Arduino
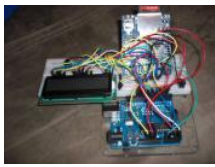
This is a data logger I made for my class. I couldn't find any instructions that I could use to make the Arduino record the light brightness and the temperature. Then display the temperature and the light value on the LCD then Save it to...... Listed under: Projects, Sensor – Transducer – Detector Projects, Temperature Measurement Projects

2494. Arduino & Visual Basic 6 Light Controller

This instructable is something like a tutorial for new VB users. It shows how to create a parser base VB6 program to interact with Arduino circuit. Basically, interaction is in the form of serial communication via the USB port. This is my practice after learning...... Listed under: Other Projects, Projects

2495. Arduino LCD Twitter display

a.k.a. the gratuitously complicated bidirectionally communicating Arduino-based scrolling Twitter display and notifier. —- This project was mainly done as an excuse to learn how to use character LCD displays with my Arduino, and figure out how to make a bidirectional serial protocol. One major design...... Listed under: Internet – Ethernet – LAN Projects, LCD Projects, Projects

2496. Arduino Touch Screen Room Control

Hey everyone, I finally finished my touch panel for my bedroom wall and am here to show you how i made it. Unfortunately its not installed in my wall yet as I might be moving and don't want to make anymore holes in my walls,...... Listed under: Home Automation Projects, Projects

2497. Very Simple Arduino Electric Lock

This is a instructable for a very simple Arduino controlled electric lock. The key idea here is to be very simple as this was more of a proof of concept prototype type of thing. The Arduino is used as a switch to control the lock...... Listed under: Projects, Security – Safety Projects

2498. Simple Parking Sensor using Arduino

My car has only parking sensor for the Reverse, so when I enter the Garage there is no way to know if I am close enough to the wall to allow the door to close or too close that I can hit the wall with...... Listed under: Car Projects, Projects, Sensor – Transducer – Detector Projects

2499. Arduino Weather Station Part3, Rain

So one of my last projects was adding a weather vane to my Arduino weather station. http://www.instructables.com/id/Arduino-Wind-Chill-Machine/ http://www.instructables.com/id/Arduino-Weather-Station-Part2/ This Lazy Old Geek decided to add a rain gauge to it

even though we don't get much rain in the high desert. Most digital rain gauges...... Listed under: [Projects](#),
[Sensor – Transducer – Detector Projects](#)

2500. [simpleTweet_01 python using Arduino](#)
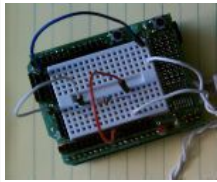
Arduino Python Twitter (Windows) In this instructable we'll modify my simpleTweet_00 and rewrite the Processing code with Python. You can expect an ignorant walkthrough by an illiterate noob, but maybe that's just what you're looking for. Before you begin: If you need help installing Python,...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2501. [Arduino Home automation](#)

This is a relatively simple controller for controlling equipment in your home. At the moment I control my central heating, security and lighting. By sending commands from my home computer. My homeeasy central heating controller hack. http://www.instructables.com/id/BampQ_homeeasy_home_automation_central_heating_c/ I am also able to login remotely from...... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2502. [Arduino 4x4x4 LED Cube](#)

Overview: This instructable will cover the building process of an 4x4x4 LED Cube. I will be using an Arduino to control the LEDs. Since the Arduino (Freeduino) has a total of 20 pins (including the analog pins) we will not need to have any multiplexing...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2503. [Color Changing Night Light with ATtiny using Arduino](#)

I wanted to create something for my wife as a present and this is what I came up with. This is a dark activated color changing night light. It has a sensor that can tell when the room light is turned off. This then will...... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)

2504. [LED Dot Matrix Display using an Arduino](#)

In this project, you shall again use two sets of shift registers. These will be connected to the rows and columns of the dot matrix display. You will then show a simple object, or sprite, on the display and animate it. The main aim of...... Listed under: [LED Projects](#), [Projects](#)

2505. [Simple Relay Shield for Arduino](#)

Shield to control 6 relay, 6 digital input and 6 analog input with Arduino Duemilanove, Arduino UNO. The digital inputs and relay outputs are equipped with an LED that indicates the status. The circuit diagram is very simple: Step 1: Schematics and PCB In this...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

2506. [Squirt – Arduino, motion activated water cannon](#)

Squirt is a motion activated water cannon using Arduino. This was designed for use in the garden but as it's winter we tested it in the bathroom. It works! True motion tracking is expensive and complicated so this system activates when the victim moves into...... Listed

under: [Home Automation Projects](#), [Motor Projects](#), [Projects](#)

2507. [Arduino Pedometer](#)
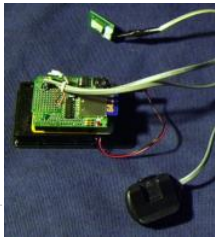
Problem: So my nutritionist (doesn't everyone have a nutritionist) suggested I should increase my exercise which primarily consists of walking my dog. She even gave me a chart of activities and calories burned. Here's an example. http://www.nutristrategy.com/caloriesburned.htm Well, being a LAZY OLD GEEK, I decided...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

2508. [Arduino Mega Pinout Diagram](#)
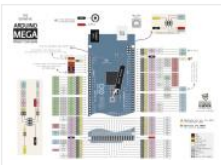
Arduino Mega Introduction: The Arduino Mega is a microcontroller board based on the ATmega1280 (datasheet). It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB...... Listed under: [Pinouts](#)

2509. [Traffic Lights Beginner Arduino Project](#)

This is a beginners project for the Arduino. I am using the Arduino Uno but should work with little or no modification on other arduino models. Setting up the hardware is very easy. This project is more of a training tool for learning how to program...... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)

2510. [Arduino + Temperature + Humidity](#)

A simple temperature sensor using one LM35 Precision Temperature Sensor , Humidity Sensor and Arduino, so you can hookup on your future projects. The circuit will send serial information about the temperature and humidity so you can use on your computer. I have taken data...... Listed under: [Projects](#), [Temperature Measurement Projects](#)

2511. [Marble Disorder – a marble maze simulator with tilt switches using Arduino](#)

Marble Disorder is a borderline case of Marble Madness ☺ It simulates a marble maze by sensing the box's orientation with 2 tilt switches. Stop the press: there's a new and more intuitive version that doesn't require the spin knob (See video). I keep documenting the original...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

2512. [Turing Alarm for Arduino](#)

NOTE: This Instructable is currently incomplete. I will finish it before September 19. I started this project after seeing Nick Johnson's Turing Alarm clock. I found that the PIC chip he used was a little too advanced for me, so I decided to use the...... Listed under: [Projects](#), [Security – Safety Projects](#)

2513. [Arduino Electronic Dice using random numbers](#)

This instructable will show you how to make an electronic dice with minimal experience using 7 LEDs, resistors, jumper wires, and of course the arduino (or arduino clone). I wrote this instructable for anyone to easily follow along and learn more about the arduino. Questions...... Listed under: [Development Board – Kits Projects](#), [Projects](#)
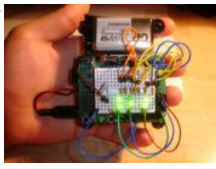
2514. LED Hat Display with Pong using an Arduino

A while ago, as my first microcontroller project, I made a Pong game on a 5×7 LED display, but then nothing became of it. Recently I was given a hard hat as part of a uniform (for an engineering competition) and told to customize it,...... Listed under: Game – Entertainment Projects, LED Projects, Projects

2515. Temperature Control For Kitchen Appliances using Arduino

In this Instructable, I will step through controlling the temperature of most kitchen appliances. As an example, I will use an old Westbend Poppery popcorn maker (aka. coffee roaster), but these same techniques will be applicable to most hot plates, coffee makers, and waffle irons....... Listed under: Home Automation Projects, Projects, Temperature Measurement Projects

2516. Arduino Binary Alarm Clock

This Instructable will show you how to build an binary alarm clock, with a touch sensor snooze button. This is my first instructable and my first real arduino project, I hope you like it! I bought an arduino a while back and I think it's...... Listed under: Clock – Timer Projects, Projects

2517. Arduino RFID Door Lock

Updated 8/9/2010 I wanted to make an easy and secure way to enter my garage. RFID was the best way to unlock my door, even with my hands full I can unlock the door and push it open! I built a simple circuit with a...... Listed under: Home Automation Projects, Projects, RFID – NFC projects, Security – Safety Projects

2518. Wireless Altoids Display using an Arduino

This Instructable will show you how to modify an Altoids tin for a wireless 2×16 character display. Using an Altoids tin was inspired by the need to have a small yet protective enclosure for a pair of Xbee modules recently bought from Sparkfun. I purchased the...... Listed under: LCD Projects, Projects

2519. Fun Sun-tracking Arduino

The Just-For-Fun Sun-tracker   using the Arduino and two servos. This device, along the lines of the most useless toy, is not so much for function as it is for fun. But as with many things, you can't spell function...... Listed under: Projects, Sensor – Transducer – Detector Projects

2520. Reaction Time Tester using an Arduino

A month ago I knew nothing about Arduino and now…..my first project! Looking back, this project combines allmost all of the tutorials that I have read in this short period: blinking LED, push button, piezo and LCD display. A useful project for every beginner! I…… Listed under: [Clock – Timer Projects](), [Projects]()

2521. [Kid's Game to Arduino Enigma Machine]()

The technology behind Enigma machines and the work done to crack them has influenced cryptography, cryptanalysis, and computer science in general. If you're unfamiliar with Enigma machines, it's a device that was developed near the end of World War I, then used extensively by the…… Listed under: [Game – Entertainment Projects](), [Projects]()

2522. [DIY Arduino or The DIY-Duino]()

THIS ENTIRE TUTORIAL IS ALSO AVAILABLE ON MY WEBSITE AT http://www.theparsley.com/arduino/diy/ To quote the Arduino website: "Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments."…… Listed under: [How To – DIY – Projects](), [Projects]()

2523. [Steering Wheel Drive R/C Car with Arduino]()

IP Control Car was launched in 2001. I make the similar function car utilizing commercialized products. The concept of Car No.02 is to utilize commercialized products, and I am an amateur in electrical. So, do not blame me that the system is not sophisticated, i.e……. Listed under: [Car Projects](), [Projects](), [Robotics – Automation Projects]()

2524. [Make A Digital Clock From Scratch using arduino]()

In some point in the life of every electronics hobbyist the need to make a clock is borned, in my case it was about a month after I soldered my first part on a board, but back then I didn't have the right tools, parts…… Listed under: [Clock – Timer Projects](), [Projects]()

2525. [Arduino Processing Audio Spectrum Analyzer]()

In this Instructable I am going to show how to make a program in Processing that analyzes sound on your computer and sends data to an Arduino that controls an LED matrix to show the spectrum analysis. I will be explaining where to get materials,…… Listed under: [LED Projects](), [Projects](), [Sound – Audio Projects]()

2526. [Plantduino Greenhouse using an Arduino]()

This summer I wanted to combine my two loves of plant science and engineering. Thus I am constructing my very own greenhouse in my backyard. I am an undergrad, and as any former student knows, this means I move around constantly, and I am not…… Listed under: [Home Automation Projects](), [Projects]()

2527. [Arduino Solar Tracker]()

What is does: It searches for the brightest light source like the sun. Step 1: How it works How it works: I'd made a sensor of 4 LDRs with sheets between them The withe stips are the LDRs   When the stick on top is…… Listed under: [Projects](), [Sensor – Transducer – Detector Projects]()

2528. [Tyco RC Arduino Robot]()

Wanted to make your own robot but couldn't afford the fancy H-Bridge IC's or etch your own PCB? Want a quick and dirty method of making your own wheeled robot? Then you're in luck, but if you want to make your own wheeled robot AND…… Listed under: [Projects](#), [Robotics – Automation Projects](#)

2529. [My Arduino WordClock](#)

The initial project, and certainly the one to which many were inspired is that of Doug Jackson. http://www.instructables.com/id/The-Word-Clock-Arduino-version/ also inspired by http://www.highonsolder.com/blog/2011/1/8/arduino-word-clock.html http://www.instructables.com/id/Sleek-word-clock/ Step 1: The Materials The list of materials for the board depends on how you plan to make the electronics, if you…… Listed under: [Clock – Timer Projects](#), [Projects](#)

2530. [Chicken Light Timer using an Arduino](#)

The wife is into raising chickens and now that the daylight savings is getting near she wanted a way to keep the egg laying production in high gear. According to the material that she reads, chickens will maintain their egg laying production if they get…… Listed under: [Clock – Timer Projects](#), [CNC Machines Projects](#), [Projects](#)

2531. [Ultrasonic Range Finder with an ATtiny85 using an Arduino](#)

I'm here to show you how to use a HC-SR04 Ultrasonic Range Finder with an ATtiny85 as well as programming the ATtiny85 using the wonderful shield that randofo created. List of materials: ATtiny85 Programming Library Arduino Uno HC-SR04 Ultrasonic Range Finder and Library Jumper Wires Breadboard ATtiny85 Step 1: Program…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

2532. [Auto Leveling Laser Cross using Arduino](#)
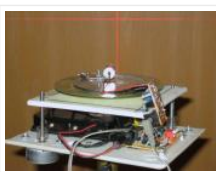
So this Lazy Old Geek purchased a Laser Cross. I created a manual leveling Laser Cross to use for aligning stuff on my drill press: http://www.instructables.com/id/ManualLevelingLaserCross/ Well, being a Geek I decided to make an automated platform that adjusts automatically with an Arduino. Well, the…… Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

2533. [Arduino 2-axis servo solar tracker](#)

What is a solar tracker? A solar tracker can increase the efficiency of a solar panel by up to 100%! It does this by always keeping the panel perpendicular to the incoming rays of sunlight. here's an equation to prove this: P = AW sin…… Listed under: [Sensor – Transducer – Detector Projects](#)

2534. [Arduino True Random Number Generator](#)

This is just a fun project I have been working on in the last little while. If you like this instructable, consider voting for it in the Arduino Challenge! Anyone who has experience with programming will have probably used random numbers in their code. These random…… Listed under: [Calculator Projects](#), [Projects](#)

2535. [Bubble Alarm Clock Makes Waking Up Fun using Arduino](#)

Waking up to a buzzing alarm clock sucks. I'm one of those people who doesn't like to wake up before the sun is out (or has been out for many hours). So what better way to make waking up fun than having a bubble party...... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

2536. [Uno The Arduino Robot](#)

Age: 13 Meet Uno the Arduino powered robot. Some functions include a blinking nose, moving antennas, rotating head, IR distance sensor, twin motor gear box and rotation counters. Uno is made with relatively easy to obtain parts. This project provides a good introduction to Arduino. robot.skp475 KB Step 1: Materials Material and tools • Foam board...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2537. [Arduino Based Auto Timer](#)

The Need: Last week around at work I had another usual un-usual problem to face with. Having to make lots of mechanisms n components to work with-in seconds or fracs at times I kind-of knew this was always coming. And invariably so my poor mind...... Listed under: [Clock – Timer Projects](#), [Projects](#)

2538. [Arduino Color Sensor](#)

Here we will be learning how to make a color sensor. my model consists of three cardboard compartments containing an LED – one red, one blue, and one green – and an OP550B phototransistor. The LED's shine simultaneously on a solid colored card. The phototransistors...... Listed under: [LED Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2539. [Carduino- A simple Arduino robotics platform with its own library](#)

This is, as the title says, an Arduino-based robotics platform, with its own library. The "standard" model comes with two back motors, two omni-wheels in the front, and a distance sensor mounted on the front. It also has breadboard space on top for adding whatever...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

2540. [Building a semi Smart, DIY boat with Arduino and some other sensors](#)

I based this off of this really nice instructables.com post for building a water bottle boat, with some additions for obstacle avoidance and light-guided control. I used Arduino as a microcontroller, an ultrasonic sensor in the front, a few simple switches on the side of the boat,...... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

2541. [Remote controlled webcam using Arduino](#)

Web-enable your interactive sensors over desktop, smartphone and tablet devices. This tutorial describes in detail how to use the free SensorMonkey service to remotely control a pan and tilt webcam attached to an Arduino using nothing more than a simple webpage. The webpage can be...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)

2542. [Bike Speedometer using an Arduino](#)
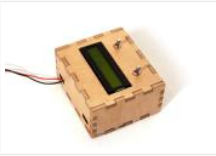
Monitor your road speed using the Arduino. This project uses a magnetic switch (also called a reed switch) to measure the speed of one of the bike's wheels. The Arduino calculates the mph, and send this information out to the LCD screen on the handlebars…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

2543. [Waveform Generator using an Arduino](#)
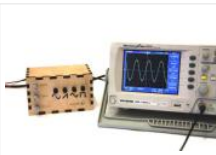
Waveform generators (also called function generators) are useful for testing and debugging circuits. I often use them to test the frequency response of electronics components like op amp and sensors. This waveform generator is powered by an Arduino. It outputs four waveshapes: sine, triangle, pulse,…… Listed under: [Metering – Instrument Projects](#), [Projects](#)

2544. [LED Matrix with Game Controller using an Arduino](#)

This project was built for my introductory electronics class at the University of Waterloo in Canada. This was my first introduction to electronics and therefore, my first project. Follow these steps to build a 16 x 16 LED array with a wall (different colored LED…… Listed under: [LED Projects](#), [Projects](#)

2545. [Sous-vide Arduino Shield](#)

NOTE THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC Sous-vide (/suËËviËd/; French for "under vacuum")[1] is a method of cooking food sealed in airtight plastic bags in a water bath for a long time—72 hours in some cases—at an accurately determined…… Listed under: [LCD Projects](#), [Projects](#)

2546. [Audio Output using an Arduino](#)

Generate sound or output analog voltages with an Arduino. This Instructable will show you how to set up a really basic digital to analog converter so you can start generating analog waves of all shapes and sizes from a few digital pins on an Arduino. …… Listed under: [Projects](#), [Sound – Audio Projects](#)

2547. [Audio Input using an Arduino Board](#)

Send sound into your Arduino. This Instructable will show you how to prepare audio so that it can be sampled and processed by an Arduino to make sound responsive projects and audio effects. (This article is a companion to another Instructable I've written about building…… Listed under: [Projects](#), [Sound – Audio Projects](#)

2548. [DIY Arduino Motor Shield](#)

Today, I'm going to show you how to make an Arduino motor shield (driver) at a low cost. It works splendidly, its posses almost all the characteristics of the original Arduino motor shield. It's almost considered as a clone. The original Arduino motor shield has the…… Listed under: [How To – DIY – Projects](#), [Motor Projects](#), [Projects](#)

2549. Arduino Board Step Sequencer

I was wondering about on making a sequencer, a big 16 step sequencer was what I wanted to make. To it's full extension with lots of features including single leds for each step, midi input and output, etc. Then I realised that I should start from a...... Listed under: How To – DIY – Projects, Projects

2550. Localizer with SIM908 module using Arduino

The device is based on a GSM/GPRS module with included GPS. Its main function is to detect and communicate its own geographical position using, on the choice, the cellular phone reference system or the GPS. Its small dimensions are due to the use, for the...... Listed under: GPS Based Projects, Phone Projects, Projects

2551. GSM GPS shield for Arduino Board

Shield for Arduino designed and based on the module GSM/GPRS SIM900 or the GSM/GPRS & GPS module SIM908, to make calls, voice and data connections via GPRS. HARDWARE INNOVATIONS This new version (old Arduino GSM shield) has several new hardware features, that allow maximum customization...... Listed under: GPS Based Projects, Phone Projects, Projects

2552. Easy Bluetooth Enabled Door Lock With Arduino + Android

Thanks to everyone who supported this project and voted for it in the Arduino Challenge! I was awarded second prize and hope to participate in more Arduino contests in the near future. This tutorial will explain a simple way to make a password protected bluetooth...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

2553. Beginners guide to building Arduino robots with Bluetooth and Android

In this tutorial we are going to go over building a Arduino robot that can be controlled via bluetooth with an Android phone/tablet. This is a beginners guide that is going to briefly go over the process of wiring and programming your robot. Build list... The following is the list...... Listed under: Arduino Android

2554. LINUSBot – Line Follower Robot using Arduino

The operation of this Robot is quite simple. Infra-red sensors placed at the front of the chassis will monitor when our Robot is over a black line or when it is over a white background. In this project we will use the appropriate rounded chassis...... Listed under: Projects, Robotics – Automation Projects

List of Project Ideas using arduino with advance view:

This list of projects may not be fully mature as the upper one is. but i assume its good to have in this whole pdf book.

