Search here ...

ForProjects
World Biggest Site for Projects - Tutorials - Codes - Ideas

Advanced View Arduino Projects List

List of Projects using arduino with advance view:

1. DIY Programmable (SCPI) Bench Power Supply

   Hardware components: Arduino Due × 1 LTC3864 × 2 Texas Instruments TL783 × 2 Texas Instruments REF5025 × 2 Texas Instruments DAC8552 × 2 ADG465 × 2 Texas Instruments TS5A9411 × 2 Texas Instruments ADS1120 × 2 Texas Instruments Quad Comparator × 2 Texas Instruments…… Listed under: Development Board – Kits Projects

2. Zoned Climate Control with MediaTek's LinkIt™ Smart 7688

   Hardware components: MediaTek Labs The MediaTek LinkIt™ Smart 7688 platform × 1 Everything ESP ESP8266 ESP-01 × 1 Arduino Nano R3 × 1 Atmel ATTiny85 × 1 DHT22 Temperature Sensor × 1 Servo (generic) × 1 Software apps and online services: Arduino IDE STORY Winter…… Listed under: Temperature Measurement Projects

3. Infrared Dedicated Decoder

   Hardware components: Atmel ATTiny85 × 1 Attiny85 IR code for Sony protocol Attiny85 IR code for Sony protocol Download /* IR remote control (Sony) detection for Arduino, M. Burnette Binary sketch size: 2,794 bytes (of a 8,192 byte maximum) 😊 20130103 MRB Modified for interface…… Listed under: LED Projects

4. Attiny85/84 with Bluetooth

   Hardware components: Capacitor 10 μF × 1 Atmel ATTiny85 × 1 Arduino UNO & Genuino UNO × 1 LED (generic) × 1 Jumper wires (generic) × 1 HC-05 × 1 Software apps and online services: Arduino IDE MIT App Inventor 2 STORY Here I…… Listed under: Phone Projects

5. IR Controller for Air Conditioner

   Hardware components: Atmel ATTiny85 × 1 Everything ESP ESP8266 ESP-01 × 1 Arduino Nano R3 × 1 STORY My goal is to make my window AC units more functional. Currently they use an on-board thermostat to turn on when the room gets above a…… Listed under: Arduino Programmer Projects, Home Automation Projects

6. 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

7. ATtiny85 for Simple Projects: Arduino Basics

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

8. 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

9. 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

10. 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

11. 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

12. 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

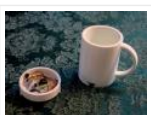13. Programming the ATtiny85 (Using an Arduino Uno)

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

14. 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
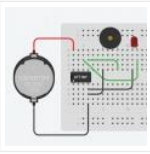
15. 3D-Printed Prank Vibrating Cup

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

16. 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](#)

---

17. [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](#)

---

18. [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](#)

---

19. [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](#)

---

20. [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](#)

---

21. [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](#)

---

22. [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](#)

---

23. [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](#)

---

24. [Are we getting close? Proximity Sensors + Arduino](#)

In past tutorials, we have covered temperature, color, time, direction, but never distance or proximity. I think I strayed away from this because most of the lower cost proximity sensors are pretty drop-dead-simple to use and thought it might not be that useful. But the…… Listed under: [Sensor – Transducer – Detector Projects](#)

---

25. [Arduino: Individually Control Shift Register Pins](#)

If you want an article on general 74hc595 shift register usage with detailed explaination on how it works/what it's doing, you want this article here: http://bildr.org/2011/02/74hc595/ The following code and library are compatible with arduino software 1.0+ ONLY. You can download the newest version of...... Listed under: Other Projects

26. Polar Heart Rate Monitor Interface + 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. When you start to talk about biometrics in electronics, heart-rate is usually the first thing to come up. And why not? I...... Listed under: LED Projects
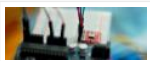
27. Quickly: KS0108B Graphic LCD 128×64 + Arduino

This is an incredibly quick post, and it is actually here simply because this thing was a pain to figure out how to hook it up. But, I wasn't able to do anything with it more than the Arduino library was able to do out...... Listed under: LCD Projects