1. Automatic Water Dispenser using Arduino

Automatic Water Dispenser using Arduino About 71% of earth is covered with water, but sadly only 2.5% of it is drinking water. With rise in population, pollution and climate change, it is expected that by as soon as 2025 we will experience perennial water shortages....... Listed under: [Home Automation Project Ideas](#)

2. [Simple Robotic Arm Project Using Arduino](#)

Nowadays, manual labor is being reduced at big scale industries and factories to increase efficiency and gain profit by installing robots that can do repetitive works. A onetime installation of such a device may cost a huge amount, but in the long run, will turn...... Listed under: [Robotics – Automation Project Ideas](#)

3. [Water Level Indicator Using Arduino & Ultrasonic Sensor](#)

Water Level Indicator Using Arduino Wireless Water Level Indicator Using Ultrasonic sensor & Arduino is an amazing and very useful project. The objective of this project is to notify the user the amount of water that is present in the overhead water tank. This project...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

4. [How to Build an Air Guitar With Arduino, Aka the AIRduino Guitar](#)

The idea here is to build a wearable virtual guitar that is to be controlled with two hands much like playing Air Guitar. It has been created and prototyped during a two weeks project at ChalmersUniversity (Sweden) for a Physical Computing class. The aim is...... Listed under: [Sound – Audio Project Ideas](#)

5. [Send SMS with SIM900D in Proteus ISIS](#)
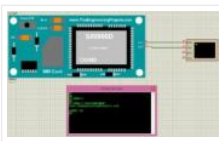
Hello friends, hope you all are fine and having fun with your lives. Today, I am going to share a new exciting post on Send SMS with SIM900D in Proteus ISIS. In my previous post, I have shared the new GSM Library for Proteus, which...... Listed under: [Phone Project Ideas](#)

6. [DIY Ceiling Mounted Cable Robot Using Arduino Mega](#)
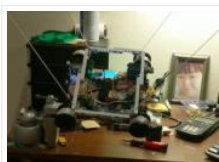
An interesting Arduino project has been created by Nathaniel Nifong and kindly published to Reddit, offering insight on how to create your very own DIY ceiling mounted cable robot powered by an Arduino Mega development board. More commonly associated with sporting events cable robots offer...... Listed under: [Robotics – Automation Project Ideas](#)

7. [NTP Clock](#)

In this project, we will learn the basics of User Datagram Protocol (UDP). We will request and receive time from the NTP server using the above communication protocol. The 4Duino display is utilised to print the received time in both, digital and analogue clock format....... Listed under: [Clock – Timer Project Ideas](#)

8. [4Duino Servo Control](#)

In this project, we will control the angular position of the DC Servo Motor via an I/O port (with PWM output capability) and touch knob. The 4Duino resistive touch display is used as a means for a graphical interface to control the angular positon of...... Listed under: [Arduino Motor Project Ideas](#)
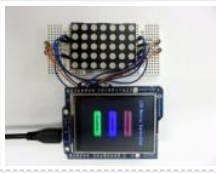
9. [Electronic Piano](#)

In this project, we will learn how to use an Active Buzzer and a 4Duino to create an Electronic Piano. An active buzzer is an electric piezo device which is commonly used to produce sound. When subjected to an alternating electric field, a piezo ceramic...... Listed under:
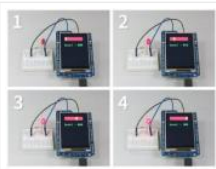
[Sound – Audio Project Ideas](#)

10. [LED Matrix Controller](#)

In this project, we will use the digital pins and screen of the 4Duino to create a 5×7 LED matrix controller with a user graphical interface. An LED matrix is essentially many LEDs packaged in a dot grid format in order to produce pictures or…… Listed under: [Arduino LED Project Ideas](#)

11. [4Duino LED Brightness Control](#)

In this project, we will learn how to control the brightness of LED via an I/O port (with PWM output capability) and a touch display slider. The 4Duino resistive touch display is used as a means for a graphical interface to control the intensity of…… Listed under: [Arduino LED Project Ideas](#)

12. [LED Control Using Touch Button](#)

In this project, we will learn how to turn an LED ON or OFF via the 4Duino I/O port (D13) and a button widget from 4D Workshops. The 4Duino's resistive touch display is used as a means for a graphical interface to control state of…… Listed under: [Arduino LED Project Ideas](#)

13. [LDR Sensor](#)

In this project we will monitor the room temperature using a LDR_NSL19_M51 light dependant resistor (LDR) and 4Duino. The resistance of the LDR varies significantly with ambient light hence it can detect surrounding light intensity changes in real time. In this project 4Duino's resistive touch…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

14. [4Duino Ultrasonic Sensor](#)

In this project we will measure the distance of the nearby object using TS601-01 Ultrasonic sensor and 4Duino. An ultrasonic sensor has a transmitter (sends ultrasonic signals) and a receiver (receives the ultrasonic signal after it bounced off nearby object). The sensor estimates the distance…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

15. [Obstacle Detection](#)
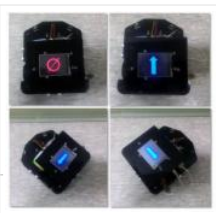
In this project, we will use several ultrasonic sensors to create a robot car with obstacle detection feature. The sensors will help us estimate the distance of the car from the nearby obstacles. Thus allowing us to create routines that we can execute when the…… Listed under: [Robotics – Automation Project Ideas](#)

16. [SOMO-II MP3 Player](#)

The Sound Module-II or the SOMO-II is a small and efficient audio module from 4D Systems that is able to play .mp3 or .wma audio files in the convenience of accessing it within a microSD card or a USB Flash drive (by using external components)……. Listed under: [Sound – Audio Project Ideas](#)

17. [GPIO Control from Web Browser featuring 4Duino-24](#)

In this project, we will learn how to control the on board 4Duino LED via I/O port (D13) from web browser. In built ESP8266 Wi-Fi module is configured as server enabling the 4Duino to receive commands from a web browser (client). How it works Note:…… Listed

under: [Security – Safety Project Ideas](#)


18. [DC Motor featuring 4Duino-24](#)

In this project, we will learn how to control the speed and direction of a DC motor via I/O ports with PWM output capability, a L293D quad half-h drivers IC and 4D Workshop widgets. In its simplest form, a DC motor has two wires which...... Listed under: [Arduino Motor Project Ideas](#)

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19. [DJ Mixer featuring 4Duino-24](#)
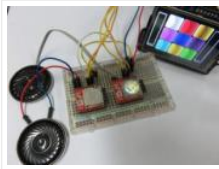
The 4Duino DJ Mixer is a fun and interactive project similar to a keyboard MIDI Controller that has the ability to play sample beats and songs. Before, DJ and music artist needs to use computers, recording and playback devices before they can mix and play...... Listed under: [Sound – Audio Project Ideas](#)

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20. [WiFi Temperature Sensor featuring 4Duino-24](#)
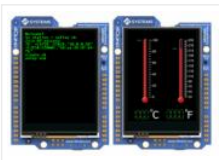
In this project we will quickly create a 'temperature monitor' that measures the ambient temperature of a room or an outdoor space. The temperature is measured by TMP35 temperature sensor and is displayed on the 4Duino screen. The data is also sent to Thingspeak IoT...... Listed under: [Temperature Measurement Project Ideas](#)

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21. [Home Security featuring 4Duino-24](#)

Home Security project is a password oriented security device. This uses 4Duino display as the user interface where the password can be entered. 4Duino is also used as the host device in this project. It handles a buzzer, an ultrasonic sensor, a uCAM-II and a...... Listed under: [Security – Safety Project Ideas](#)

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22. [Wireless Pulse Rate Monitor featuring 4Duino-24](#)

The Wireless Pulse-Rate monitor is a conceptual project made for hospitals and clinics, its main function is to minimise the time that nurses or doctors need to visit each patient in a hospital. Usually, Doctors and nurses visit each patient to check vital signs, by...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

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23. [Arduino based Vehicle Tracker using GPS and GSM](#)

In our previous article, we have learned about "How to interface GPS module with Computer and How to make a GPS updated Clock". In this project we are going one step ahead with GPS and going to track a vehicle using GPS and GSM. This Vehicle Tracking...... Listed under: [Arduino LCD Project Ideas](#)



24. [Controlling RGB LED using Arduino and Wi-Fi](#)

In last tutorial, we explained controlling a Robot using Wi-Fi and Arduino, and in this article we are with our next IOT Based Project- RGB LED Flasher using Wi-Fi. Here we have used Arduino and ESP8266 Wi-Fi Module to control the colors of RGB LED, through a Android...... Listed under: [Phone Project Ideas](#)

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25. [Password Based Door Lock System Using Arduino SIMULINO UNO](#)

Security is the main challenging things in this modern world . Any one can enter your private home at any time to stole your property . To protect your home from thief you must be secured . In this project a motor is fitted to...... Listed under: [Security – Safety Project Ideas](#)
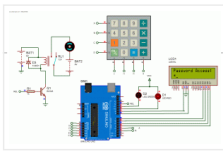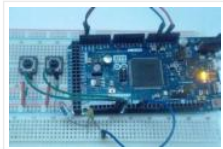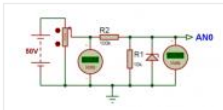
26. [Getting Started with Arduino Due](#)
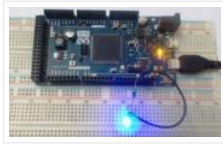
ARDUINO DUE is an ARM controller based board designed for electronic Engineers and Hobbyists. ARM architecture is very influential in modern electronics. We are using the ARM architecture based controllers everywhere. For example we are using ARM controllers in our mobiles, iPods and computers etc. …… Listed under: [Arduino LED Project Ideas](#)
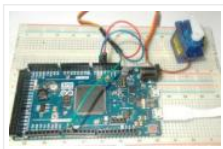
27. [PWM with Arduino Due](#)

Arduino Due is an ARM controller based board designed for electronic engineers and hobbyists. ARM architecture is very influential in modern electronics, we use them everywhere like our mobiles, iPods and computers etc. If someone wants to design industrial systems it must on ARM controllers……. Listed under: [Arduino LED Project Ideas](#)

28. [Digital voltmeter using Arduino UNO Range:0-50 volt Using SIMULINO UNO](#)

This is a simple project showing you how to make a digital voltmeter using Arduino where the readings are displayed in a Liquid Crystal Display LCD20x4. The proposed voltmeter design can read up to 50V. We are using analogue to digital conversion process. Arduino microcontroller…… Listed under: [Metering – Instrument Project Ideas](#)

29. [Servo Motor Control with Arduino Due](#)

As discussed earlier, Arduino Due is an ARM controller based board designed for electronic engineers and hobbyists. This DUE board can be used for making CNC machines, 3D printers, robotic arms etc. All these projects have a common feature that is Position Control. Any of…… Listed under: [Arduino Motor Project Ideas](#)

30. [Make Arduino Based Home Automation Part-1 Using ARDUINO UNO R3](#)
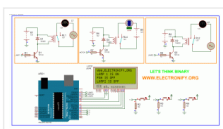
Hello every one welcome back . In this project tutorial I will show you how to make arduino based home automation , this means you can control all of your home appliences and devices using a single microcontroller . This Tutorial is divided into two…… Listed under: [Home Automation Project Ideas](#)

31. [Arduino Based Digital Clock with Alarm](#)

This Arduino based Real time clock is a digital clock to display real time using a RTC IC DS1307 which works on I2C protocol. Real time clock means it runs even after power failure. When power is reconnected, it displays the real time irespective to the time and duration…… Listed under: [Clock – Timer Project Ideas](#)

32. [Make Arduino Based Home Automation Part-2 (wireless) Using ARDUINO UNO R3](#)
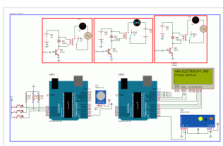

Hello welcome back . This is second part of the wireless home automation . In previous part we have connected home applience with relay and controlled with arduino . In this part we are going to add wireless feature of that device . One arduino…… Listed under: [Home Automation Project Ideas](#)

33. [AUTOMATIC DOOR OPEN SYSTEM WITH VISITOR COUNTER PART-1 Using ARDUINO UNO R3](#)

Hello every body welcome back . In today's arduino blog I am going to show you how you can make a automatic door opening system when some one wants to enter your room the PIR motion sensor detects the motion of moving body and sends…… Listed under: [Blog](#), [Home Automation Project Ideas](#)
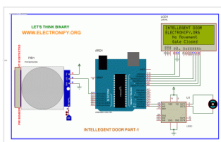
34. [Automatic Door Open System With Vistor Counter Part-2 Using ARDUINO UNO R3](#)
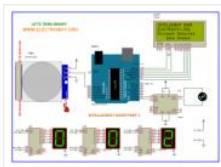
Hello welcome back . In previous part we have made a visitor detector by using PIR sensor . This application can be used on night because PIR sensor gives output based on thermal object movement . In this tutorial we are going to extend that project…… Listed under: [Home Automation Project Ideas](#)

35. [WATER LEVEL MEASUREMENT USING ARDUINO UNO R3 AND WATER SENSORS](#)

Hello , Welcome back , In this tutorial we are going to show you how to make a water level indicator using arduino uno and some water sensors . There are so many tutorial on water level sensors on internet , but this method is…… Listed under: [Metering – Instrument Project Ideas](#)

36. [Smart Phone Controlled Home Automation Using Arduino](#)

Automation is the essence of today's world. Automation can make our life easy and secure. There are many ways to obtain automation. Automation can be achieved by Wi-Fi, IR, GSM, Bluetooth and many other technologies. Previously we have covered many types of Home automations using different technologies…… Listed under: [Security – Safety Project Ideas](#)

37. [Arduino Radar System using Processing Android App and Ultrasonic Sensor](#)

This is an interesting project in which we explore the power of an Arduino and Android to create a Surveillance device which uses Arduino and Ultra Sonic Sensor to broadcast the information to a mobile application (Android) using Bluetooth. Safety and Security has been our…… Listed under: [Security – Safety Project Ideas](#)

38. [Arduino Based Vehicle Accident Alert System using GPS, GSM and Accelerometer](#)

In our previous tutorials, we have learned about How to interface GPS module with Computer, how to build a Arduino GPS Clock and how to Track vehicle using GSM and GPS. Here in this project, we are going to build a Arduino based vehicle accident alert…… Listed under: [GPS Based Project Ideas](#)

39. [Arduino based Bluetooth Biped Bob (Walking & Dancing Robot)](#)

Welcome to another project in which we will build a small Robot which can walk and dance. The project aims in teaching you how to make small hobby robots using Arduino and how to program your Servo motors for such applications. At the end of…… Listed under: [Robotics – Automation Project Ideas](#)

40. [Real Time Face Detection and Tracking Robot using Arduino](#)

Ever wanted to build a Face Tracking Robotic Arm or Robot by simply using Arduino and not any other programming like OpenCV, visual basics C# etc? Then read along, in this project we are going to implement face detection by blending in the power of…… Listed under: [Robotics – Automation Project Ideas](#)

41. [Interfacing SSD1306 OLED Display with Arduino](#)

Most of us would be familiar with the 16×2 Dot matrix LCD display that is used in most of the projects to display some information to the user. But these LCD displays have a lot of limitation in what they can do. In this tutorial…… Listed under: [Arduino LED Project Ideas](#)
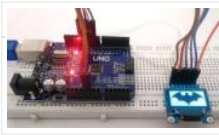
42. [Arduino Data Logger (Log Temperature, Humidity, Time on SD Card and Computer)](#)
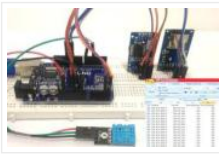

As Engineers/Developers we always rely upon the data collected to design or improve a system. Recording data and analyzing them is a common practice in most of the industries, here we are building Arduino Data Logger Project where we will learn how we can log...... Listed under: [Temperature Measurement Project Ideas](#)

43. [Generating Tones by Tapping Fingers using Arduino](#)

In this project we are going to build a piece of entertainment using Arduino. We all have that habit of tapping Table or Pen for creating any random music. Of course it might not be considered as a good mannerism, but we all enjoy doing...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

44. [Arduino based Angry Bird Game Controller using Flex Sensor and Potentiometer](#)
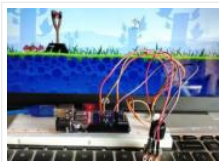

It's all started with a small game from the dark ages called "Mario", right from the time of being a tiny little guy jumping on ducks to save my princess till being a masculine handsome Prince roaming in Persia (Prince of Persia) fighting against darkness...... Listed under: [Game – Entertainment Project Ideas](#), [Game – Entertainment Projects](#)

45. [Arduino Based 3-Way Traffic Light Controller](#)
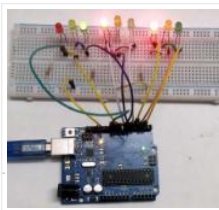
We all know about Arduino. It is one of the most popular open source micro controller board which is highly useful for doing DIY projects. This Arduino based 3-Way Traffic Light Controller is a simple Arduino DIY project which is useful to understand the working of...... Listed under: [Arduino LED Project Ideas](#)

46. [Fingerprint Based Biometric Attendance System using Arduino](#)
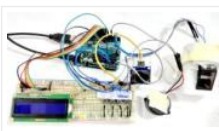
Attendance systems are commonly used systems to mark the presence in offices and schools. From manually marking the attendance in attendance registers to using high-tech applications and biometric systems, these systems have improved significantly. In our previous projects, we have covered few other electronic attendance system projects using...... Listed under: [Arduino LCD Project Ideas](#)

47. [Control your Computer with Hand Gestures using Arduino](#)
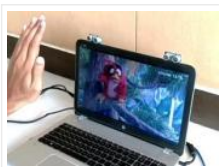
Recently Gesture controlled Laptops or computers are getting very famous. This technique is called Leap motion which enables us to control certain functions on our computer/Laptop by simply waving our hand in front of it. It is very cool and fun to do it, but...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

48. [Build Your FM Transmission Station With Arduino](#)

Hi every body . Before A 3 months Ago , one of my friend ask me to build a Simple FM transmitter , he Would to transmit An Audio File from computer and PLAY it on any radio channel , By adjust the frequency of...... Listed under: [Radio Project Ideas](#)

49. [Hot Yet? This faucet water monitor will prevent plunging your hands into cold water](#)
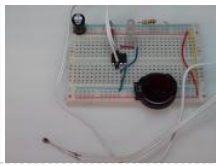
Hot Yet? Attiny85 Faucet Water Temperature Sensor Testing Real life testing in the kitchen sink! Note the tri-color LED. Blue is cold and fades into Green which then flips to increasing Red at 85F.   Notes This project is an Attiny85 Arduino circuit and uses...... Listed under: [Metering – Instrument Project Ideas](#)

50. [IR Thermometer, Stopwatch, Cooking Timer, Inactivity Tracker](#)

Hardware components: Arduino UNO & Genuino UNO × 1 Adafruit MLX90614 × 1 Atmel AVR for Arduino 328P/168P/8A × 1 SparkFun 7-Segment Serial Display – Red 3 digit display used × 1 Breadboard (generic) 8×2 cm × 2 16 MHz Crystal × 1 Slide Switch...... Listed under: [Metering – Instrument Projects](#), [Temperature Measurement Project Ideas](#)

51. [NXP Kinetics Smart Web Multimedia IoT – Flexduino Platform](#)
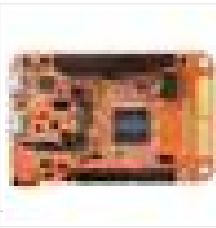
Hardware components: NXP Kinetis Freedom Board with FlexIO ×1 ATMEL WINC1500 WIFI MODULE ×1 OV7670 CAMERA MODULE ×1 WM7236 MEMS MICROPHONE ×1   STORY ABSTRACT The project aim is to build an Arduino like development environment that takes advantage of FlexIo advance driver module to...... Listed under: [Sound – Audio Project Ideas](#)

52. [Hot Wire Foam Cutter – Arduino PWM](#)

Hardware components: Arduino UNO & Genuino UNO × 1 Atmel ATTiny85 × 1 DigiSpark × 1 Plastic box for electronics × 1 Jumper wires (generic) × 1 IRF530 × 1 Resistor 1k ohm × 5 Resistor 100 ohm × 2 Single Turn Potentiometer- 10k ohms...... Listed under: [Arduino PWM Project Ideas](#), [Temperature Measurement Project Ideas](#)

53. [Easily run your ATtiny at 16MHz, without an external clock, from the Arduino IDE](#)
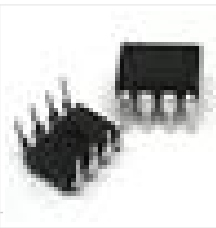
Hardware components: Atmel ATTiny85 × 1 SparkFun Tiny AVR Programmer × 1 Software apps and online services: Arduino IDE   STORY Introduction The Atmel tinyAVR MCU's (ATtiny) are a series of chips optimized for applications requiring performance and/or power efficiency in a small package. These have internal...... Listed under: [Arduino Programmer Projects](#), [Clock – Timer Project Ideas](#)

54. [Muxing Around With The CD74HC4067 + Arduino](#)

Have you ever found yourself running out of pins to read an array of analog sensors? Don't worry, you're not alone, it happens to the best of us, and there is something you can do about it. An analog / digital multiplexer like the CD74HC4067...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

55. [How To Simulate Arduino With Proteus](#)
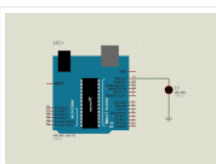
Some Arduino boards can added to the most common and powerful simulation software for electronics hobbies which is Proteus from Labcenter Electronics. Here are steps for adding Arduino library for Proteus ISIS. Step 1: Download the following zip file DOWNLOAD Step 2: Extract the zipped...... Listed under: [Other Project Ideas](#)

56. [The BIG Arduino Piano! Use Pulse Width Modulation to Dance like Tom Hanks](#)

This BIG piano will help exercise the mind and body! All you need is a few buttons, a speaker, and some dancing shoes. BOM: Arduino Uno CUI 8 ohm speaker x8 pushbuttons x8 10k resistors x1 220 ohm resistor Jumper wire Breadboard Foamboard or cardboard...... Listed under: [Other Project Ideas](#)

57. Remote Controlled Robot Using Arduino and T.V. Remote

This remote controlled car can be moved around using practically any kind of remote such as TV,AC etc. It makes use of the fact that the remote emits IR(infrared). This property is made use of by using an IR receiver,which is a very cheap sensor....... Listed under: Robotics – Automation Project Ideas

58. Arduino Weather Station
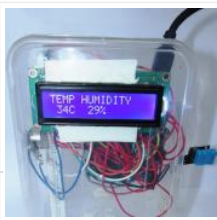
How cool would it be to have your own Arduino weather station right in your backyard? Sounds fun? Geeky? Having your own weather station means that you don't need any more inaccurate results from the weather channel! You can even log the data and play...... Listed under: Other Project Ideas

59. Create a Christmas Light Show with Arduino

The Christmas light show with Arduino is a project that controls a number of lights according to a song in sync with the music. It can be used to control stage lights and fog machines (that don't have DMX) with a computer to achieve wonderful...... Listed under: Other Project Ideas

60. Extract DNA at Home with a 3D Printed Centrifuge

Biotechnology is powerful, but only for those with the tools to experiment with and utilize it. The DIYbio movement seeks to put the tools and techniques used in well-funded laboratories around the world into the hands of ordinary people who have an interest but not...... Listed under: Other Project Ideas

61. How to build an Arduino Robocar Part 1

I've been meaning to put some content on here for a while and recently I got around to getting an Uno and motor shield. Given I also have access to a 3d printer and have a shedload of microswitches, semis and other goodies knocking around...... Listed under: Robotics – Automation Project Ideas

62. Hot Water Solar Boiler Project

A solar boiler is great because it gives you hot water using free-sun-energy, but what if there is not enough sun or someone already used all the hot water ? This project helps you take the right decision. It warns you when you run out...... Listed under: Solar energy project Ideas

63. Arduino stick

Description Mystick is an innovative hiking stick that promote exploration and allows you to share your hiking experiences and special findings with other users. When picked up by a user, the Mystick already has a predetermined location to which it directs using a compass and...... Listed under: Other Project Ideas
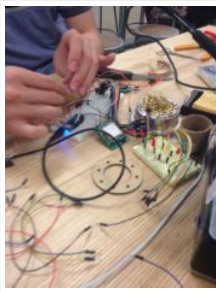
64. [Clear polycarbonate enclosures using Arduino](#)

So about a year ago I decided that I wanted to get into AVR microcontrollers. After ordering an AVR pocket programmer from Sparkfun , I soon realized that it was too delicate to be sitting on a workbench full of wire clippings. I knew I...... Listed under: [Ideas](#), [Other Project Ideas](#)

65. [Make Telecran with Arduino](#)

I came across a bunch of stepper motors and I have since been looking for a project to do with the kids. An old Telecran (French for Etch-a-Sketch) later, we are in business ! Optional parts: – a sensor shield + 2 push buttons -...... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

66. [Easy Bluetooth Enabled Door Lock With Arduino plus Android](#)

Thanks to everyone who supported this project and voted for it in the Arduino Challenge! I was awarded second prize and hope to participate in more Arduino contests in the near future. This tutorial will explain a simple way to make a password protected bluetooth...... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Phone Project Ideas](#)

67. [Solar-Oriented, Arduino-Powered Clock](#)

This is a clock designed to keep accurate time (independent of atomic or GPS), display local sunrise, sunset and solar noon, and also adjust itself for daylight savings time. I wanted the clock to be easy to use and be flexible. The setting functions are...... Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)

68. [Making the TFF: a dress that gets excited when tweeted](#)

The idea of this dress comes from a series of tweets with online friends @shineslike and @arduinogirl. @shineslike and I had taken a half day Arduino workshop given by @arduinogirl at the MCN 2011 conference. I was immediately inspired creatively by the sensory and interactive opportunities....... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Internet – Ethernet – LAN Project Ideas](#), [Sound – Audio Projects](#)

69. [Magical Colour Copying Chameleon Lamp using Arduino](#)

In this Instructable, I will show you how to make an Arduino powered lamp that detects the colour under it and then attempts to emulate that colour. All using easy to find parts (most can be found in the Dollar store with the exception of...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

70. [Rotary Emotiphone using Arduino](#)

Introduction The Rotary Emotiphone is a vintage rotary phone that tweets mood emoticons. It has a predefined list of 10 emoticons, each assigned to a digit, so that when you are happy / sad / drunk / etc., you pick up the handset and dial...... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Phone Project Ideas](#)

71. [High Speed Photo Arduino : HighSpeeduino](#)

Today is High Speed Photography day ! The concept is to take a 'long' exposure photograph, 4 seconds say, in a (very) dark room (a bathroom in our case). You end up with a completely black picture, right ? If you burst a flash (about...... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)

72. [Earfingers: Hear with your hands using Arduino](#)

First and foremost, I must acknowledge that I am standing on the shoulders of giants, and that every giant is standing on the shoulders of giants (such as all contributors to instructables). If it weren't for the unknowably many people who had the mindfulness to...... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)

73. [Interactive Child's Mobile using Arduino](#)

What can you make with fluorescent acrylic as the inspiration? We chose to make a glow-in-the-dark baby mobile, with an accompanying toy. This project was completed as a part of the Computing and Craft class at Olin College of Engineering. Materials: – Craft Materials: -...... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Ideas](#)

74. [PuttDuino putt-putt hole with Arduino](#)

My company has annual events where we all get together for fun – to blow off steam and have a little competition. In the past we have had softball and bowling competitions. This year someone had an inspiration: each department would build a putt-putt 'hole'...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

75. [Temperature Wand using Arduino](#)

Most of you have heard the expression 'Hot Air Rises'. Well, it's true. So in your typical house, it's going to be hotter near the ceiling than near the floor. How much hotter? Well, being a Lazy Old Geek, I wanted to know how much....... Listed under: [Ideas](#), [Temperature Measurement Project Ideas](#)

76. [Arduino-powered A-10 stick grip remote w/Emergency Party Button](#)

I came across Plama2002's "Emergency Party Button" build a while back and wanted something similar for my bar. I also had an old USAF B-8 stick grip from an A-10A that I picked up in my previous life. I figured instead of just being a...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#), [Radio Project Ideas](#)

77. [Twitter garage door using the GE Choice ALERT system & Arduino](#)

You know that feeling of driving away from your house almost getting to work and saying "Now Did close the garage door?" . I hate that feeling and seeked out to resolve it in the smiplest/cheapest way I could. The starting point was of course...... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#), [Security – Safety Project Ideas](#)

78. [Temperature Recording Arduino Robot](#)

My son and myself made a little arduino robot that records temperature. He wanted me to draw a robot, I wanted to experiment with blinking LEDs relaying data so a plan was hatched. The way the LEDs work is as follows: Green = lowest temperature...... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

79. Wing Tip Extensions for Arduino

Greetings, One late night of web surfing I came across some 45 Degree Extension boards. Thinking to myself "Wow!" that's cool and then I looked at the price…$27.00 before S&H. "Yikes!" I've been looking for an excuse to learn Eagle PCB layout software and this…… Listed under: Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

80. Arduino Sew Easy Wearable Shield

Wearable computing, e-textiles, soft circuits or whatever you want to call it, is a growing field of applying technology to garments or accessories like bags, shoes or backpacks. It is a fun and creative challenge which goes beyond just adding LED lights to fabric. For…… Listed under: Development Board – Kits Project Ideas, Ideas

81. Binary metric clock using Arduino

This is a very odd kind of clock, which can easily be made with simple supplies. To begin the explanation, I would like to say that I have always wanted time to be metric. 5 o'clock would be mid-day, 7:5 would be three quarters (6:00…… Listed under: Clock – Timer Project Ideas, Ideas

82. Twist Shield for the Arduino
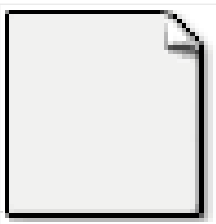
This little 'Add-on' board allows you to 'Twist' an existing Arduino Shield 90 degree from its original footprint Twist Shield.brd42 KB Step 1: The Problem… Have you ever finished a project and then realized you stopped one step too soon? While plugging in various shields I…… Listed under: Development Board – Kits Project Ideas, Ideas

83. Arduino Ultrasonic Parking Spotter

For my first instructable, I'd like to present The Parking Spotter. This is not a new concept, I know. However, this build was done specifically to suit my needs/wants/materials already in my possession. Typically, a project begins with an idea, parts are then gathered, and…… Listed under: Arduino Car Project Ideas, Ideas, Sensor – Transducer – Detector Project Ideas

84. Arduino Controlled Nerf Vulcan

Yes, this is exactly what the title says it is. This instructable will teach you how to control any Nerf Vulcan, with your Arduino. The provided tutorial will just shoot for 2.5 seconds, stop for 2.5 seconds, and so on. It is like a "hello…… Listed under: Game – Entertainment Project Ideas, Ideas

85. RFIDuino – Using an Arduino & RFID Reader to make a puzzle GeoCache

I enjoy both Geocaching and electronics and have made a couple of electronic puzzle caches using an Arduino. My latest creation (with the help of a fellow cacher for the code) is using an Arduino and RFID reader to make a puzzle geocache we call…… Listed under: Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

86. Poor Man's Robot Base

I've been wanting to get into robotics for awhile now, but it can cost at the very least 20 dollars to build a decent motor base, and I wasn't willing to invest that much money into it, so I made a robot base using parts…… Listed under: Robotics – Automation Project Ideas

87. [Easy Home Surveillance](#)

Everyone wants to keep their home secure. If zombies have swarmed your house, you want to know it's not safe to return, RIGHT? What better way to do this than to set up a surveillance system? Now it's easier than ever to have. And, you don't...... Listed under: [Home Automation Projects](#), [Security – Safety Project Ideas](#), [Video – Camera – Imaging Projects](#)

88. [Arduino Air Cap-Sense Piano](#)

I recently got my shipment of 10 buzzers I ordered about a month ago, so as soon as I got them I was eager to make something fun with them, so I looked around a bit and searched for what to do with them, and...... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Project Ideas](#)

89. [Quick and Easy Arduino Compatible H-bridge Shield](#)
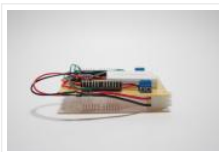
In this instructable I will detail how I went about making a quick and easy, Arduino compatible, H-bridge shield. But first, a brief intro into what got me motivated to make it. A couple of years ago, I started wanting to learn more about micro-controllers....... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)

90. [Pimp Your Chocolates with Arduino IDE and ATtiny13](#)

The idea for this project came to me on the way to the trash. I was tasked with throwing away a box that has just been emptied of its original Ferrero Rocher sweetness content by my dear wife. This was shortly after the Valentine's Day....... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

91. [How to Deal with Noisy Neighbors with Arduino device](#)

My next door neighbors have recently been playing their music really loud so that I can hear it through the walls. I've gotten tired of having to bang on the walls each time to get them to quiet down, so I decided to automate some...... Listed under: [Home Automation Project Ideas](#), [Ideas](#)

92. [Build a cat litter box fan with Arduino](#)

A hideaway cat litter box is a great way to make your apartment look like a residence for adults instead of crazy cat ladies. A hidden litter box in a cabinet, under a sink, or built in to some other furniture does a lot for...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

93. [TV Volume Loudness Guard using Arduino](#)

UPDATES Mar 05, 2013 Featured on WonderHowTo http://goo.gl/fpeVC Feb 14, 2013 Featured on LifeHacker http://goo.gl/tx4QG Feb 13, 2013 I have updated the Arduino program in step 4 to support additional remote controls. Feb 13, 2013 Featured on Dangerous Prototypes http://goo.gl/DJcwe Feb 12, 2013 Featured on Semageek http://goo.gl/EH58K Feb 12, 2013 Featured on...... Listed under: [Home Automation Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)

94. [Bedazzler: DIY non-lethal weaponry using arduino](#)

Our first open source Homeland Security non-lethal weapon project – The "THE BEDAZZLER: A Do-it-yourself Handheld LED-Incapacitator". After attending a conference where the $1 million "sea-sick flashlight" (named "THE DAZZLER") was demonstrated by the US Dept. of Homeland Security, we decided to create our own...... Listed under: [Home Automation Project Ideas](#)

95. [Control a RepStrap with Processing using arduino](#)
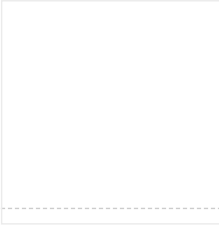
This instructable shows how you can use many openly available projects together to build an interesting and complex system. It draws on several community projects including: RepRap, Arduino, Processing, Linux and, of course, Instructables! More specifically this intructable shows how to draw the path of...... Listed under: [CNC Machines Project Ideas](#)

96. [Binary Clock](#)

Introduction In this project, 16 LEDs are used to represent the time in binary. The time is read from a Real Time Clock breakout board – the same one used in the Digital Clock page. The binary clock uses 4 place values for the hour...... Listed under: [Clock – Timer Project Ideas](#)

97. [Build an Arduino-powered talking robot head using arduino](#)

This robot head was originally built as a end of the year project for my physical computing class, but over the summer it has "learned" how to talk. The head is powered by two Freeduinos, 3 TLC5940NT chips and an Adafruit Industries Wave Shield found here: www.ladyada.net/make/waveshield/....... Listed under: [Robotics – Automation Project Ideas](#)

98. [3x3x3 LED Cube with Arduino Lib using arduino](#)
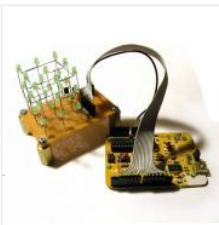
There are other Instructables about building LED cubes, this one is different for several reasons: 1. It's built with a low number of off-the-shelf components and hooks up directly to the Arduino. 2. A clear, easy to reproduce circuit diagram is provided with plenty of...... Listed under: [Arduino LED Project Ideas](#)

99. [Easy DIY Home Automation (using servo switches) using arduino](#)

This Instructable is all about one of life's simple actions, flipping a light switch on and off. At oomlout we do it many times a day, so many in fact it came to a point where we asked ourselves "Can't we get an Arduino to...... Listed under: [Home Automation Project Ideas](#)

100. [DIY Arduino Pulse Sensor](#)

So I mentioned in an earlier Instructable that I am a teaching assistant (TA) for an introductory engineering course for biomedical engineering majors at Vanderbilt University. My main task as a TA is to re-write a few laboratory exercises that the students will be performed...... Listed under: [How To – DIY – Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

101. [Arduino Lilypad Interactive Passion Sensing Scarf using arduino](#)

This was my first time working with an Arduino Lilypad. I have been wanting to try something that dealt with soft circuits for awhile now. This project is what I came up with. The concept is based off my friend Ethan Dicks from theFusefactory.org's emergent...... Listed under: [Game – Entertainment Project Ideas](#)

102. [The Ardweeny: the little friend of the Arduino (and how to beef it up) using arduino](#)


Open-source hardware? Arduino(tm) is the first name to come to mind! As great as it is, sometimes we need a small microcontroller solution for a project, or a stripped-down version for cost-effectiveness. The Ardweeny is the solution. These small kits are 100% compatible with the...... Listed under: [Interfacing(USB – RS232 – I2c - ISP) Project Ideas](#)

103. [Core3duino using arduino](#)

This is an addon shield to an addon shield. That's right, you have to have the Core2duino on your Arduino to be able to understand why you would want this in the first place. So once you have your Core2duino saddled up, give this one...... Listed under: [Development Board – Kits Project Ideas](#)

104. [Building IllyClock – Arduino-based alarm clock in a coffee can using arduino](#)
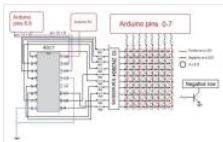

Updated Aug 4, 2011 A streamlined version is now described here. Beside the enclosure, the original feature of IllyClock is showing the time in colors: 3 hours before wake-up time, color changes from green to orange; 1 hour before wake-up, the time is shown in red. One...... Listed under: [Clock – Timer Project Ideas](#)

105. [Make a wall avoiding Robot! using arduino](#)

Objective: To create from scratch a working robot that is able to avoid walls and obstacles. Ever wanted to make a robot that could actually do something, but never had the time or knowledge to do it? Fear no more, this instructable is just for...... Listed under: [Robotics – Automation Project Ideas](#)

106. [Arduino and Touchpad Tic Tac Toe using arduino](#)
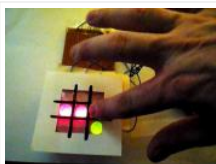
Or, an exercise in input and output multiplexing, and working with bits. And a submission for the Arduino contest. This is an implementation of a tic tac toe game using a 3×3 array of bicoloured LEDs for a display, a simple resistive touchpad, and an...... Listed under: [Game – Entertainment Project Ideas](#)

107. [How to wire an arduino-based 3-axis CNC machine using arduino](#)

I've seen a number of tutorials about how to build the platform for a 3-axis CNC milling machine. I have not seen anyone tackle the tricky subject of the electronics. Here now is my attempt to do so. Step 1: Parts You'll need: – an...... Listed under: [CNC Machines Project Ideas](#)

108. [Wallbots: Autonomous Magnetic Robots that Traverse Vertical Surfaces using arduino](#)

This Instructable will teach you how to create magnetic robots that traverse vertical surfaces. These robots can move on any metallic walls, including elevators, whiteboards, refrigerators or metal doors. The robots are outfitted with several light sensors, allowing them to respond to simple user interactions....... Listed under: [Robotics – Automation Project Ideas](#)

109. [IR Remote Controlled Home Appliances using Arduino](#)

In present times there are many types of Home Automation Systems which are available in the market. Most of these are simple Home Appliances Controlling Systems like DTMF controlled Home Appliances, GSM based Home Appliances Controlling, RF based Home Appliances Controlling. Here we are going…… Listed under: [Home Automation Project Ideas](#)

110. [Arduino Controlled Servo Robot (SERB) using arduino](#)

What better way to start experimenting with open source micro-controllers (Arduino) then by building your very own open source robot (CC (SA -BY))? What to do with your SERB? (here) – How to connect your SERB to the internet and drive…… Listed under: [Robotics – Automation Project Ideas](#)

111. [Simple Robotics Breadboard](#)
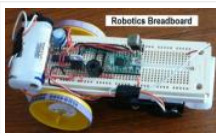
This Instructable shows you how to build a simple, inexpensive breadboard for robotics experiments. It is a companion to Cheap, Easy Robotics for the Non-Programmer. Here we'll learn how to build a Babuino robot to use for experiments with the Babuino/Blocos software environment. Using a…… Listed under: [Robotics – Automation Project Ideas](#)

112. [An easy way to send your heartbeat to the Cloud using arduino](#)

This cool (and very low price) sensor is attached on your ear and can detect your heart's pulse through transmitting infrared light and checking the absorption variation caused by the blood flow on your ear lobe. The site of the products provides also the Arduino…… Listed under: [Medical – Health based Project Ideas](#)

113. [PIR Motion Sensor Tutorial using arduino](#)

Pyroelectric ("Passive") InfraRed sensors: '"What is a PIR sensor?"' PIR sensors allow you to sense motion, almost always used to detect whether a human has moved in or out of the sensors range. They are small, inexpensive, low-power, easy to use and don't wear out……. Listed under: [Sensor – Transducer – Detector Project Ideas](#)

114. [A DIY photoplethysmographic sensor for measuring heart rate](#)

Meet Easy Pulse: A kit that includes all it needs to make a DIY heart rate sensor. Although it is not built using an Arduino, it is still open and easy to build. From the site: "This project is based on the principle of photoplethysmography…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

115. [The Smuggie: Tweet straight from your Snuggie using arduino](#)

Want to tweet how satisfied you are cuddled up in your Snuggie? The Smuggie is a modified Snuggie, designed specifically for those who feel the need to express their smug satisfaction with a Snuggie to their friends on Twitter. Here's a list of everything you'll…… Listed under: [Internet – Ethernet – LAN Project Ideas](#)

116. [Very simple ECG + Pulse Oximeter using arduino](#)
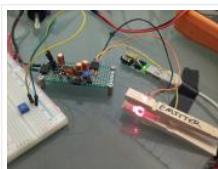
Scott W Harden has built an updated version of his ECG circuit for tracking his heartbeat. The main goal of the update is to provide a hack for collecting heartbeat with minimal h/w cost and circuit complexity. As you can see from the project photo above, the...... Listed under: [Medical – Health based Project Ideas](#)

117. [Beatfly : Make an illuminating blimp and control it with your voice, Keyboard, MIDI Controller, Garageband file, iPhone, Flash, and more! [Mac OSX] using arduino](#)
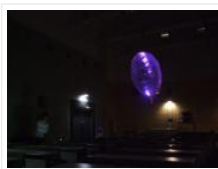
[Mac OSX Only] Because I use Quartz Composer, my program works only on Mac OSX. I am now extending and improving it toward cross-platform. If you have knowledge of computer programming, you can make your own system that connects to the blimp. The communication protocol...... Listed under: [LED Projects](#), [Sound – Audio Project Ideas](#)

118. [Updating the Arduino Garage Door Circuit for the new Gliderol Garage Controller.](#)

We moved house recently and I was obviously very keen to continue the home automation routine. As described in Adventures with an Arduino – Part 1: The Business Problem, I created an Arduino based garage door interface to integrate with a BOSS BOL6 garage door controller....... Listed under: [Home Automation Project Ideas](#)