28. L3G4200D Tripple Axis Gyroscope + Arduino

Before we begin, just note, that while this all works, I believe the output is scaled wrong. The noise floor is very high. But from everything I have found it looks like this is how it is. We have covered, accelerometers, GPSs, compasses... But no...... Listed under: Sensor – Transducer – Detector Projects

29. Sensing Barometric Pressure | BMP085 + Arduino

Light, location, temperature... What's next? Well, how about Barometric pressure? You know.. that thing that determines so much of our weather. Well the BMP085 Barometric Pressure sensor, available at SparkFun is a great little sensor capable of sensing such small changes in barometric pressure it...... Listed under: Sensor – Transducer – Detector Projects

30. A Slow Display… E-Paper + Arduino

Most notable for its inclusion in the Kindel and other E-Readers, E-Paper has recently become very popular. But until very recently been out of reach to being used in personal projects. Luckily for us, SparkFun started selling and E-Paper display, and breakout board finally bringing...... Listed under: LCD Projects

31. ESP32 Tutorials

The ESP8266 has become one of those ubiquitous parts that everyone knows. However, the new ESP32 has a lot of great new features, too. If you want to take the ESP32 for a spin, you should check out [Neil Kolban's] video series about the device. When we...... Listed under: Wireless Projects

32. ESP32 Hands-On: Awesome Promise

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

33. ESP32 Arduino: LED PWM fading

The objective of this post is to explain how to fade a LED with the ESP32, using the LED PWM functionalities. Introduction The objective of this post is to explain how to fade a LED with the ESP32, using the LED PWM functionalities of the...... Listed under: LED Projects

34. ESP32 With Arduino IDE

Christmas 2015 yours truly was one of the lucky few in the world to receive the ESP32 for experimenting. The board was not assembled, and it was quite intimidating to assemble the board with just a fine tip solder. The experiment is documented at this...... Listed under: [Development Board – Kits Projects](#)

---

35. [Sensing color with the ADJD-S311 + Arduino](#)

A year ago we had an article called Sensing color with the ADJD-S371. Well the ADJD-S371 is long gone, and its replacement is the ADJD-S311 (breakout board available from sparkfun). It is basically the same all around, so without shame, I will be copying a...... Listed under: [Sensor – Transducer – Detector Projects](#)

---

36. [Rotary Encoder + Arduino](#)

One of the first things anyone does when they start working with the Arduino is to connect it to a potentiometer and control the brightness of and LED or move a servo. Well, a rotary encoder may look like a potentiometer, but other than also...... Listed under: [LED Projects](#)

---

37. [High Sensitivity Light Sensor TSL230R + Arduino](#)

A while back we covered the TEMT6000, a great little analog sensor for getting ambient light readings when you need something a bit more sensitive than a simple Photoresistor. Well in the spirit of documenting everything we can get our hands on, this week we...... Listed under: [Sensor – Transducer – Detector Projects](#)

---

38. [Sensing Weight With A Flexiforce + Arduino](#)

Felxiforce is a force sensor that is very similar to FSRs we just wrote about in principal. They change their resistance when you apply force to them. (The flexi part of the name is because they are flexible) Felxiforces are about twice as expensive as...... Listed under: [Sensor – Transducer – Detector Projects](#)

---

39. [Touch Sliders With A Softpot + Arduino](#)

You all know the potentiometer, you turn it, and you can read on your arduino where it was turned to. Well 3M makes a product called the softpot that is a linear touch potentiometer. So instead of turning a knob, you touch it. The really...... Listed under: [Sensor – Transducer – Detector Projects](#)

---

40. [Can You ID This? ID-20 RFID Reader + Arduino](#)

A few weeks ago we showed you how to control your arduino over serial. Well this week are going to do the same thing. Only this time instead of using the serial monitor to send the commands, we will be using the Innovations ID line...... Listed under: [Sensor – Transducer – Detector Projects](#)

---

41. [Turn on a light, or 10. Arduino control over serial](#)

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](#)

---

42. [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](#)
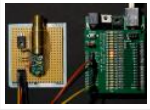
---