119. [PUPPET CONTROLLER using arduino](#)
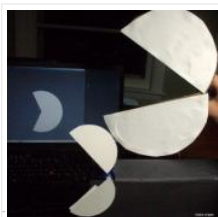
Three kinds of motion: Human, Mechanical, Animation. Blend them together to build a puppet controller for the real and virtual world. Or, Pacman – three ways. This Instructable includes: – Using an adjustable resistor as input to the Arduino Micro-controller – Controlling two servo motors from...... Listed under: [Game – Entertainment Project Ideas](#)

120. [ARDUINO based IR remote control robot using arduino](#)
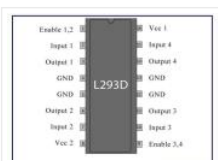
Hi everyone. This my new project IR remote control robot using arduino. This is a simple design robot you can easily build it. Step 1: Requirements: Project requirements: Arduino uno Tsop1738 (ir receiver) H bridge ic (L293D) Two dc motor A robot base 9v Battery...... Listed under: [Robotics – Automation Project Ideas](#)

121. [Sleek word clock using arduino](#)

nspired by drj113's great instructable on making a word clock, I wanted to make my own. After seeing the (extremely overpriced) commercial "qlocktwo" word clock, I decided to borrow its smooth glossy black design while basing the innards of my clock on drj113's design. In...... Listed under: [Clock – Timer Project Ideas](#)

122. [Haptic Feedback device for the Visually Impaired [Project HALO] using arduino](#)

I recently watched an episode of Stan Lee's Superhumans which featured a blind man who used a series of clicks, like a bat, to echo locate his surroundings. I got to thinking about other blind people and their ability to navigate freely – without the...... Listed under: [Medical – Health based Project Ideas](#)

123. [A simple DIY spectrophotometer using raduino](#)

What's all this? This instructable will explain how to build a fairly basic but working spectrophotometer out of easily sourceable parts. Of course, this device is nothing compared to a commercial spectrophotometer, but it will allow the builder to understand how such a device works....... Listed under: [Metering – Instrument Project Ideas](#)

124. [Lunchtime Clock using arduino](#)

Have you ever wished lunchtime were longer, but didn't know where to find those few extra minutes? Well, wish no longer! Thanks to great in advances in clock technology, I present to you a clock that speeds up 20% every day at 11:00 and slows...... Listed under: [Clock – Timer Project Ideas](#)

125. [Arduino project: Stereo Peak Program Meter using arduino](#)

Previously, we introduced the Arduino's analog-to-digital converter (ADC) in detail, looking at successive-approximation A-D conversion and how it's the best compromise between speed and cost. This time, we start putting some of that theory into practice by building a stereo peak-program meter. Our Peak Program...... Listed under: [Metering – Instrument Project Ideas](#)

126. [Arduino + Laptop Touchpad using arduino](#)
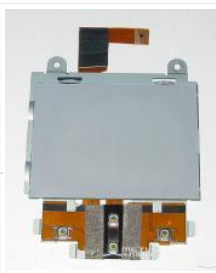
Yes, this is more or less your average touchpad that one can find from inside a laptop. This model, like majority of touchpads out there operates with PS/2 standard. This means that it can be directly plugged in to a PS/2 connector and with proper...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

127. [Sending Message Using Alpha-Numeric Keypad with GSM and Arduino](#)

GSM is quite a common Device which is used in major Projects and Real Time Operations. There are many applications which are using features of GSM Module like the feature sending Messages, making a Voice Call, Reading Messages, attempting Call etc. Many at times you...... Listed under: [Development Board – Kits Project Ideas](#)

128. [Arduino Wind Instrument using arduino](#)

I wanted to create an Arduino instrument that was easy to play, but would sound better with practice. This "wind" instrument combines the Sparkfun Electret Microphone breakout board with the Tone library and 5 buttons on one analog pin. The musician must make a sound...... Listed under: [Home Automation Project Ideas](#)

129. [NESBot: Arduino Powered Robot beating Super Mario Bros for the NES using arduino](#)

An Arduino Duemilanove (other boards will probably work, but you will have to adjust the steps for your device) Working NES Console Super Mario Bros. (Note: this must be only the single game, not the two- or three-in-one cartridge) A controller you can cut the...... Listed under: [Game – Entertainment Project Ideas](#)

130. Q&D-Poor man's-Skinner-Sadist-Jeopardy game using arduino

In this instructable you will learn how to make a Q&D-Poor man's-Skinner-Sadist-Jeopardy game . First off, the disclaimer: I'm not responsible of whatever you do. You have to know that with a great power comes…bla-bla-bla. Just be careful and remember that electricity reserves respect. While…… Listed under: Game – Entertainment Project Ideas

131. Radio Telemetry for a Model Rocket using arduino

Flying model rockets is fun, but there is always the question of how high did it go. Using a programmable micro-controller and some sensors, you can monitor the entire phase of flight and measure acceleration and altitude, among other things. With this project, I'll show you how…… Listed under: Radio Project Ideas

132. Bubblebot: Gigantic Bubble Generator using arduino

While being a bit lengthy and requiring experience with Arduino, this contraption is bound to grant you infinite glory among your friends, toddlers and grownups alike! Step 1: What You Need Here's a list of the materials and parts I used: The Frame * 5…… Listed under: Game – Entertainment Project Ideas

133. Arcade Button MIDI Controller using arduino

Having a hardware interface to your favourite music / DJ / VJ software can really open up doors in your creativity. The most widespread form of hardware control to your PC for such applications is a MIDI based controller. A MIDI controller can send and…… Listed under: Sound – Audio Project Ideas

134. Arduino Basics: RCtime using arduino

RCtime is a function for the Arduino that finds its roots in Basic-based micro controller programming languages (such as the Basic Stamp). This function basically counts the amount of time it takes to charge a capacitor through a resistor and returns a digital value. In…… Listed under: Sensor – Transducer – Detector Project Ideas

135. Arduino Mega Pololu Shield using arduino

RepRap Arduino Mega Pololu Shield, or RAMPS for short. It is designed to fit the entire electronics needed for a RepRap in one small package for low cost. RAMPS interfaces an Arduino Mega with the powerful Arduino MEGA platform and has plenty room for expansion……. Listed under: Development Board – Kits Project Ideas

136. Light Meter Using I2C Level Converter, LCD, and TSL2561using arduino

I recently needed to measure how different materials affect light transmission for a gardening project. I decided this was the perfect opportunity to try out the new logic level converter to run both a 5v LCD and a 3.3v light sensor on a single i2c…… Listed under: LCD Projects, Metering – Instrument Project Ideas
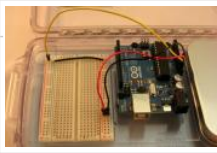
137. [Arduino Laser Show with Full XY Control using arduino](#)

Update! See Step 32 to find out how to use this project with a green laser! Also – checkout the LaserTweet Instructable to make this project display data from Twitter: http://www.instructables.com/id/LaserTweet-Twitter-Projecting-Laser-Show/ This project uses an Arduino and some cheap audio speakers to create a real…… Listed under: [Game – Entertainment Project Ideas](#)

138. [Arduino GPS Clock usign arduino](#)

I had a Holux M-1000B Bluetooth GPS module that was just gathering dust in my room. I had bought it from DealExtreme back in the days when I had GPS-less (but external GPS capable) Nokia E51. Upgrading to a Nokia E52 has since made this…… Listed under: [Clock – Timer Project Ideas](#), [GPS Based Project Ideas](#)

139. [How to Build an Arduino Powered Chess Playing Robot using arduino](#)

Judging by the sheer number of chess related Instructables, I think it's safe to say the community enjoys the game. It can be difficult, however, to find someone who plays on the same level you do. To solve this dilemma, and to increase my playing…… Listed under: [Robotics – Automation Project Ideas](#)

140. [DS1307 I²C Clock using arduino](#)
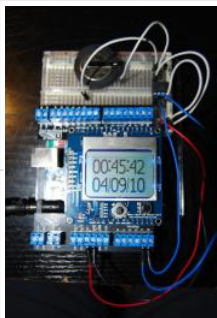
I wanted to learn how to interface with I²C devices using my Arduino, so I bought a DS1307 clock and crystal kit from Earthshine Electronics. I've no association to them, but I'd recommend having a look at their shop. Their prices are very reasonable, unlike…… Listed under: [Clock – Timer Project Ideas](#)

141. [Lampduino – an 8×8 RGB Floor Lamp using arduino](#)
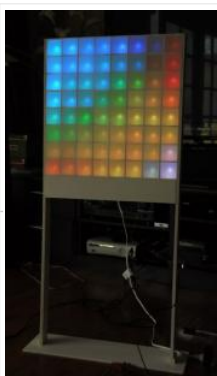
Lampduino is a computer-controlled free-standing floor lamp, comprised of an 8×8 RGB LED matrix. The lamp stands 45″ high and 18″ wide. Light emanates from both sides. It has various display modes, as well as an included editor for creating animations. The lamp is controlled…… Listed under: [Home Automation Project Ideas](#)

142. [Using the tymkrs "Turn Me" with an Arduino](#)

 /* Read Quadrature Encoder * Connect Encoder to Pins encoder0PinA, encoder0PinB, and +5V. * http://playground.arduino.cc/Main/RotaryEncoders * Sketch by max wolf / www.meso.net * v. 0.1 – very basic functions – mw 20061220 * Sketch updated by Brooke Hedrick / www.millamilla.com * v. 0.2 – Added…… Listed under: [Other Project Ideas](#)

143. [Theremin w/Zapper,laser,Arduino using arduino](#)
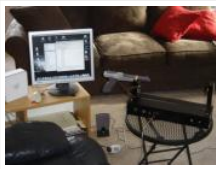
I created this Theremin like device after seeing this article in Make magazine: http://m-cdn.dashdigital.com/make/vol15/?pg=69#pg67 While this looked pretty straight forward it turned out to be a bit much for me at the time. But after much effort, I got it to work pretty good. I...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

144. [Room roving robot – phase 1 using arduino](#)

My second holiday project was a bit more fun than just blinking lights. I decided to tear apart a $10 RC jeep and control it with the Arduino. For this project, I added a motor shield on top of the Arduino that I purchased at...... Listed under: [Robotics – Automation Project Ideas](#)

145. [Hacking Hex Bug Spider using arduino](#)

For the Smart Cities exhibition in Leeds in a couple of weeks, we've been building a physical representation of an agent based simulation. Hex Bug Spiders are relatively cheap hexapod robots that are controlled via an infra-red transmitter which has an A or B code so...... Listed under: [Game – Entertainment Project Ideas](#)

146. [(w/ Video) Basic Arduino Robot, Light Seeker! using arduino](#)

Many times I have Googled for "Arduino Robot" in hopes of finding a robot to build. I end up finding many versions of a obstacle avoiding robot that uses either an infrared or a sonar range finder sensor mounted on a servo to detect objects...... Listed under: [Robotics – Automation Project Ideas](#)

147. [Easy, Reversible Motor Control for Arduino (or any Microcontroller) using arduino](#)
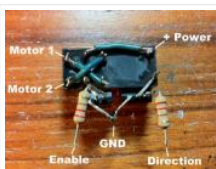
This project uses just three main components to provide forward and reverse control for a single motor. You can easily interface it to an Arduino or any other microcontroller. It's so simple – you can wire it up "free-form" without a circuit board in about...... Listed under: [CNC Machines Project Ideas](#)

148. [How To Use a Nokia Color LCD!](#)

Nokia manufactures a wide variety of cell phones and many of their cheaper phones contain simple LCD's which may be used in microcontroller projects. There is one particular LCD model that is used in a wide variety of their phones and is often referred to...... Listed under: [Phone Project Ideas](#)

149. [Ollie- a DIY autonomous robotic blimp using arduino](#)

Ollie is an open source blimp-based autonomous and ambient robot that dwells in human habitats. Ollie is observant, often flying in a manner suggesting curiosity for the world around him. Ollie reacts to voices by excitedly flapping his wings, communicating his friendliness and eagerness to...... Listed under: [Robotics – Automation Project Ideas](#)

150. [PS1 Controller Joysticks with Arduino](#)

Idea: To take one of my old Playstation 1 controllers and extract the dual thumbstick setup so that it can be easily used in a microcontroller project (in my case: with the Arduino) without extra libraries or drivers that you would need if you want...... Listed under: [Game – Entertainment Project Ideas](#)

151. Arduino Binary Die using arduino
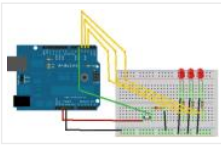
After buying a Nanode (an Arduino-compatible board with ethernet built-in) last weekend, we've been trying to work it out by making a couple of simple examples, the 'Binary Dice' is the first one with input and outputs. A note, this code example is based on…… Listed under: LED Projects, Other Project Ideas

152. Shaun The Noisy Sheep using arduino

Make A "doorbell" using an Arduino Uno, a Wave shield from Adafruit, a small speaker, a plug, a Sharp distance sensor and a Shaun the Sheep. Our Shaun is used in an open doorway to alert store staff when a customer has entered. Step 1:…… Listed under: Game – Entertainment Project Ideas

153. Telecran (Etch a Sketch) + Arduino = Telecranduino ! using arduino

I came across a bunch of stepper motors and I have since been looking for a project to do with the kids. An old Telecran (French for Etch-a-Sketch) later, we are in business ! What I used for this project: – an arduino Uno -…… Listed under: CNC Machines Project Ideas

154. Rear Wheel Tachometer using arduino

One of the goals of Movable Party is to provide an interactive experience for audiences/participants. Since power will be generated from a hub motor attached to the rear wheel of each bike (see this post), the speed of the rear wheel directly translates to the…… Listed under: Metering – Instrument Project Ideas

155. LoL Shield Audio Spectrum VU Meter using arduino

This is an audio spectrum VU meter using the LoL Shield for Arduino . The LoL Shield is a 14 x 9 LED matrix which fits onto the Arduino as a shield and is controlled through an efficient method known as Charlieplexing . It was…… Listed under: Metering – Instrument Project Ideas

156. TROBOT: A Miniature Articulated Robot using arduino

The TROBOT is a miniature six-axis articulated robot, modeled after large industrial & assembly line robots. The prototype versions were developed to be interfaced with ABB's Robot Studio software. Robot Studio was designed to program, simulate, and debug real industrial robots in an offline virtual environment……. Listed under: Robotics – Automation Project Ideas

157. Jetson/Tutorials/GPIO using arduino

Quickly testing a GPIO pin To set pin GPIO_PH1 as an output: sudo su (Enter your user password. Defaults to "ubuntu") # See which pins are currently configured as GPIO, and what their state is. cat /sys/kernel/debug/gpio # Validate that the entry for the Tegra…… Listed under: Other Project Ideas

158. Arduino + LEDs + fan = POV "APPLAUSE" sign
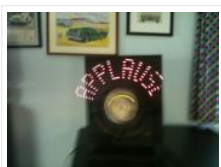
I saw these POV(Persistence of Vision) devices on other Instructables and thought I would like to make one and I have always wanted my own "APPLAUSE" sign. Next improvement will be to make it go on whenever I enter the room. ☺ Maybe have it…… Listed under: Robotics – Automation Project Ideas

159. [How to build an Arduino energy monitor – measuring mains voltage and current](#)
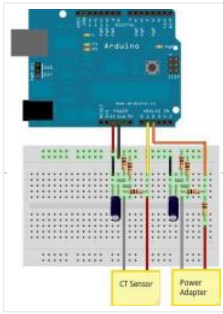
This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with an AC to AC power adapter and current with a clip on CT sensor,...... Listed under: [How To – DIY – Project Ideas](#)

160. [Magic Music Table No menus, no buttons using arduino](#)

NOTE: This instructable is now slightly old and a better machine has been made with lower cost parts and much better software that automatically allows you to "pair" new cards with new tracks as they are added to the iPod playlist. iPod playback track selection...... Listed under: [Sound – Audio Project Ideas](#)

161. [Reading pulses from meters with pulse outputs.. using arduino](#)

A note on what this document covers The main thing that's being added here to the wealth of information on the internet about pulse counting is how to count pulses from more than two pulse outputs sources (up to 12 sources) using a continuos sampling...... Listed under: [Temperature Measurement Project Ideas](#)

162. [Interactive skull using arduino](#)

I bought this skull to decorate my computer desk. However, analyzing better, I could do something more interesting. I hope you enjoy. Step 1: Materials – A plastic skull – 8 screws; – Microcontroller (I used an Arduino board); – A Protoboard – A nunchuck...... Listed under: [Game – Entertainment Project Ideas](#)

163. [Light and obstacle detecting bot using arduino](#)

Introduction For our ECSP project we have made a bot that senses and follows light and at the same time avoids obstacles. Rationale We wanted some hands on experience in using microcontrollers and electronics in general . Using a combination of light and distance sensors...... Listed under: [Robotics – Automation Project Ideas](#)

164. [arduino based distance sensor using arduino](#)

Here is a simple tutorial to build a Distance sensor which will show the distance from the distance sensor HC-SR04 (Or any other compatible devices) to the wall or obstacles in front of the sensor in CentiMeters. This project uses a HCR-SR04 distance sensor and...... Listed under: [Temperature Measurement Project Ideas](#)

165. [Secret Knock Final using arduino](#)
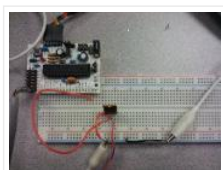
Secret Knock Description – My final project is a door lock that listens for your personalized knock. The lock uses an arduino board and a piezo speaker and will not unlock the door unless the specific pattern is used as a knock. Arduino Program -...... Listed under: [Home Automation Projects](#), [Security – Safety Project Ideas](#)

166. [Thermocouple Sensor 1.0 using arduino](#)

Overview Jump to the Table of Contents This is a simple board for measuring temperature. It uses an AD595 chip to make thermocouple measurements easy. The AD595 amplifies the thermocouple signal and conditions it for easy use. Thermocouples are

great due to their linearity over...... Listed under: [Temperature Measurement Project Ideas](#)

167. [Arduino: measuring the Earth's magnetic field with the magnetometer HMC5883L using arduino](#)

 The HMC5883L magnetometer This component (a small chip) HMC5883L, produced by Honeywell, bases its operation on AMR (Anisotropic Magnetoresistive) technology and allows you to be able to measure both the direction and the magnitude of the earth's magnetic field. This magnetometer HMC5883L has within 3 magneto-resistive...... Listed under: [Temperature Measurement Project Ideas](#)

168. [Nunchuk-controlled Helicopter using arduino](#)

 Welcome to my 3rd Instructable everyone ! Today we're going to build a 'device' to control a mini-sized helicopter with a Wii Nunchuk. The helicopter that we're using is a cheap (26$) 3-channel (yaw, throttle, pitch) helicopter that I bought a 1 month back from...... Listed under: [Game – Entertainment Project Ideas](#)

169. [Surfin' Bird (Arduino Style) using arduino](#)

 I just hope every body's heard. The Bird is the Word! This is a simple device to play Surfin Bird really loudly when someone trips off the motion sensor. If you don't already own an Adafruit Wave Shield, I'd highly suggest purchasing one. It's become...... Listed under: [Game – Entertainment Project Ideas](#)

170. [Arduino powered Haunted Pumpkin using arduino](#)

 This is a cute little project that takes a pumpkin, motion sensor, and some parts from Radio Shack. It was fun to create and build. This project was sponsored by the Radio Shack Great Create and I was able to make the whole thing with...... Listed under: [Game – Entertainment Project Ideas](#)

171. [LASER Maze – Halloween Haunted House using arduino](#)
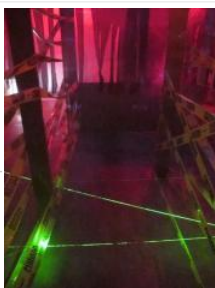
 The LASER Maze was our Processing and Arduino powered garage haunted house for 2011. A monitor sits outside of the garage, displaying "PRESS START." After the button is pressed, an intro video plays that instructs you to dodge the lasers and get your candy in...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

172. [Doorbell to Arduino 'Interface'](#)

 Hi Everybody In my first Instructable I want to show you how to build an cheap and easy Doorbell to Arduino 'Interface' so you can let your Arduinoproject get triggered through it or simply use your Arduino as a bell. Almost endless possibilities 😄 Step...... Listed under: [Home Automation Project Ideas](#)

173. [SPROT, my SimPleROboT using arduino](#)

 in this instructable i will show you how to make a very simple robot, using an arduino. this robot could be the base for a wide range of projects, i am planning on adding LDRs to mine so it can seek put light and also...... Listed under: [Robotics – Automation Project Ideas](#)

174. [How to build an Arduino energy monitor – measuring mains voltage and current arduino](#)
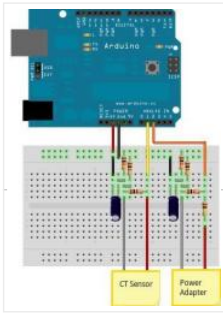
Including voltage measurement via AC-AC voltage adapter and current measurement via a CT sensor. This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with…… Listed under: [How To – DIY – Projects](#), [Temperature Measurement Project Ideas](#)

175. [Build a Laser 3D Printer – Stereolithography at Home using arduino](#)
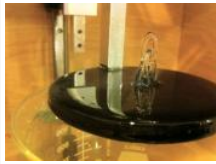
Here is how to make a Stereolithography 3D Printer. It is still a bit of a work in progress but so far it is working pretty well. This is mainly an experiment which started as a Delta Robot Stereolithography Printer but ended as a more…… Listed under: [CNC Machines Project Ideas](#)

176. [Serial Communications with Arduino using arduino](#)

At this point you should have a robot that can think on its own, we need to be able to tap into its thought process. See what he sees. Make some of his decisions for him. in essence, we need to be able to guage…… Listed under: [Internet – Ethernet – LAN Project Ideas](#)

177. [RoboBrrd using arduino](#)

RoboBrrd is an robot / animatronic character whose purpose morphs to mirror that of the virtual world. It is designed to be used as a tangible real world interface to virtual world learning applications. As a standalone robot, RoboBrrd is an entertaining platform that can…… Listed under: [Game – Entertainment Project Ideas](#)

178. [Stroboscope (zoetrope) using Arduino and a broken Xbox 360 DVD drive using arduino](#)
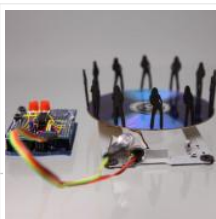
Stroboscope (AKA zoetrope) is a device that creates an illusion of a moving picture by showing a rapid successions of frames "stopped" for a fraction of a second due to the persistence-of-vision (POV) effect. It is a very old toy; zoetropes have been amusing crowds…… Listed under: [Game – Entertainment Project Ideas](#)

179. [DIY Turntable using arduino](#)

You always wanted to be a Disc-Jockey. You know nothing about beats, delays or mixing but, damn, scratching is like the coolest thing ever invented! If this is also your case, follow this instructable to build a low-fi DJ set: the DIY Turntable as featured…… Listed under: [Sound – Audio Project Ideas](#)

180. [Make a Fire Breathing Animetronic Pony from FurReal Butterscotch or S'Mores usnig arduino](#)

For Maker Faire Detroit 2011, I displayed a hack I made to a FurReal Friends Butterscotch Pony. My fellow LVL1 Hackers and I had taken control of the motor control system of the toy and added a flame thrower to it. It seemed to go…… Listed under: [Robotics – Automation Project Ideas](#)

181. [Real-Time Energy Monitor with Arduino and LabVIEW using arduino](#)

We present the candidature of Mr. Michele Mancini for the TiDiGino Contest. He proposes us a recent application with Arduino: Real-Time Energy Monitor This is a simple power meter to analize the current consuming in a house using the led indicator of a house energy…… Listed under: [Temperature Measurement Project Ideas](#)

182. [Inflatable Teddy Bear/LED Costume/Power Glove using arduino](#)

This was a behemoth of a project involving an inflatable costume, a LED costume, and a glove that controlled the colors and patterns of the LEDs. I've been wanting to make an inflatable creature that would give birth to me for a while now (lots...... Listed under: [Game – Entertainment Project Ideas](#)

183. [Arduino – One Wire Digital Temperature Sensor – DS18B20](#)
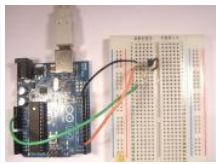
The one wire Digital Temperature Sensor – DS18B20 from Maxim (formerly Dallas) is a great chip for measuring temperature in your projects. Luckily, there is a Dallas Temperature library for the arduino which makes using this sensor very easy. The most recent version of this...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [Temperature Measurement Projects](#)

184. [Wendell the Robot using arduino](#)
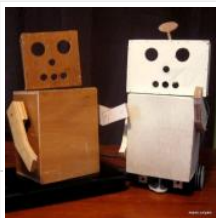
What follows is my proposed design for a robot. A robot with a simple design, that is easy to share and change. A robot you can build with a hand saw or a laser cutter; from cardboard or karbonite. A robot you can share; and change....... Listed under: [Robotics – Automation Project Ideas](#)

185. [Arduino + Compass Module 3-Axis HMC5883L](#)
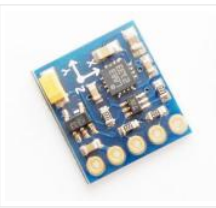
Background In this blogpost we're going to deal with the Compass Module 3-Axis HMC5883L from Parallax and how to integrate it into an Arduino. The Compass Module 3-Axis HMC5883L is designed for low-field magnetic sensing with a digital interface. This compact sensor fits into small...... Listed under: [CNC Machines Project Ideas](#), [Robotics – Automation Project Ideas](#)

186. [Arduino Chiptunes usnig arduino](#)

I am not a big fan of programming. I may like it but, I try to keep it down to a 555 timer like in this ible. However, when it comes to synths, well, I just NEED programming. One day, while exploring Synthesizers, I came...... Listed under: [Sound – Audio Project Ideas](#)

187. [LilyPad Arduino – the wearable technology using arduino](#)

Introduzione LilyPad Arduino is one of the many Arduino microcontrollers, but unlike the more well-known Arduino UNO, MEGA and Yun, this little board has very specific characteristics that make it unique. In fact, the LilyPad can be sewn on fabric. In fact, with only 19...... Listed under: [Medical – Health based Project Ideas](#)

188. [Smart Relay Power Box(SiriProxy Compatible)](#)

If you have ever wanted to control high voltages/currents with an Arduino, setup up a complicated light timer, or even have Siri turn on a Lamp. Then this is an instructable for you! In this instructable in a few simple steps we will build a self-powered...... Listed under: [Development Board – Kits Project Ideas](#)

189. [BennyP's Light Contraption using arduino](#)
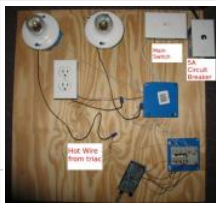
Introduction Disclaimer: I am not an expert in any of this. There is lots of information online regarding such designs. Although this setup worked for me, do not trust any of my calculations. Please work all this out for yourself and consult many other sources,...... Listed under: [Home Automation Project Ideas](), [PWM Projects]()

190. [USB Biofeedback Game Controller using arduino]()

Building upon our last tutorial, which taught you how to build a muscle sensor, we've decided to give you a project that really showcases the power of our muscle (EMG) sensors. Advancer Technologies' "USB Biofeedback Game Controller" harnesses the power of electromyography to allow players to...... Listed under: [Game – Entertainment Project Ideas]()

191. [CT sensors – Interfacing with an Arduino]()

To connect up a CT sensor to an Arduino, the output signal from the CT sensor needs to be conditioned so that it meets the input requirements of the Arduino analog inputs: a positive voltage between 0V and the ADC reference voltage. Note: This page give the...... Listed under: [Sensor – Transducer – Detector Project Ideas]()

192. [The party starter using arduino]()

A desktop motorized musical disco ball. Great for holiday parties, impromptu dance-offs, and Tuesday afternoons.   Bling, Music, Arduino, and glitter covered styrofoam; this Instructable has got what you need to get your boogie on. Fires need help go get going, so do parties.   I recently...... Listed under: [Game – Entertainment Project Ideas]()

193. [Controllers and Sensors using arduino]()
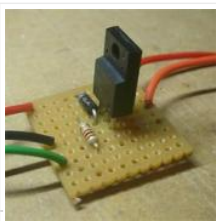
John has been working to recover components from old power supplies and available trash electronics, in order to build controllers to power stepper motors and other mechanisms for the FabLab. Intro The Arduino microcontroller board is able to supply a current of 40mA from its...... Listed under: [Sensor – Transducer – Detector Project Ideas]()

194. [Serial Duplex using an Arduino]()
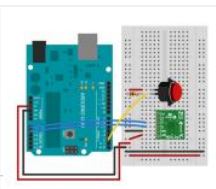
Overview In the first serial lab, you sent data from one sensor to a personal computer. In this lab, you'll send data from multiple sensors to a program on a personal computer. You'll use the data from the sensors to create a pointing-and-selecting device (i.e....... Listed under: [Sensor – Transducer – Detector Project Ideas]()

195. [Sensing color with the ADJD-S371 + Arduino]()

About 2 years ago I picked up a ADJD-S371 color sensor from Sparkfun to work with my arduino. I spent a few days getting it to work, but finally got it going pretty well. I still get a few emails here and there asking for...... Listed under: [How To – DIY – Project Ideas](), [Sensor – Transducer – Detector Project Ideas]()

196. [Introducing PETBOT: A node.js Telepresence Robot using arduino]()

It's a telepresence robot I built for our office, consisting of an iPad mounted on a lightweight chassis powered by an RC car. To operate it, you open up a video chat session with the iPad, then control the robot from your browser using the...... Listed under: [Robotics –]()

[Automation Project Ideas](#)

197. [Rocket Brand Studios Medium Tank using arduino](#)

This is the assembly instructions for the Medium Tank from Rocket Brand Studios. This is a great little robot kit, and can be purchased as a complete kit or as a rolling chassis, ready for the micro controller of your choice – Arudino Uno, Duemilanove, Picaxe...... Listed under: [Robotics – Automation Project Ideas](#)

198. [LED Gingerbread house using arduino](#)

Last year my Wife and I started a new tradition of building a Gingerbread house for Christmas. We had a few nicely decorated houses last year, and I wanted to do a little more this year. Adding LEDs makes everything better, so that is exactly...... Listed under: [Home Automation Project Ideas](#)

199. [An I²C Bus powered Arduino IO Expander Board controlled via Bluetooth and Android](#)

 Today we'll expand Arduino's digital resources thanks to an I2C bus equipped shield and we'll allow the management of the board via a bluetooth connection RN-42 through an Android systems. All Arduino boards feature a number of digital I/Os. For the simplest projects, such resources...... Listed under: [How To – DIY – Projects](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

200. [Extreme Color Organ using arduino](#)

Hi All! I have wanted to do something fun with my bedroom for a while now and the Make it Glow challenge provided me with a reason to do so. A few months ago I acquired a strand of GE-35 Color Effects lights and owing...... Listed under: [Home Automation Project Ideas](#)

201. [Sugru + Servos = Robot using arduino](#)
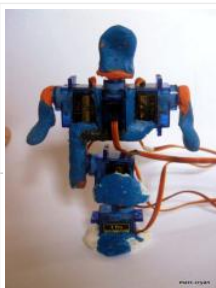
Build a robot using a bag of Sugru and 5 mini-servo motors. Motivation:Build a robot using very few parts and very cheap servo motors. Steps: Parts list Build Wire Program Play! Outcomes of this project: Robot with 5 joints Arduino Code which is expandable Control...... Listed under: [Robotics – Automation Project Ideas](#)

202. [[Said Alyami] – [Funny Cartoon Sounds with a twist] arduino](#)

 Introduction My project is about providing multiple saved cartoon sounds then do funny effect on them through controlling the speed of play either faster or slower. it contains 4 sound files: Crazy Frog, Bird is the Word "by Family Guy", oompa loompa "by Willy...... Listed under: [Game – Entertainment Project Ideas](#)

203. [How to convert (almost) any 27 or 49 MHz RC Car into a Robotic car using arduino controller](#)

I am teaching a robotics course in my kids high school (Rambam Mesivta in Lawrence, NY). I was looking for a cost effective way to teach them about the priciples of robotics without spending an arm and a leg, and getting them excited about the...... Listed under: [Robotics – Automation Project Ideas](#)

204. [[OoB] Shooting paintball maker with relay, Arduino and .NET WinForms](#)

 [OoB] Shooting paintball maker with relay, Arduino and .NET WinForms My first Arduino based project was Sonar with C#, JS and HTML5. Now I continue the "Out of Boredom" series with a setup that allows firing a paintball marker (gun) with a command sent from…… Listed under: [Game – Entertainment Project Ideas](#)

205. [Self-contained 16-Digit display – Arduino & Attiny85](#)

 Ever wanted a 7-segment display for around the house? Here's your chance to make one! It can even be interactive based on the programming.Parts: ($7.60) 16 Digit TM1640 based display Dealextreme.com SKU: 104311 http://www.dealextreme.com/p/jy-mcu-16x-digital-tube-yellow-led-module-104311 ($2.50) Atmel ATtiny85 Digikey PN: ATTINY85-20PU-ND($1.73) Extra long female header pins…… Listed under: [Home Automation Project Ideas](#)

206. [Rocket Brand Studios Tiny Tank using arduino](#)
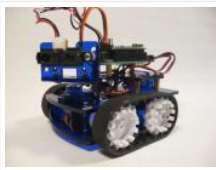
 This is the assembly instructions for the Tiny Tank from Rocket Brand Studios. This is a great little robot kit, and can be purchased as a complete kit or as a rolling chassis, ready for the micro controller of your choice – Arudino Uno, Duemilanove and…… Listed under: [Robotics – Automation Project Ideas](#)

207. [Arduino Esplora Light Calibrator](#)

 This sketch shows you how to read and calibrate the Esplora's light sensor. Because light levels vary from one location to another, you need to calibrate the sensor for each location. To do this, you read the sensor for a few seconds, and save the…… Listed under: [Development Board – Kits Project Ideas](#), [LED Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

208. [The IKEA Robot Lamp using arduino](#)

 Welcome to the SM-1 project from ArduinoArts.com! (A.K.A as the Annoying IKEA Lamp) We are proud to introduce you to the SM-1 project (aka the Annoying IKEA lamp), as part of the Toy hacking contest from the SeeedStudio.com friends. The project consists in modifying an…… Listed under: [Robotics – Automation Project Ideas](#)

209. [Single Digit Decimal counter using Arduino](#)

 "Hello world",I am not going to start this blog with typical "Hello world" program,since lot of resources already covered Arduino way of telling "hello world",that is Blinking a LED. This project is absolutely for beginners who prefers to run than taking a walk,I am going…… Listed under: [Clock – Timer Project Ideas](#)

210. [Using a transistor to control high current loads with an Arduino](#)
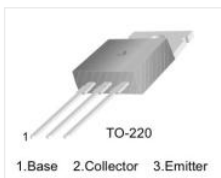
 In this tutorial, you'll learn how to control a high-current DC load such as a DC motor or an incandescent light from a microcontroller. (:toc Table of Contents:) Connect a transistor to the microcontroller The transistor allows you to control a circuit that's carrying higher…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

211. [Wireless Glove-Controlled Electric Mountainboard: An Analysis](#)

 Hey guys! So I finally decided to make a page that has everything you could possibly know about my project. Even though I had previously answered everyone's questions, they were usually through a message. Because of that, I was usually asked the same questions and…… Listed under: [Radio Project Ideas](#)

212. [IR Harp using arduino](#)

Contents 1 Team Members 2 Mentor 3 Introduction 4 Components Used 5 Idea 6 Arduino Uno Board (ATMega328P) 7 Approach to Project 8 Sound Synthesis 8.1 Delay() 8.2 Interrupts 8.3 The nature of the periodic waveform 8.4 The nature of the amplitude envelope 9 Working…… Listed under: [Home Automation Project Ideas](#), [Security – Safety Project Ideas](#)

213. [Bleeber – A physical layer between data and action. using ardiuno](#)

This project is a contribution to the first belgian Arduino Jam (2012). First of all we would like to thank the organisation and especially the main sponsor, Capgemini, which made all of this possible. Bleeber is a physical way of interacting with data trough oobleck. In…… Listed under: [Development Board – Kits Project Ideas](#)

214. [General Instruments SP0256-AL2 English Phoneme Speech chip & an Arduino](#)

The GI SP0256 chip is an early 1980s bit of technology. It's a 5V (to 7V) NMOS chip which is compatible enough with the 5V TTL circuity common in that era. 5V TTL disappeared for a while, then came back with the Atmel _28-based Arduino…… Listed under: [Home Automation Project Ideas](#), [Sound – Audio Project Ideas](#)

215. [Momentary Switch as Digital Sensor using arduino](#)

many cases switches are just switches. They directly control the flow of electricity to an appliance, flashlight or mains-voltage lamp. An example of this is the switch on the wall in your living room. In many cases nowadays however, switches are digital sensors, meaning that…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

216. [Arduino DMX shield for Christmas projects](#)
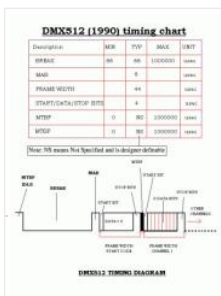
This shield allows to connect an Arduino with DMX equipment. It implements the RS485 interface to adapt the electrical levels needed for DMX connection. This shield has been designed with flexibility in mind and allows the user to choose between several Arduino pins for digital…… Listed under: [Game – Entertainment Project Ideas](#)

217. [The Soil Moisture Sensor using arduino](#)

You are building a cheap soil moisture sensor so the brain can read the amount of moisture in the soil. The version we are building is very low tech, but it is also very cheap and easy to build. It consists of a block of…… Listed under: [Home Automation Projects](#), [Temperature Measurement Project Ideas](#)
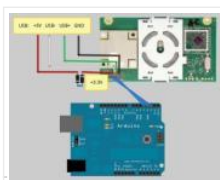
218. [Remote control via GPRS or GSM SMS using Arduino](#)

Remote control, it has been a very profound things in the past. When I was a child, I always imagine that I have an equipment which can control all home appliances. Now, this has become a reality, and it is quite easy. Then I will…… Listed under: [Ideas](#), [Phone Project Ideas](#), [Radio Project Ideas](#)

219. [Xbox 360 RF module + Arduino](#)

I was going to make a huge write-up on this, but I can't be bothered right now. I'll probably do something about it later. Until then, have an Arduino sketch. If you don't know what you're doing with it then chances are you don't have…… Listed under: [Radio Project Ideas](#), [Wireless Projects](#)

220. [Rear Wheel Tachometer using arduino](#)
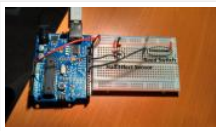
One of the goals of Movable Party is to provide an interactive experience for audiences/participants. Since power will be generated from a hub motor attached to the rear wheel of each bike (see this post), the speed of the rear wheel directly translates to the...... Listed under: [CNC Machines Project Ideas](#), [Temperature Measurement Projects](#)

221. [The Versatile Arduino Robot using arduino](#)

This is my first arduino robot, and I am quite happy with the outcome. What I came up with is a robot that with modifications can do just about anything in the realm of small arduino robots. The electronics are very simple. You only need...... Listed under: [Robotics – Automation Project Ideas](#)

222. [StorageBot – voice controlled robotic parts finder using arduino](#)
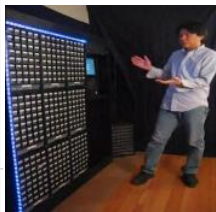
Introduction I created the StorageBot to help solve a problem experienced by most Makers. After many years of accumulating thousands of parts stored in storage bins, I began to go crazy looking for parts scattered between so many of these bins. The hardest parts to...... Listed under: [Robotics – Automation Project Ideas](#)

223. [Automated LED stairs using arduino](#)

After seeing the lovely LED stairs at interactivefurniture.de, I decided to make my own, open-source version. Here is a video of them in action. I am not an expert videographer and cannot do the stairs full justice, but they came out exactly as I wanted....... Listed under: [Home Automation Project Ideas](#)

224. [Arduino – based camera trigger unit](#)

I developed the camera trigger unit in order to synchronize various events and actions during free-flight experiments with hawkmoths in the wind tunnel described in a previous post. More specifically, the goal was to trigger multiple high-speed cameras and have LEDs that indicate the exact...... Listed under: [Home Automation Project Ideas](#), [Video – Camera – Imaging Projects](#)

225. [R.O.V.E.R.: Reactive Observant Vacuous Emotive Robot using arduino](#)
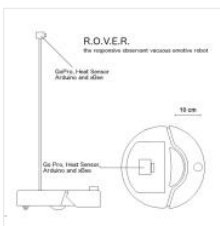
R.O.V.E.R. is an autonomous robot. He was built and designed as an interactive art installation specifically for the MAT EoYS 2013. He navigates the space with a heat array and bump sensors and interacts with attendees. When R.O.V.E.R. recognizes that a person is present he...... Listed under: [Electronics News Updates](#), [Robotics – Automation Project Ideas](#)

226. [Smallsword Choreography Shirt usnig arduino](#)
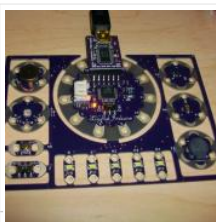
Stage combat is the art of theatrical violence. Rather than resembling fencing, stage combat is choreographed like dance for aesthetic and theatrical effect as well as for safety. Over years of choreographing and teaching others stage combat choreography, I realized that one of the most...... Listed under: [Game – Entertainment Project Ideas](#)

227. [RFM12B – Part 1 – Hardware Overview](#)

To see how RFM12B wireless compares to other similar wireless options (e.g Xbee, XRF etc..) check out this well compiled comparison overview by Stuart Poulton: http://blog.homelabs.org.uk/wireless-connectivity/.