43. [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](#)

44. [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](#)

45. [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](#)

46. [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](#)

47. [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](#)

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

The TMP102 is a very simple, yet accurate, ambient temperature sensor which is capable of detecting .0625ºC 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](#)

49. [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](#)

50. [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](#)

51. [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](#)

52. [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](#)

53. [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](#)

54. [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](#)

55. [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](#)

56. [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](#)

57. [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](#)

58. [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](#)

59. [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](#)

60. [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](#)

61. [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

---

62. 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

---

63. 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
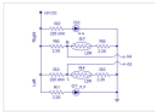
---

64. 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
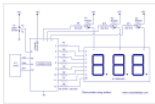
---

65. 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
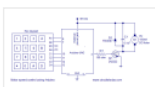
---

66. 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

---

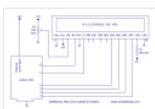67. Digital thermometer using arduino and LM35

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

---

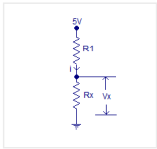68. PWM motor speed control using Arduino

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

---

69. Interfacing LCD to Arduino – Display Text and Characters on LCD Screen using Arduino
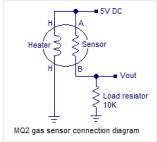
A Liquid Crystal Display commonly abbreviated as LCD is basically a display unit built using Liquid Crystal technology. When we build real life/real world electronics based projects, we need a medium/device to display output values and messages. The most basic form of electronic display available...... Listed under: LCD Projects

70. 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
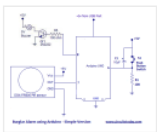
71. LPG sensor using arduino

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

72. 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

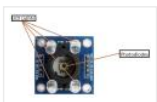73. Simple RFID based Door Lock using Arduino

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

74. 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

75. 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

76. 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
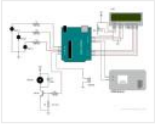
77. Pulse Sensor and Arduino – Interfacing

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

78. 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

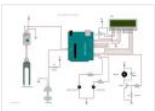79. Home Automation using Arduino and GSM Module

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

80. 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

81. 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

82. 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

83. 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

84. 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

85. 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

86. 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

87. 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](#)

88. [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](#)

89. [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](#)

90. [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](#)

91. [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](#)

92. [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](#)

93. [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](#)

94. [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](#)

95. [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](#)

96. [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](#)
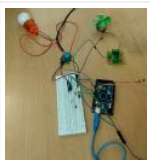
97. [Smart Vehicle using Arduino Uno](#)

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](#)

98. [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](#)

99. [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](#)

100. [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](#)

101. [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](#)

102. [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](#)

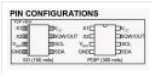103. [The Zambroombi: Roomba's Next Ultrasonic Competitor](#)

 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](#)

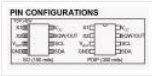104. [How to Make Arduino Based Collision Detection Warning System](#)

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](#)

105. [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](#)

106. [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](#)

107. [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](#)

108. [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](#)

109. [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](#)

110. [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](#)

111. [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](#)

112. [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](#)

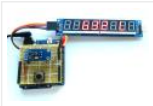113. [Quark D2000 I2C Interfacing Add a Color Sensor and Asynchronous Mode](#)

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](#)

114. [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](#)

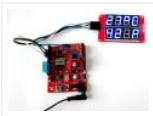115. [The Santa Cam! An Arduino PIR Motion-Activated Camera System](#)

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](#)

116. [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](#)

117. [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](#)

118. [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](#)

119. [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](#)

120. [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](#)

121. [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](#)

122. [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](#)

123. [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](#)

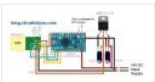124. [Controlling relay switches with an infrared remote](#)

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](#)

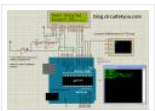125. [Serial seven segment LED display shield](#)

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](#)

126. [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](#)
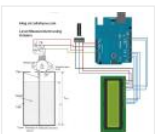
127. [GSM Based Home Security System With SMS Alert](#)

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](#)

128. [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](#)

129. [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](#)

130. [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](#)