Overview Made by Hope RF, re-branded by RFsolutions in the UK. Sometimes called 'Alpha RF' Low cost RF transceiver (from Rapid, Farnell,...... Listed under: Radio Project Ideas, Wireless Projects

228. A laser barrier with Arduino
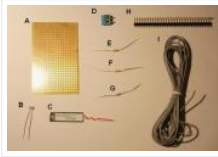
In this post we will see how to make a laser barrier to integrate with an Arduino board. The applications of a light barrier (laser and infrared) are numerous, especially whenever we want that the passage of a person or of an object through a threshold...... Listed under: Home Automation Project Ideas, Security – Safety Project Ideas

229. Analog In with an Arduino
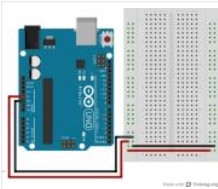
Overview In this lab, you'll learn how to connect a variable resistor to a microcontroller and read it as an analog input. You'll be able to read changing conditions from the physical world and convert them to changing variables in a program. (:toc Table of...... Listed under: How To – DIY – Project Ideas

230. UVic Quadcopter using arduino
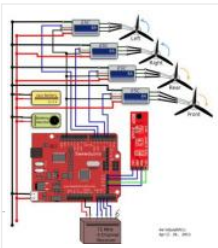
Hardware Controller The Arduino platform is selected for this project, mainly due to its open software and hardware nature which has resulted in availability of extensive technical information. As a result there are many tutorials and example project available for this platform. A list of...... Listed under: Car Projects, Robotics – Automation Project Ideas

231. 4x Multiplexed RTD Temperature sensor module

Description This module can be used to measure temperature using RTD (resistive temperature detectors) temperature sensors. It produces an analog voltage that is proportional the temperature of the probe. The module contains a multiplexer to enable measurement of up to 4 temperature probes. Design RTD...... Listed under: Temperature Measurement Project Ideas

232. Girino – Fast Arduino Oscilloscope using Arduino power connector

I am a Physicist and the nicest part of working in this field is that I get to build my own instruments. With this way of thinking, I decided to build a homebrew Arduino Oscilloscope. This instructable was written with the purpose of teaching a...... Listed under: Metering – Instrument Project Ideas

233. Team 12 – Prototype I Final Report: Home Automation Project using arduino

Introduction The Home Automation Framework project is a web application that can remotely control the electronic devices in one's home using a web interface on a smartphone, tablet or desktop computer. The project facilitates ease of access and remote control of electronic devices for those...... Listed under: Home Automation Project Ideas

234. Infinite Loop – Prototype I Final Report: Hazardous Weather Warning System using arduino
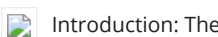
Introduction: The LED warning system notifies local residents of emergency withing the area. The difference in the color of the LED will allow residents to differentiate between different warnings. Each shelter building has a person who is in charge of unlocking the door for residents...... Listed under: Security – Safety Project Ideas

235. Shade Technologies – Prototype I Final Report: Motorized Wheelchair Canopy using arduino

Introduction Our Motorized Wheelchair Canopy intends to help those people with disabilities that confine them to their motorized wheelchairs and need shelter at times of inclement weather, such as rain or extreme heat. Although manual wheelchair canopies do exist, no type of motorized wheelchair canopy…… Listed under: [Medical – Health based Project Ideas](#)

236. [Fab Lab Barcelona SuperNode /Fab Lab Sevilla /Jose Perez de Lama](#)
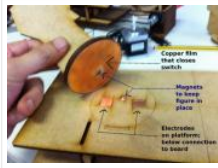
Retablillo de las Maravillas v1.0 Developed july>>august 2013 4./ Interactivity & electronics 4.1/ Switches / characters 4.2/ Screen / interface 4.3/ Motor controller 4.4/ I/O controller & interface [4./ electronics] [4.1/ switches / characters] The characters on top of the moving platform function, as interfaces,…… Listed under: [Game – Entertainment Project Ideas](#)

237. [Temperature-Sensitive Infinity Mirror using arduino](#)

As per an assignment in my digital multi-media class, I've combined two Arduino-related tutorials into a functional object! The result is a pair of infinity mirrors that flash red and blue depending on minute fluctuations in ambient temperature. This is my first experience with Arduino,…… Listed under: [Temperature Measurement Project Ideas](#)

238. [How to build an Arduino energy monitor – measuring mains voltage and current](#)
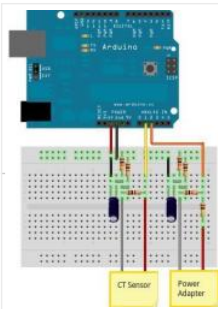
This guide details how to build a simple electricity energy monitor on that can be used to measure how much electrical energy you use in your home. It measures voltage with an AC to AC power adapter and current with a clip on CT sensor,…… Listed under: [Temperature Measurement Project Ideas](#)

239. [FOBO bipedal walking robot](#)

FOBO is the fourth prototype from Project Biped. It is a 3D printed, self-contained, statically balanced, bipedal robot. It has 8 DOF (degrees of freedom) and can walk around its environment and avoid obstacles using an ultrasonic range sensor. All of the designs, instructions, source…… Listed under: [Robotics – Automation Project Ideas](#)

240. [Build the Ultimate Larson Scanner! using arduino](#)

I have watched the availability of high power (>10W) LED's jump over the past year or so and… drop in price. I came across some very inexpensive 10W white LED's from Deal Extreme that were in the $3 dollar range and put out 900lumens, which…… Listed under: [CNC Machines Project Ideas](#)

241. [Group 9 – Prototype I Final Report: Remote Piano Pedal Controller using arduino](#)

Introduction: As a group, we feel that everyone should be able to enjoy the things they love to do despite their limitations. Our project is designed to enable people who are unable to use their legs to operate the pedals of a piano and…… Listed under: [Sound – Audio Project Ideas](#)

242. [Single Digit Decimal counter using Arduino](#)
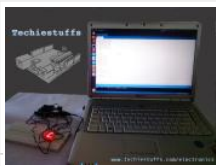
"Hello world",I am not going to start this blog with typical "Hello world" program,since lot of resources already covered Arduino way of telling "hello world",that is Blinking a LED. This project is absolutely for beginners who prefers to run than taking a walk,I am going...... Listed under: [Calculator Project Ideas](#)

243. [How to Build an Arduino Circuit on a Breadboard](#)

Small Kit with Big Functionality By Ryan Winters Product Manager There are many reasons to build your own Arduino circuit on a breadboard or PCB. It takes 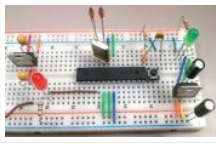less space, projects don't always require every pin to be used on the I/O headers, or maybe you...... Listed under: [Development Board – Kits Project Ideas](#)

244. [Solar theremin with Arduino using arduino](#)

materials: arduino uno 3 photoresistors 4 buzzers 3 10k resistor (optional) usb solar pannel or usb battery Step 1: Why? During the 2014 art Exhibition at Met (M. di Ragusa), I created (with the technical collaboration of Carmel Iurato), this theremin made from three photoresistors,...... Listed under: [Solar energy project Ideas](#)

245. [Arduino Prototype Center](#)

This is a relatively inexpensive and easy to build project that will help you test out all of your Arduino projects and prototypes. Since it has a plug-in power source, it eliminates frequent battery use and leaves the breadboard free of voltage regulators and capacitors...... Listed under: [Metering – Instrument Project Ideas](#)

246. [Arduino ATmega328 – Hardcore using arduino](#)
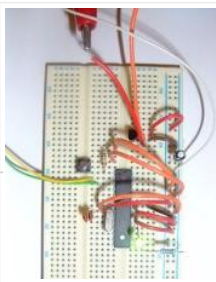
Ok, you've completed your prototype using an Arduino Uno board, perhaps using a shield or a breadboard for any additional components, but now you want to finalise your design and construct it using your own pcb. Well, that is fairly straightforward, as we have made...... Listed under: [Development Board – Kits Project Ideas](#)

247. [Controlling speed controllers with Arduino](#)

Hey guys, I'm back with another instructable. This is about RC speed controllers. What this will do is allow you to test out your speed controller in the Arduino world using Serial, then you write the values down and can use them for your projects....... Listed under: [Ideas](#), [Metering – Instrument Project Ideas](#)

248. [RC Car to Robot using arduino](#)

Converting an RC car into a robot is a quick and easy way to get started with robotics. At the very least, when you get bored of playing with your remote control car after three days, you can turn it into a robot that will...... Listed under: [Game – Entertainment Project Ideas](#)

249. [Arduino Guitar Pedal using arduino](#)

The Arduino Guitar Pedal is a digital multi-effect pedal based upon the Lo-Fi Arduino Guitar Pedal originally posted by Kyle McDonald. I made a few modifications to his original design. The most noticeable changes are the built-in preamp, and the active mixer stage which lets...... Listed under: [Game – Entertainment Project Ideas](#)
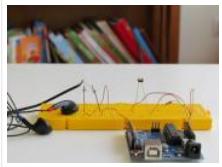
250. [Tabletop Soccer Game using arduino](#)

Send a Foosball down a ramp and try to score on the goalie! But scoring is not so easy – the goalie moves left and right to block your shot! This project was made for a class called "Thinks that Think" at CU Boulder for the Spring...... Listed under: [Game – Entertainment Project Ideas](#)

251. [Arduino Optical Theremin](#)

When I first became aware of Arduino, a theremin seemed like a natural project: sensor + actuator. It turned out to be quite affordable and fun to make. It is a naive design, using just one photocell and some hacked headphones. After some experimentation, I...... Listed under: [Ideas](#), [Sound – Audio Project Ideas](#)

252. [Mobile Earth Rover One – 3.5G Exploration using arduino](#)

If you can't explore the Moon or Mars … you can always explore your neighborhood! The main goal of this project is to alter a remote controlled vehicle and control it via Internet Telerobotics using the Mobile Telephone Network (WWAN – Wireless Wide Area Network)...... Listed under: [Robotics – Automation Project Ideas](#)

253. [Power Supply unit for arduino power and breadboard using arduino](#)

how you can take a computer u hv old (power supply unit) and turn it into a power supply that will power your Arduino and give you all the amperage you need as well as your standard 3.3 volts, 5 volts, and 12 volts for...... Listed under: [Development Board – Kits Project Ideas](#)

254. [Using Arduino tide predictions using arduino](#)
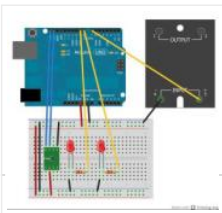
In the previous post, I outlined some Arduino code to generate tide height predictions for a NOAA tidal reference station. Now let's do something useful with this newfound functionality. In the experiments I run, it's useful to keep intertidal animals like snails and limpets on...... Listed under: [Home Automation Project Ideas](#)

255. [Arduino weather station part 2 using arduino](#)

Sometimes I just do not have time to connect to the internet and check current weather conditions. This is the reason why I made this indoor LCD weather display based on Atmega328 Arduino MCU. The circuit board consists of two LP2950 voltage regulators, MCU, four...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

256. [Arduino controlled Interactive wallpiece](#)

This project is a subset of my idea of an interactive wall.. so this is an interactive wall-piece.. What does it do ?   Mine is a touch activated light display. How does it work? It is controlled by an Arduino UNO which senses the inputs...... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Ideas](#)

257. [Wireless Finger Drum using Arduino](#)

I came across these Force Sensitive Resistors. I like them a lot and I wanted to do something with them, may be making them more useable than standing on the breadboard. Few months ago, I created the pocket-sized RevIO – Arduino Compatible and having fun with…… Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

258. [Palm Arduino II](#)
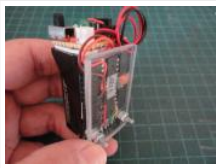
I have a "through the Looking Glasses" idea of making another version of Palm Arduino. Since this design derived from Palm Arduino, I will called it Palm Arduino II. This Palm Arduino, the Second, will be the combination of Palm Arduino and Portable 5V Voltage Regulator. So…… Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)

259. [Window Painting Robot using Arduino](#)

The idea for this project came from one of my favorite 'ibles: the polargraph. I loved the drawing style and thought how cool would it be to do this on the side of a building? Unfortunately the challenges to setting up such a large polargraph…… Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

260. [ButtonHero using Arduino](#)
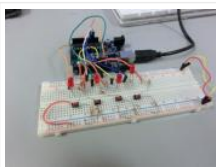
ButtonHero is a game made on an Arduino that involves the use of buttons, LEDs, wires, and resistors. In this game, you have to hit the corresponding button to the light that is randomly selected before the light changes. You start with 5 lives and…… Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

261. [Control an Arduino With a Wristwatch](#)

The watch The Texas Instruments eZ430 Chronos is a cool gadget. It has bidirectional radio communication, and a whole bunch of sensors: temperature, pressure, acceleration. In fact, it is a development kit for the MSP 430 (a low-power microcontroller), that TI packaged as a watch…… Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)

262. [Tag Archives: arduino speaking clock](#)
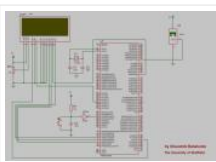
How to: Speaking Clock Hello ☺ Setup and Procedure The wave shield is interfaced with the Arduino Mega 2560 as normal. A couple of pins were remapped because the wave shield was initially made for a different device. The DAC pins were remapped to pins 22,23,24…… Listed under: [Clock – Timer Project Ideas](#)

263. [Mobile Chicken Coop with some automation using Arduino](#)

My wife and I have wanted to raise chickens(for the eggs) and we finally decided to do it this spring. I have read a lot about pastured chicken and wanted to create a mobile coop so that the chickens would not destroy the yard. I…… Listed under: [Home Automation Project Ideas](#), [Ideas](#)

264. [Arduino Internet Controlled Desk Lamp](#)
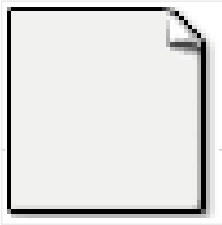
Step 1: What You'll need A linux web-server with PHP, an arduino, a relay and some other components. Step 2: Upload your code to the arduino Upload the following code to your arduino: void setup(){ Serial.begin(9600); } void loop() { if (Serial.available() > 0) { char inByte =…… Listed under: [Home Automation Project Ideas](#)

265. [Pachube Client using Arduino](#)

This example shows you how to answer a HTTP request using an Ethernet shield. Specifically, it connects to pachube.com, a free datalogging site. The example requires that you set up a pachube.com account, as well as a pachube feed (for more information on setting up…… Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

266. [Arduino-Controlled Physics Lab Fan-Cart](#)

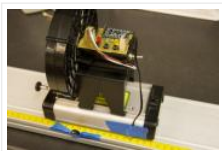A "fan cart" is a roughly constant-force device used in introductory physics labs. It consists of a fan (usually a model airplane propeller on a brushed DC motor) mounted on top of a low-friction cart. Students use it to pretend they're learning something about force,…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

267. [Improved Fan Cart](#)

In an earlier post I described an Arduino-controlled fan cart. The driver I used was an L293D quad half-H chip, because I had one handy and was out of simpler parts at the time. It's always bugged me that I was just controlling speed on…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

268. [Arduino datalogging accelerometer with µ-SD storage](#)

Thanks to Will Greiman's Fat16 library for the Arduino, I finally got a useful version of this datalogger working! Here's the schematic: And here's the code. The code is highly configurable: it can save raw A/D values or converted values, it allows software-defined gain, it…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [Memory – Storage Project Ideas](#), [Metering – Instrument Project Ideas](#)

269. [Arduino – Using a Sharp IR Sensor for Distance Calculation](#)

Well, looks like my sonar sensor (SRF05) is a just a tad inaccurate for precise measurement as I found from my radar screen I made (Arduino Radar Sscreen). So I've got hold of a Sharp GP2Y0A02 series infrared distance sensor. It'll detect and measure anything…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

270. [Arduino – Basic Theremin meets Processing!](#)

My last theremin involved a small speaker. Now I've replaced the speaker with my PC, using processing to pick up the values from the SRF05 ultrasound sonar distance sensor and play different notes accordingly – which gives multiple possibilities and far better sounds. So to…… Listed under: [Sound – Audio Project Ideas](#)

271. [larryBot – Arduino robot versions 0.1 to 0.5 lessons learned](#)

So I've decided to build a robot using Arduino to control the sensors. Here's my progress so far – I am hoping that my mistakes here and over the coming posts will guide people in more detail about what to avoid. Also I won't provide…… Listed under:

Robotics – Automation Project Ideas

272. Arduino – making a basic drum machine

 Had a quick look round at turning a piezoelectric speaker in to a sensor that will detect a tap or knock. I also then had a search around for setting the output of a speaker to a different note. Combining this has given me a...... Listed under: Sound – Audio Project Ideas

273. Discreet Data Logger using Arduino

 There is no better way to hide a covert device than to stick it inside a larger conspicuous device. That said... Essentially, this is a guide for making a data logging system for use with the breathalyzer microphone. To accomplish this, an Arduino and a...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Project Ideas, Projects

274. Brickduino (2. Parallel connector)

 This instructable is part of the "Brickduino" series. [Brickduino 1. LED] – I expect that you did the Brickduino LED before you start with this instructable – Mainly this instructable is the same as the Brickduino LED! So if you want to skip all the...... Listed under: Arduino LED Project Ideas

275. Visual Navigator Making it MOBILE using Arduino

 Obstacle avoiding vehicle, continue in "3D Laser Range Finder" series (project 1, project 2). The basic idea is the same, measuring distance using red laser pointers, CCD analog camera and Arduino UNO. Modification was made in geometry. Two lasers were set for "far field"...... Listed under: Game – Entertainment Project Ideas, Projects, Robotics – Automation Projects, Sensor – Transducer – Detector Projects

276. Attiny serial monitor using arduino walkthrough
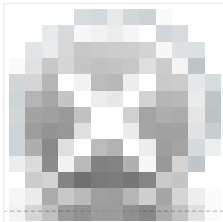
 Alllllllllllright dudes and dudets. Here is whats up, we're going to make attiny and arduino bestest of friends. If you have ever worked with capacitive switches you know how much it makes you want to smash your face into a wall...Now imagine you have no...... Listed under: Development Board – Kits Project Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

277. How to access 5 buttons through 1 Arduino input

 Using this method, I'll show you how you can access 5 (or even more) inputs through 1 Arduino pin. These buttons will only be read correctly if only one is pushed at any time though. As we go through it I'll explain whatever background info...... Listed under: How To – DIY – Project Ideas, LED Projects, Projects

278. Ariadne – a 1st person maze on a 16×2 LCD using Arduino

 This game is a homage to Ariadne, the maze-generator from Inception ☺ If you haven't seen the movie yet – watch this video again after you do (you can also watch it now – it's not a spoiler, it's just funnier for inception-vets). The nice thing about...... Listed under: Game – Entertainment Project Ideas, LCD Projects, Projects

279. Dogduino:The Automatic Dog Feeder using Arduino

Tired of having to find the dog food to feed the dog? Tired of having to get up early so your dog doesn't attack you for his food? Are just plain lazy? If you answered yes to any of these questions, this instructable is for...... Listed under: Arduino Programmer Projects, Projects, Sound – Audio Project Ideas

280. [PCB on a Box using Arduino Board](#)

Sorry, but I hate cleaning windows, is one of my unfinished business as usual, but I had to do (at least) every time I wanted to etch a circuit board printed by traditional (and perhaps unorthodox) of stick it in cellophane and let natural light...... Listed under: [Development Board – Kits Project Ideas](#), [Projects](#)

281. [Web-controlled Twittering Roomba using an Arduino](#)

I wanted to see if I could operate my Roomba remotely and get it to report its status via Twitter while I was away from home. I also wanted to make the device independent of a computer. This is the solution I came up with...... Listed under: [Internet – Ethernet – LAN Project Ideas](#), [Projects](#), [Robotics – Automation Projects](#)

282. [Bedtime Board using LilyPad Arduino](#)

For a class on youth and technology, we were assigned to a project using the LilyPad Arduino, a microcontroller board for making e-textiles. I decided to make a hanging board with a starscape that would light up and play a lullaby. I used cardboard, black cotton...... Listed under: [Game – Entertainment Project Ideas](#)

283. [Homemade Magic Lamp Card Box using an Arduino](#)

A robot is a virtual or mechanical artificial agent. In practice, it is usually an electro-mechanical machine which is guided by computer or electronic programming, and is thus able to do tasks on its own (http://en.wikipedia.org/wiki/Robot). Well, today you will learn exactly how to build...... Listed under: [Home Automation Project Ideas](#), [How To – DIY – Projects](#), [Projects](#)

284. [I2C Communication With An Infrared Temperature Sensor](#)
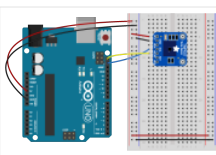
Introduction Contents [hide] 1 Introduction 2 What You'll Need to Know 3 Things You'll Need 4 Connect the temperature sensor 5 How the Temperature Sensor Works 6 Install the External Libraries 7 Program the Microcontroller 8 Conclusion In this lab, you'll see synchronous serial communication in...... Listed under: [Internet – Ethernet – LAN Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#), [Temperature Measurement Project Ideas](#)

285. [Raspberry Pirate Radio](#)

This simple hack turns your Raspberry Pi into a powerful FM transmitter! It has enough range to cover your home, DIY drive-in movie, a high school ball game, or even a bike parade (depending on the stragglers). PiFM software not only boldly enhances the capability of...... Listed under: [Radio Project Ideas](#)

286. [LEGO + Arduino = Brickduino (1. the LED)](#)

I know LEGO has the Mindstorms-set that probably is great, but wouldn't it be even better (and cheaper) to hack your regular bricks into your own micro controller controlled LEGO? Well I think so! I had this idea for a long time, but to many...... Listed under: [Arduino LED Project Ideas](#)

287. [Talking Darth Vader Binary Clock](#)

In this instructable I am going to show you, how to paint a black and white image of Darth Vader and bring it to life by adding a binary clock and making it talk. If you are not a big Star Wars fan, don't worry...... Listed under: [Clock – Timer Project Ideas](#)

288. [Arduino-Controlled Chemical Foam Spewing Pumpkin](#)

If the thought of dozens of tricker-or-treaters in gross-out costumes knocking down your door makes you want to spew, have we got the pumpkin for you! Every time the Arduino-Controlled Chemical Foam Spewing Pumpkin encounters a trick-or-treater at your doorstep, it spews burning chemical foam...... Listed under: [Game – Entertainment Project Ideas](#)

289. [Interactive Magic Mirror with Candy Dispenser](#)

For Halloween 2012 I created an interactive Magic Mirror. The Magic Mirror has a sonar (PING)))) sensor that detects when kids are are close. Then the mirror says a few random phrases and automatically drops candy to the bucket. I repurposed my Automatic Candy Dispenser from...... Listed under: [Game – Entertainment Project Ideas](#)

290. [Artemis & Apollo: Dancing with Arduino and light detection](#)

According to Ancient Greek mythology, Artemis and Apollo were immortal twins born ages ago on a rocky island in the Aegean Sea. Artemis, her hunting bow poised and fleet feet padding the forest floor, reigned as Goddess of the Moon. Her twin brother, Apollo, strummed...... Listed under: [Game – Entertainment Project Ideas](#)

291. [Arduino powered Lucky Cat as physical Webcounter](#)

Everybody wants to know how many pageviews your own website has. But see what's happening you need some analytics code and stuff like this. I wanted to be connected to the wold when I'm sitting on my couch so I connected my Lucky Cat to...... Listed under: [Game – Entertainment Project Ideas](#)

292. [IMP-ERSONATOR: Electric Imp + Arduino + Wave Shield = Remote Sound File Player](#)

This Instructable will demonstrate how to make a remotely activated sound file player. It uses an Electric Imp, an Adafruit Wave shield and an Arduino Uno The Electric Imp enables you to quickly connect devices (including arduinos) to the internet through your Wifi network. The...... Listed under: [Sound – Audio Project Ideas](#)

293. [Animatronic Tentacles with Arduino](#)

DisclaimerThis instructable is documentation for a work in progress. Although the project is not yet complete, it has reached a place where I believe it can begin to be beneficial to other makers. The concept for this project was spawned when a friend suggested I...... Listed under: [Game – Entertainment Project Ideas](#)

294. [RoboDolly](#)
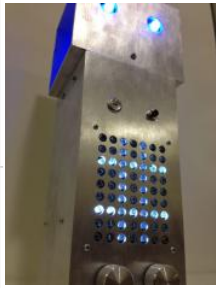
The Birth of RoboDolly The conception of the RoboDolly can be traced back to my senior year of high school. This aluminum ornament evolved from housing a few flashing lights to displaying a fully handmade LED matrix. The final product was awarded to my robotics…… Listed under: [Robotics – Automation Project Ideas](#)

295. [Plush toy, singing with Mommy's voice](#)

This Instructables is about upgrading a plush toy to give it the ability to sing when baby presses its belly. Most importantly : it will not play a stupid pre-recorded music, but actually sing mommy's songs, with mommy's voice ! This project started with two…… Listed under: [Game – Entertainment Project Ideas](#), [Sound – Audio Project Ideas](#)

296. [Mechanical Bull for Dolls](#)

This mechanical bull was created as a weekend hobby. The creation process was simple and did not last more than two hours. The materials I already had at home. For those who wish to make an equal, will be a good opportunity to recycle materials…… Listed under: [Game – Entertainment Project Ideas](#)

**297.** [Open source multi-channel EEG/ECG/EMG](#)

Introduction Electrodes on the skin can be used to measure muscle (electromyography, EMG) brain (electroencephalography, EEG) and heart (electrocardiogram, ECG/EKG) activity. These electrophysiological measures are popular for clinical, research and hobbyist applications (such as brain computer interfaces). Most commercial systems are "medical grade" – these…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

298. [X-Track – Wireless music visualization and tracker](#)

X-Track is a prototype wireless device which connects you to the music, by providing entertainment with its bright beat-synched LEDs and tracking your moves so that you can later learn how much you enjoyed the night, and which parts were especially moving you. Remote wireless…… Listed under: [Sound – Audio Project Ideas](#)

**299.** [Passive Sensors – Detecting Light and Motion](#)
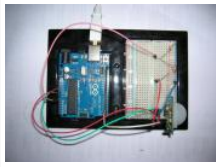
Equipment: Arduino UNO microcomputer, PC with Arduino IDE installed, and a USB cable.   CdS PhotoSensitive Resistor(s), 10K Ohm Resistor, and Parallax PIR Motion Sensor Passive sensors detect some physical phenomena and provide some amount of information about it that can be used for action…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

300. [ArduRoller balance bot](#)

Caveat Emptor: (I don't want to put you off building one but I also don't want you to be disappointed.) This Instructable is now 2 years old. Many of the parts it uses are out of date (there's no drop-in replacement for the now-discontinued gyro,…… Listed under: [Robotics – Automation Project Ideas](#)

301. [The Touch module – a robotic dog toy](#)
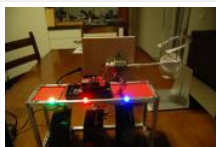
The idea was to invent an Arduino-based, robotic toy that my dog could interact and play with. One that could record scores, automatically deliver treats, and grow more advanced as the dog learns to play with it. I wanted to find a task to test…… Listed under: [Robotics – Automation Project Ideas](#)

302. [The DIY Photobooth with Lighting Control using Arduino](#)

This is a tutorial on how to build your own Photobooth. My friend had a wedding coming up and was in need of a Photobooth. Photobooth rentals go anywhere from $500 – $1500 so we decided to do our own & hence another DIY Photobooth…… Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)

303. [Working with a Load Cell and an Arduino](#)
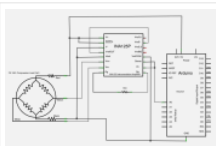
We built a system that uses eight air-clamping cylinders (McMaster-Carr 62185K64) to push down on a piece of glass to seal it to a sidewall. A number of times, the glass has cracked. So, this project is an attempt to come up with an inexpensive…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

304. [Say Hello with My Roommate Mouse with Arduino](#)

I live alone in a small house in Shenzhen, and i really I love this graceful and dynamic city. As an software engineer, I have no girlfriend yet, and usually nobody visit my room, I really love this because I do not need to clear…… Listed under: [Game – Entertainment Project Ideas](#)

305. [Arduino Based Temp and Humidity Display](#)

The temperature in my office at work varies quite a bit depending on the time of day, season, and the whims of the other people I share the floor with. When I'm sitting at my desk shaking uncontrollably or sweating profusely it would be nice…… Listed under: [Temperature Measurement Project Ideas](#)

306. [MaKey MaKey Monome using Arduino](#)

Objective: build a monome – a complex electronic music instrument – using easy-to-learn, inexpensive components and a process that's so easy a kid could do it. Gist: This touchscreen music instrument is essentially 4 parts: MaKey MaKey (or Arduino) Neopixels copper tape cardboard Sound is…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Sound – Audio Project Ideas](#)

307. [Game Controllers using Arduino](#)

This instructable will teach you how to construct homemade game controllers for personal games, education aids, or anything you want. This system uses 4 controllers which send signals to a central hub which holds an Arduino. It was designed for use with a game called...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

308. [How to use the IR library with an attiny using Arduino](#)

This Instructable will tell you how to use the IR (infrared) library on an Attiny. I will be using an Attiny85 with an Arduino Uno. I won't cover how to upload sketches to the Attiny just how to use the IR library with it. the...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

309. [Robot Arm Set using Arduino](#)

I made use of Smart Tank Chassis in the past 4 projects and I wanna do something very different. After searching in google and consider different stuffs for a couple of days, I found the Robot Arm Set. It looks awesome! It provides servos, servo...... Listed under: [Robotics – Automation Project Ideas](#)

310. [NFC Ring Lock Box using Arduino](#)

Hi everybody! Welcome to my first instructable! I apologize in advance for my poor level in English. In this step-by-step guide I am going to teach you how to build a simple and very cheap NFC Ring Lock Box ! Step 1: What you'll need...... Listed under: [Security – Safety Project Ideas](#)

311. [Cheap 2-Way Bluetooth Connection Between Arduino and PC](#)
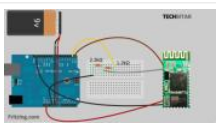
INTRODUCTION In the guide, I will explain how I managed to send data back and forth between a PC and Arduino via a cheap Bluetooth HC-05 transceiver, which can be found for less than $10 on ebay with the breakout board. The version I have used...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

312. [Arduino Sprinkler System plus Web control](#)
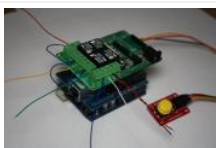
A smart sprinkler system for the rest of us... No soldering involved ! Just pile up a couple of shields on top of an arduino and control your sprinkler system from anywhere. A couple of friends wanted to replicate the sprinkler system presented in this...... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

313. [Arduino Controlled Relay Box](#)

This project is designed to help you construct some relay boxes for controlling power from your wall socket using an arduino or microcontroller. The inspiration for writing an instructable came when I decided to build some relay boxes for my personal Garduino project. For safety concerns...... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

314. [Home Made Arduino Prototype Shield](#)

Hi. I've just got myself an Arduino Uno R3 and I'm really new in the world of Arduinos. There's so much to learn and explore ☺ One of the first shields that I'm tempted to buy is the Prototype Shield. I think building a prototype...... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

315. [Gravity Touch bluetooth glove using Arduino](#)

Hey guys! I'd like to share with you the input device I created specifically to interact with AR glasses like the Google Glass, Meta, Moverio BT or with the VR headsets like Oculus Rift, Samsung Gear VR, vrAse, Durovis Dive. Those new products are amazing…… Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

316. [Arduino Combination Door Lock: Lockduino](#)

Ready to put a combination lock on your door to keep out intruders? You've come to the right place! In this i'ble I will show you step by step how to make a combination lock for your door! Watch this video of the finished product!…… Listed under: [Security – Safety Project Ideas](#)

317. [Illumino: EEG hat with Arduino turns brain activity into light](#)

Ever wanted to visualize your brain activity in real-time? Move an object on a screen with your mind? EEG devices are fantastic fun and allow you to do such things! This tutorial will show you how to make an illumino: a recreational EEG hat that…… Listed under: [Game – Entertainment Project Ideas](#)

318. [Custom OBD II Gauge in With OEM Look using arduino](#)

https://github.com/stirobot/arduinoModularTFTgaugesI built a custom OBD II (on board diagnostics version 2 http://en.wikipedia.org/wiki/On-board_diagnostics) gauge in the clock of my Subaru BRZ (GT86, FRS) and a lot of people wanted me to build them one. Here is how you can build one of your own. My wife…… Listed under: [Arduino Car Project Ideas](#)

319. [Garage Genie – Parking & Remote Control using Arduino](#)

The Garage Genie Parking & Remote Control is a car automation Arduino gadget. Click on the two images above to see the animated explanation. It aims to do a few things: 1. The "traffic lights" tells you when you've inched your car up close enough…… Listed under: [Arduino Car Project Ideas](#)

320. [Self Balancing Segway Instructabot](#)

[box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] Supplies: 1. Arduino: I used an Uno 2. 7.2v battery 3. Set of motors: Parralax's 7.2v motor set http://www.robotshop.com/parallax-7-2v-motor-bracket-wheel-kit-pair.html 4. Analog accelerometer http://www.robotshop.com/sfe-3g-tripleaxis-accelerometer-breakout-board-adxl335-2.html 5. Sabertooth 5X2 motor controller http://www.robotshop.com/productinfo.aspx?pc=RB-Dim-19&lang=en-US 6……. Listed under: [Game – Entertainment Project Ideas](#), [Robotics – Automation Project Ideas](#)

321. [The Octo-phonic Synthesizer](#)

The Octo-phonic Synthesizer is a polyphonic synthesizer that is able to produce eight tones that in the end, creates a musical scale. Inspiration for this creation came from this project. I like to think of it as an electronic organ. I used the core foundation

of blinkyblinky's idea,...... Listed under: Sound – Audio Project Ideas

322. Arduino Morse Code Shield

Morse code was the breakthrough that made possible long-distance communication in the era of the telegraph. The code represents alphanumeric characters by short and long intervals of signal — those familiar dots and dashes. For many years passing a Morse code test was a prerequisite...... Listed under: Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

323. Micro LASER Show with a CD Lens Mechanism using Arduino

Hello! This is the cheapest and easiest way to make a two-dimensional laser show projector. It uses just one pivoting mirror, powered by the focusing mechanism from a CD or other optical drive. They said it couldn't be done, but Ljudmila's skunkworks GRL research facility...... Listed under: Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

324. Resistor Color Code Calculator with Arduino

This is a 4 band Mechanical Color Code Resistor Calculator, The idea of making this Mechanical Resistor came when I accidentally dropped my box of resistors and all resistors (1300 of them) got mixed up. ooops! . Thank god there's an APP for that, So...... Listed under: Calculator Project Ideas

325. Arduino Weather Station Part2

So my last project was a Arduino wind chill machine. http://www.instructables.com/id/Arduino-Wind-Chill-Machine/ Naturally, this Lazy Old Geek wanted to add a weather vane (wind direction) to my weather station. Who cares, you ask? Well, I am a Geek. Actually, wind direction has some importance. Here...... Listed under: Arduino Programmer Projects, Projects, Security – Safety Project Ideas, Sensor – Transducer – Detector Project Ideas

326. Reading RFID Tags with an Arduino

In this project, you'll learn to read an RFID tag using the Innovations ID-12 reader and an Arduino Duemilanove. Step 1: Let's Get Started! We'll be using the ID Innovations ID-12 to perform the task of reading an RFID tag. At a minimum, it requires...... Listed under: Arduino RFID Project Ideas, Ideas

327. Driving two Nixie tubes with an Arduino via a shift register and two SN74141s

Nixie tubes are really cool looking and are becoming quite popular for their 'retro' look. Although there are a number of tutorials out there on using nixie tubes and some nice pre-packaged units (see these nice ones from ogi lumenand ArduiNIX) I hadn't seen a simple tutorial...... Listed under: Development Board – Kits Project Ideas

328. Make a Mini LED Siren powered by Arduino

This is one of the first projects I have made with Arduino. It's a little siren with a LED that fades and blinks on and off. It demonstrates basic use of LEDs and speakers. Also check out this article: 8-Pin Programming Shield Constructive criticism is...... Listed under: Arduino LED Project Ideas, Ideas, Sound – Audio Project Ideas

329. [A Robotic lawn mower powered by Solar Energy with an Arduino heart](#)

This robot will mow the grass of your garden, staying within a defined area, avoiding all obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with solar energy and able to…… Listed under: [Robotics – Automation Project Ideas](#), [Solar energy projects](#)

330. [Arduino Control via a Web Service with Teleduino](#)

Convert your Arduino into a sofisticated web control platform using Teleduino. Teleduino is both a product and a service. Once the Teleduino sketch has been loaded on your Arduino (the 'product'), it then connects to the Teleduino server awaiting your instruction from anywhere in the…… Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

331. [Star Wars Adafruit Flora Theremin LED Bra](#)

Use the force, Luke. Close your eyes, hold on tight to your light saber and…….. Don't touch that dial. No tweaking the knobs. Just wave your hands in front of the two sensitive sensors embedded in this bespoke piece of wearable tech. The garment has…… Listed under: [Game – Entertainment Project Ideas](#)

332. [Flora- an interactive flower](#)

Hello everyone…..Today I have taken something out of my flower garden….We all know,plants have their own lives,they can feel just as we feel..but they can't express it…But what happens if a flower gains the ability to interact with you? Imagine a flower sitting at your…… Listed under: [Home Automation Project Ideas](#)

333. [YABBAS – Yet Another Bare Bones Arduino (on Stripboard)](#)
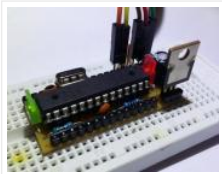
This Instructable will demonstrate the building of a bare bones (and really inexpensive… less than $5) Arduino compatible module that can be put together on a small piece of stripboard and can be used either on a breadboard or independently. The following links / similar…… Listed under: [Development Board – Kits Project Ideas](#)

334. [The tweiger counter](#)

The following steps will enable you to build your own tweiger-counter! It searches in current twitter messages sent around the globe for the words like nuclear, calculates a sliding window average and pushes it to the arduino that will click for every incoming tweet like…… Listed under: [Calculator Project Ideas](#)

335. [Whiteboard Erasing Robot using Arduino](#)
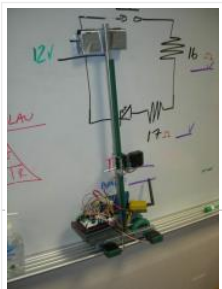
My entry for the Microcontroller contest is a whiteboard cleaning robot. The goal of this project was to create a robot which could erase written text on a whiteboard completely autonomously, i.e. no human interface. The processes involved in this project included devising a method…… Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

336. [Emoticon Helmet using Arduino](#)

The Internet has become a pretty good mask to portray yourself as anything you want. This includes hiding your true emotions when posting facebook statuses, IMing someone, or sending emails (like telling you're boss they are awesome when they are really a jerk).

But what...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

337. [Personal Space Defender](#)

A simple and elegant way to help keep your personal space bubble from being invaded by close talkers and overly huggie people.   This is a stolen or borrowed idea from Phillip Torrone of Adafruit, who mused about something like this on an episode of...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

338. [Arduino HVAC Servo Thermostat or Controller](#)
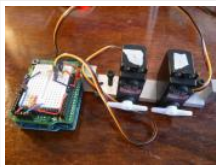
Welcome to my 'green' instructable! I am going to show you how to use an Arduino, two servo motors a temperature sensor and some metal (or wood) to make a digital thermostat for a through-wall HVAC unit. According to CB Richard Ellis (a major real...... Listed under: [Arduino Motor Project Ideas](#), [Ideas](#)

339. [Led Slot Machine Costume using Arduino](#)

This Instructable will walk you through my process of making a Slot Machine costume with addressable leds controlled with an arduino!   Step 2: Lets Get started Picture set up: I found my slot picture online that the best graphic that when enlarged would stay...... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)

340. [Bluetooth Weather Lamp](#)

This was a 2 hour project I whipped up in order to learn how to use a new Bluetooth LE 4.0 module I picked up at redbearlab.com, called a BLE Mini. I've since thought of several much simpler ways (and more dependable) to accomplish the...... Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [LED Projects](#)

341. [Necomimi Arduino Cat Ears](#)
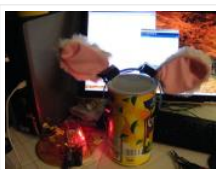
They are so dang cute. If you have ever seen the cool promo for the Necomimi Neurowear wearable set of cat ears that respond to brainwaves, you would want a set too. But it seems they may be vaporware since it hasn't materialized on the...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

342. [Arduino Fixed-point Vehicle Proximity Detector](#)

This is the high-tech version of hanging a tennis ball from the ceiling from a piece of string. Of course, if you have two different types of vehicles, that tennis ball isn't going to land in the same place on both of them. This project...... Listed under: [Arduino Car Project Ideas](#), [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

343. [soundie: a musical touch-sensitive light-up hoodie using Arduino](#)

This tutorial will show you how to create a garment that changes its behavior depending on how conductive you are. It detects conductivity through iron-on conductive fabric that we will use, and it will light up and sing different notes depending on how you touch...... Listed under: [Game – Entertainment Project Ideas](#), [How To – DIY – Project Ideas](#), [Ideas](#)

344. [Visual Network Threat Level Indicator using Arduino](#)

Network monitoring is very important in todays world. The internet is a scary place. People have taken steps to raise their awareness by installing Intrusion Detection Systems(IDS) such as SNORT. The problem with most of these systems is that upon first installing them they are...... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

345. [Touch Sticky Note using Arduino](#)
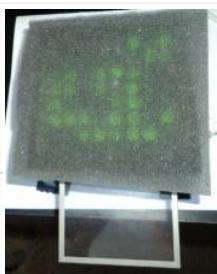
This piano-liked thing is what I called touch sticky note. I Use a piece of sponge as the paper, and put 8 x 8 LEDs under the sponge. Whenever I touch the touch screen, the related LED will turn on, and this is how I...... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

346. [A laundry alarm for the hearing impaired and everyone else using Arduino](#)

This Arduino based project was designed to solve a recurring problem for my hearing impaired wife. Our laundry room is located remotely from our living area. If our laundry has finished washing and is not removed in time, it can sour or even get moldy. ...... Listed under: [Home Automation Project Ideas](#), [Projects](#), [Security – Safety Projects](#)

347. [The CoaTracker using Arduino](#)
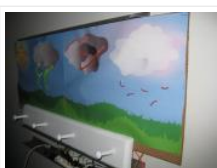
Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you...... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

348. [How to make a servo and Ardiuno stand](#)

In this instructible I will show you how I make my servo stand. This stand is useful if you want to test a new way to control a servo but dont want to use a servo on your robot or something. make Step 1: Cut...... Listed under: [Arduino Motor Project Ideas](#), [Ideas](#), [Other Project Ideas](#)

349. [The useless but mazing QR-clock using Arduino](#)

I got this idea for a while but I never had the chance to try it out. Friday, a workmate gave me a LCD shield for Arduino and I thought that was the right time to build a clock that comunicate the time through QR-codes. Of course, it's...... Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)

350. [Color Changing Nightlight using Arduino](#)

So, instead of buying a nightlight for my kid's room, I decided I could do a much better job of it. This nightlight cycles through 1500 colors over 7 mins and turns on when it is dark and turns off when it is light. It...... Listed under: [Arduino LED Project Ideas](), [Game – Entertainment Project Ideas](), [Ideas]()

351. [Arduino Basics: Working One LED]()

I've been encountering lots or Arduino projects but generally most are on intermediate and advanced level and only a few basic instructions on how to start with Arduino. This project I made were actually inspired by this example on the Arduino page, but a much...... Listed under: [Arduino LED Project Ideas](), [Ideas]()

352. [Tweet-a-Pot: Twitter Enabled Coffee Pot using Arduino]()

Like the idea of making coffee on the fly? from your bed? While you're on the bus coming home? Then the Tweet-a-pot is for you! Tweet-a-pot is the next in fancy twitter enabled devices. This coffee pot enables its owner to make a pot of...... Listed under: [Home Automation Project Ideas](), [Ideas]()

353. [Acrylic Arduino Prototyping Stand]()

I do a lot of projects with Arduino's and breadboards. Often as I work on a messy workbench, the Arduino or breadboard get jostled and the wires pop out of the headers or the breadboard. To solve this problem, I decided to make a simple...... Listed under: [Ideas](), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas]()

354. [Using Copper Tape To Create A Digital Selection Pad using Arduino]()
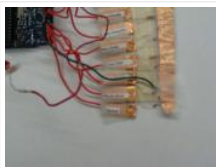
This is partially me sharing this technique, and partially me learning how to use Instructables. If there are issues with my documentation of the technique or my use of Instructables, please let me know in the comments – thanks! I needed a long row of...... Listed under: [Ideas](), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas]()

355. [Tilt Sensing Bracelet using Arduino]()

A bracelet decorated with six conductive fabric petals and a thread of beads with a metal bead at the end, makes for a simple six point tilt detection. It is also designed so that the metal bead will make contact with two petals if it...... Listed under: [Ideas](), [Sensor – Transducer – Detector Project Ideas]()

356. [NES in a Cartridge using Arduino]()

Have your ever seen any of "Ben Hecks" portable console builds? Well if you haven't, he often uses these Chinese Famicom clone consoles. These cloned consoles are often times refered to as NOAC's, meaning NES On A Chip. They are called this because they are...... Listed under: [Game – Entertainment Project Ideas](), [Ideas]()

357. [Make an Emoticon Jacket with LCD screen using Arduino]()

Concept: I would like to make a jacket that has a small LCD screen to create subtexts for interpersonal human interaction. The user would use a limited "keyboard" with force sensors and buttons under soft silicone keys to create computer textual subtitles to human interaction...... Listed under: [Arduino LCD Project Ideas](), [Game – Entertainment Project Ideas](), [Ideas]()

358. [Arduino controlled window for cat]()

I am submitting this instructable to the Arduino challenge. Please remember to vote! My neighbor had a little problem with his cat. It want's to go out and back inside too frequently. Usually he opens just his kitchen window and let's the cat in/out. Usually…… Listed under: [Home Automation Project Ideas](#), [Ideas](#)

359. [Robotic Eye using Arduino](#)

Hello, This time I will show an application of the infrared sensor module with Arduino. This module (composed of a pair of LEDs, a infrared transmitter and a receiver and an IC that generates a frequency modulated) is generally used to detect obstacles in robots……. Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

360. [6 button RGB controller using Arduino](#)
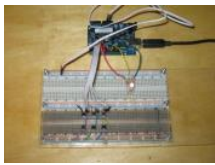
In this instructable we will learn how to use 6 buttons to control the color of an RGB LED with the use of an Arduino Micro Controller. This is a fun and easy little project that should take you no more then 20 minutes to…… Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

361. [Arduino 4wd robot with ping sensor "J-Bot"](#)
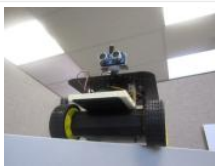
Experience Level: Intermediate (requires soldering) Time Required: 3-5 hours depending on experience J-BOT Kit □ Jameco P/N 2140285 Someone mentioned that Jameco needed a robotic mascot. I have always been a tinkerer, especially with radio-controlled electronics and so I volunteered for the chance to design…… Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

362. [Light Sensing LEDs using Arduino](#)

I was recently reserching on LEDs and I stumbled upon this page as I read it I found that LEDs are not just used to emit light but the also have the ability to sense light.At first using LED as light sensor sounds complicated but…… Listed under: [Arduino LED Project Ideas](#), [Ideas](#)

363. [Arduino ProtoShield from Household Items](#)

I love my Arduino. It got me into, and hooked on, microcontroller programming. I also like the expandability that shields provide. My Arduino can be a GPS Locator one minute, and be connected to the web the next. There's also a kit that lets you…… Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

364. [Mint-Sized Success Meter (quit smoking!) with Arduino](#)

There comes a time in life to put childish things behind and give up nasty habits. Some, like smoking, can be damn hard without constant encouragement. It was time for me to combine my favorite hobby with my driving goal and make this: The Quit…… Listed under: [Ideas](#), [Medical – Health based Project Ideas](#), [Metering – Instrument Project Ideas](#)

365. [Honey Bee Counter using Arduino](#)
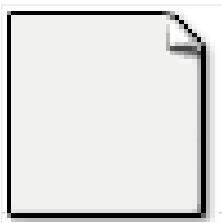
Where the honeybee's division of labor has stayed on a steady progression for 25 million years... our human superorganism has grown more complex and in all directions... hence the bee counter... By: thomashudson.org Live data from – June 25, 2012 I've moved away from live...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

366. [Arduino Snail Mail Notifier](#)

My mailbox is across the street from my house because our mailmen don't walk door-to-door, so I never know when the mail is delivered. Sometimes, I'm waiting for something and I'd really like to know when it arrives. I got my first Arduino last week,...... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

367. [Yoga Breathalyzer](#)

The yoga breathalyzer is a breath visualization tool to help you understand and get in touch with your breathing. Breath is the basis of yoga and meditation, and this biofeedback tool is one way to develop a deeper understanding of your own breath. Using Arduino,...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

368. [ORP / pH / Temperature Data Logger](#)

As a Water Quality professional working in the drinking water field, I know how important it is to accurately monitor the disinfectant levels in the drinking water that gets served to the public. Usually, that means taking weekly grab samples in the distribution system and...... Listed under: [Sensor – Transducer – Detector Project Ideas](#)

369. [Accessing 5 buttons through 1 Arduino pin](#)
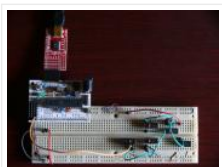
I made the original Instructible that this is based on over a year ago (You can see it here to see some of the theory around how this works:http://www.instructables.com/id/How-to-access-5-buttons-through-1-Arduino-input). To make a long story short, I moved to a different country a few weeks...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

370. [Web Controlled Arduino LED](#)

This instructable shows you how to build a Web-enabled tri-color LED based on an Arduino and the WIZnet Ethernet shield, controllable from any Web browser . Check the live demo at http://try.yaler.net/~arduino/led Because the LED is exposed through a simple RESTful web service running on...... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

371. [Arduino light seeker](#)

First of all, I'm from Switzerland so please excuse my english mistakes. Here is one of my first little project I did with my Arduino Uno. It's is just a little light seeker. The servo turns towards the light. Step 1: The wiring Here is...... Listed under: [Ideas](#), [Other Project Ideas](#)

372. [Arduino Trumpet](#)

This project emulates a trumpet by playing notes using the three buttons (valves). This is easy to make and fun to play with, though it can only play one octave and no sharps/flats. Step 1: Code Load this into your Arduino: int speaker = 9;...... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

373. [Arduino Projects on a breadboard (no serial com)](#)

Intro: If you've got an Arduino Uno and want to start duplicating projects without having to buy an Uno every time… get ready to live! This instructable will show you how to move your projects (that do not require serial communication) onto a breadboard for…… Listed under: Development Board – Kits Projects, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

374. Arduino Prototyping Shield on the cheap

Breadboards are very handy, but sometimes I just want to connect one IC or some LEDs and resistors to the controller. My simple solution was to canibalize a cheap Breadboard to get two expandable PrototypingShields with some additional features. What I used: Breadboard (~3$) 2…… Listed under: Development Board – Kits Project Ideas, Ideas

375. No-Solder Arduino Breadboard Shield

The goal of this instructable is to make a no solder arduino breadboard shield like this one: Step 1: You will need Parts list: Super glue* Mini breadboard size 4.5×3.5 cm Arduino pin headers** * Hot glue wont cut it ** Normal female pin headers…… Listed under: Development Board – Kits Project Ideas, Ideas

376. Tweety Button using Arduino

Welcome to my first Instructable! This is for something I've coined the "Tweety" or, Tweety-Button. The concept is simple, you're on your computer and the inspiration to Tweet is welling up inside. Chrome is being slow today, and you want to get those 140 characters…… Listed under: Ideas, Radio Project Ideas

377. Wii Nunchuck as general purpose controller via Arduino board

Background: I made a self-balancing electric skateboard which is steered using a Wii Nunchuck by either using the thumb joystick on the top or by tilting it left or right, depending on which of the two buttons on the end are being pressed. A simplified…… Listed under: Ideas, Other Project Ideas

378. High-Low Binary LED Arduino Game

This is a pretty simple game: The Arduino shows a number in binary on the green LEDs. You then guess whether your green number is bigger than the computer's number. The Arduino shows its number on the red LEDs. If you were right, you will…… Listed under: Arduino LED Project Ideas, Ideas

379. Arduino Flash game streamer

its a simple project that uses the a ethernet shield server to give a advanst web page with flash games on it. Step 2: The code::: you can download this code at the end: load up the ethernet server example and delete the code for…… Listed under: Game – Entertainment Project Ideas, Ideas

380. Arduino Bracket
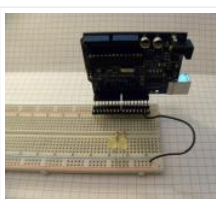
When you are tinkering around with your Arduino and a breadboard you might want to make yourself an "Arduino Bracket". Nothing more than header pins and a piece of wire, the "Arduino Bracket" keeps wiring neat and tidy, and lets you easily disconnect your Arduino…… Listed under: Ideas, Interfacing(USB – RS232 – I2c -ISP) Project Ideas

381. 3x3x3 LED PVC Light Cube using Arduino

This 3X3X3 ft. LED PVC cube is the ultimate in mood light fun!   An LED (light emitting diode) will burn longer than traditional bulbs so that you can enjoy your giant light for a LONG LONG time. Build it and see! Step 1: WARNING!!! THIS PROJECT...... Listed under: [Arduino LED Project Ideas](), [Game – Entertainment Project Ideas](), [Ideas]()

382. [How to make a runaway cookie box using Arduino]()

Eat too many cookies? These are some guidelines for how you can add a few security features to an ordinary box of cookies – or at least have a fun toy. The runaway cookie box will roll away when objects approach it and sound an...... Listed under: [Game – Entertainment Project Ideas](), [Ideas]()

383. [The Twittering Office Chair using Arduino]()

The Twittering office chair "tweets" (posts a Twitter update) upon the detection of natural gas such as that produced by human flatulence. This is part of my commitment to accurately document and share my life as it happens. For more in depth theory, please see...... Listed under: [How To – DIY – Project Ideas](), [Ideas]()

384. [Arduino controlled automated blinds with Web UI]()
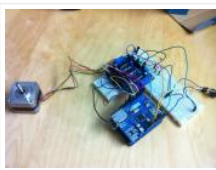
This instructable is a detailed guide on how to build an automated controller to run a motor that can operate the opening and closing of blinds. The controller enables the blinds to open and close based on a schedule, room temperature and out door luminosity....... Listed under: [Ideas](), [Internet – Ethernet – LAN Project Ideas]()

385. [Fix a fried Arduino Mega]()

Sometimes you may do something stupid, other times it is totally inexplicable but as a result of whatever events, the green power light on your Arduino stopped coming on. In my case it turned out to be a burned out voltage regulator. This inscrutable is...... Listed under: [Ideas](), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas]()

386. [Temperature-controlled USB fan using Arduino]()

As summer is coming, I bought a USB fan from HuaQiangBei, Shenzhen. However, when I focus myself on work(or game), I could hardly notice its existence. If I can teach it how to think and execute its duty without my order, that will be more...... Listed under: [Ideas](), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](), [Temperature Measurement Project Ideas]()

387. [Frameless Laser Harp]()

We are a generation that love sound and light – can't do without them really. Our most preferred time of day is night, or what we would call evening. We are particularly well acquainted with technology; doesn't hurt these days. Our prerequisite for everything is...... Listed under: [Game – Entertainment Project Ideas](), [LED Projects]()

388. [Arduino Noise Machine Jacket]()

As a project for one of my college classes, we were asked to create something using the Arduino. After a few different ideas, I settled on putting an Arduino noise machine into a suit jacket. It uses parts of the jacket to make function, so…… Listed under: [Home Automation Project Ideas](), [Ideas](), [Sound – Audio Project Ideas]()

389. [Input Pullup Serial using Arduino]()
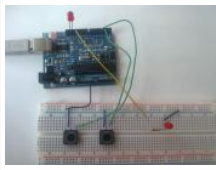
This example demonstrates the use of INPUT_PULLUP with pinMode(). It monitors the state of a switch by establishingserial communication between your Arduino and your computer over USB. Additionally, when the input is HIGH, the onboard LED attached to pin 13 will turn on; when LOW, the…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](), [Projects]()

390. [Self Sufficient Arduino Board]()

This is a self sufficient Arduino board, which is powered by harnessing solar power and using a 9V rechargeable battery. It is perfect for anyone who is interested in doing Arduino projects that do not require a computer or any power supply. You can take…… Listed under: [Development Board – Kits Project Ideas](), [Ideas]()

391. [Joy Slippers Version 2 using Arduino]()

These slippers have 4 analog pressure sensors embedded. They can be used to feed Up, Down, Left and Right values into your computer replacing your mouse, joystick… Visit the JoySlippers website >> http://www.joyslippers.plusea.at/ This Instructable improves upon the previous version http://www.instructables.com/id/Joy-Slippers/. It will show you…… Listed under: [Game – Entertainment Project Ideas](), [Ideas]()

392. [How to Program the Vexplorer Using Arduino]()

This instructable will be about using arduino to control the revell vexplorer. Later you can add as many sensors you want. If you don't have most of the parts already this will cost you about $200 dollars. Most of the electronic bits you can find…… Listed under: [How To – DIY – Project Ideas](), [Ideas]()

393. [Arduino Controlled Bell Tower or Carillon]()
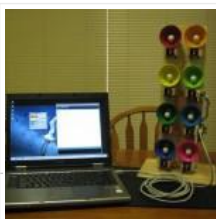
This is a set of musical bells which are driven by solenoids and controlled by an Arduino microcontroller. There are 8 bells covering one octave. The bells are controllable from a PC, or the tower can stand alone and play pre-programmed melodies. Check out the…… Listed under: [Ideas](), [Sound – Audio Project Ideas]()

394. [Arduino All-in-One Getting Started Guide]()

An all-in-one tutorial to getting started with the Arduino open-source electronics prototyping platform. This guide is meant for the beginner but should be also be useful to you if you already tinker with electronics but want to get started with the Arduino. I'll cover: -…… Listed under: [How To – DIY – Project Ideas](), [Ideas]()

395. [How To Make Two Daft Punk Outfits with Helmets using Arduino]()

For my 30th Birthday I decided to have a D-Themed costume party, my girlfriend Kylie and I decided that we would go as Daft Punk. The costumes were quite involved to make, but we had lots of fun and they looked great! We used a…… Listed under: [How To – DIY – Project Ideas](), [Ideas]()

396. [Charlieplexed row of LED lights, for the Arduino]()
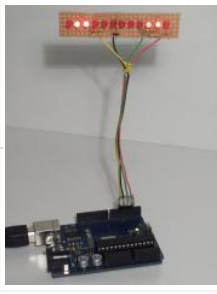
This is my instructable on charlieplexing a LED row/string with the arduino. I noticed that there weren't many instructables on charlieplexing using an arduino, so i made this. I tried to keep the project simple, but that didn't work very well. The soldering is complex,...... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)

397. Core2duino Updated with Arduino

This instructable will show you how to build an Arduino shield that adds another Atmega168/328 on top of your Arduino, giving you an extra complete set of I/O pins to use. That's 12 PWM pins, 12 Analog pins, 4 external interrupts, or 40 Digital pins...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

398. Bike taillight with a twist using Arduino

Let's face it. Taillights are boring. At best they go 'blink blink – look at me! I'm blinking – woohoo' all the time. And they're always red. Very creative. We can do better than that, maybe not much, but still better than just 'blink blink'....... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)

399. How-to build MACKRA a serb variant using Arduino

Project MACKRA was started after I saw the many problems with pre-built robotic platforms e.g. size, programability, mobility, need for batteries,PRICE, and most being dedicated to a single microcontroller. the goals of the MACKRA project were to do the following: 1.create a cheap, and easy...... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)

400. Arduino holder

Good news, everyone! I just started with the arduino and right at the very beginning I felt that I needed some sort of base to put the arduino on. I was reading one article from ladyada (http://www.ladyada.net/images/arduino/bumperplace.jpg) and she was using some rubber bumpers on...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

401. Ardu-pong! the Arduino based pong console

A while back the instructables robot made a post on Facebook about some guys who played pong on an Arduino (http://wayneandlayne.com/projects/video-game-shield/games/#pong) but after looking around, i saw that everyone who did this was only worried about making it work. and often resulted as a very hard...... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

402. Arduino magnetic stripe decoder

This instructable shows how to use some freely available code, an arduino, and a standard magnetic stripe reader to scan and display the data stored on magnetic stripe cards such as credit cards, student IDs, etc. I was inspired to post this after reading the...... Listed under: [Ideas](#), [Other Project Ideas](#)

403. Steampunk Compass using Arduinio

Having built a few puzzle box games recently, and having some components left over I thought I would build a functional Steampunk Compass. Based around a Arduino Duemilanove this is a really quick and simple build. Taking reading from a digital compass the

Arduino controls...... Listed under: [Clock – Timer Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)

404. [EARTH SAVER: Autonomous Material Sorter using Arduino](#)
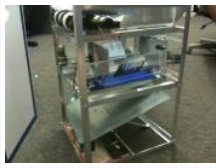
This Arduino project was part of an Association of Mechanical Engineers (ASME) contest to create an Autonomous Material Sorter. The sorter was to sort four glass bottles, four plastic bottles, four Tin cans, and four Aluminum cans. There were requirements such as size of the...... Listed under: [Ideas](#), [Other Project Ideas](#)

405. [Light and Water Reactive Raincoat](#)

This semester at college, I am in a class called Computing and Craft which is about incorporating circuitry and micro-controllers and craft to bring our projects to the next level. For our first big project, I decided to make a raincoat the reacted to light and water....... Listed under: [Home Automation Project Ideas](#), [Security – Safety Projects](#)

406. [Simple Arduino Traffic Lights](#)
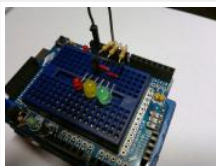
Have you ever made a city out of Legos? I know i have built many of them but they all missed something... Traffic lights! So i decided to make my very own traffic light setup from my arduino board. Step 2: Get the components I...... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)

407. [Gravitational force Mater using Arduino](#)

I have a late 80's VW and the gauge cluster has 5 dummy LED locations underneath the other warning lights. Well I was tired of the m not doing anything, so I decided to do something about it. I came up with the idea to...... Listed under: [Ideas](#), [Metering – Instrument Project Ideas](#)

408. [Arduino Frequency Detection](#)
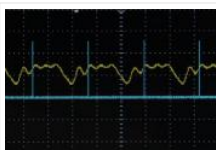
As a follow up to the Arduino Audio Input tutorial that I posted last week, I wrote a sketch which analyzes a signal coming into the Arduino's analog input and determines the frequency. The code uses a sampling rate of 38.5kHz and is generalized for...... Listed under: [Sensor – Transducer – Detector Project Ideas](#), [Sound – Audio Project Ideas](#)

409. [Instagram Inspired DIY Photo-Booth using Arduino](#)

I decided to build a simple photo-booth as a fun addition for events, this goes through the basic steps of how i went from a few pieces of wood to a fully functional booth. I have also included a photo of what the images look...... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)

410. [How to connect Arduino and RFID](#)

On this instructable I will try to show how to interface a RFID sensor with the Arduino. I am using the RFID sensor from seeedstudio the serial version of it. There are a few parts you will gonna need. I also bought some RFID keys....... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

411. [The Arduino Weather Station](#)

I've always been interested in monitoring my local weather, and noticed the difference between what weather.com and accuweather.com think my local weather is, and what I see out the window. I also wanted better control over my heating and A/C system. As a computer and...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

412. [Arduino GPS Datalogger](#)

Do you want to log some GPS data onto an SD card using your Arduino? Do you already own a Sparkfun microSD shield and GPS module? Did you try the Adafruit Sheild (although it is awesome and cheap) but it stole all of your pins?...... Listed under: [GPS Based Project Ideas](#), [Ideas](#)

413. [Serial Communications with Arduino](#)

At this point you should have a robot that can think on its own, we need to be able to tap into its thought process. See what he sees. Make some of his decisions for him. in essence, we need to be able to guage...... Listed under: [Ideas](#), [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#)

414. [Make Money with Arduino](#)

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415. [DIY FSK RFID Reader using Arduino](#)

This page is describes the construction of an RFID reader using only an Arduino (Nano 3.0 was tested, but others may work), a hand-wound wire coil, and some assorted low cost common components. Credits The hardware and software designs for this project are based in...... Listed under: [How To – DIY – Project Ideas](#), [Projects](#), [RFID – NFC projects](#)

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