131. 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

132. 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

133. 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

134. 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

135. 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

136. 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

137. 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

138. 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

139. 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](#)

---

140. [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](#)

---

141. [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](#)

---

142. [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](#)

---

143. [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](#)

---

144. [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](#)
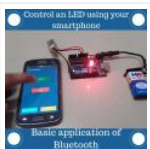
---

145. [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](#)

---

146. [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](#)

---

147. [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](#)

---

148. [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](#)

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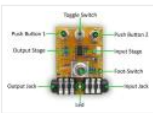
Knowing the amount of water in an overhead tank can be one tedious task. Usually, you'll end up climbing up the stairs to the tank and checking the level manually or you'll you hear the water overflowing from the top. But these days electronic water level indicators…… Listed under: [Other Projects](#)

150. [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](#)

151. [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](#)

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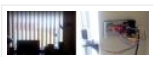
In this ESP8266 tutorial, we are using an ESP-01 module to control an LED over the internet. The ESP8266 is a very cheap yet really effective platform for communicating over the internet. It is also easy to use with an Arduino. After going through this ESP8266 tutorial,…… Listed under: [Other Projects](#)

153. [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](#)

154. [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](#)

155. [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](#)

156. [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

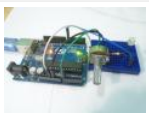157. Arduino Wheelchair Project: Motorized Controller Mount

 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

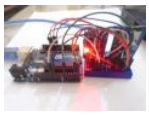158. LazyMax 1000: Arduino Phototransistor and Haptics Project

 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

159. 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: Other Projects

160. 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: Temperature Measurement Projects

161. 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: LED Projects

162. 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: Other Projects

163. 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: LCD Projects

164. 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: Other Projects

165. [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: [Home Automation Projects](#)

166. [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: [Other Projects](#)

167. [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](#)

168. [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](#)

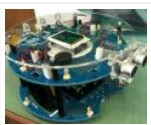169. [Simple Android Bluetooth Application with Arduino Example](#)

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](#)

170. [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](#)

171. [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](#)
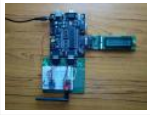
172. [Johnny 6 is alive!](#)

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](#)

173. [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](#)

174. [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](#)

175. [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](#)

176. [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](#)

177. [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](#)

178. [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](#)

179. [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](#)

180. [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](#)

181. [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](#)

182. [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](#)

183. [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](#)

184. [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](#)

185. [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](#)
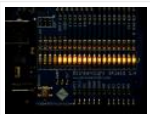
186. [DIY Temperature & Humidity & Smoke Detector Alarm System](#)

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](#)

187. [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](#)

188. [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](#)

189. [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](#)

190. [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: [Other Projects](#)
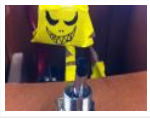
191. [Just Veggin with an Arduino Beetbox](#)

Bring Touch Control to the Arduino. Use interesting touch sensors like Carrots or Beets to make a "Beetbox". In this 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: Other Projects
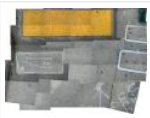
192. Useless Box

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: Other Projects

193. Psychic Arduino

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: Arduino Android

194. Provocation: Urban Encounters

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: Other Projects

195. Kroebe Lights

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: Other Projects
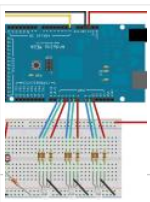
196. Paper Instruments

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: Other Projects

197. Zeitfluss – Flow of Time

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: Clock – Timer Projects

198. Raspberry Pi teams up with an Arduino

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

199. 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

200. 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

201. 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

202. 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

203. 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

204. 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

205. 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

206. 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

207. 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

208. 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

209. 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

210. 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

211. 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

212. 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

213. 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
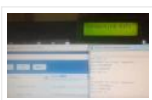
214. Controlling RGB LED using Arduino and Wi-Fi

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

215. 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

216. 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

217. [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](#)

218. [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](#)

219. [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](#)

220. [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](#)

221. [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](#)

222. [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](#)

223. [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](#)

224. [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](#)

225. [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](#)

226. 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

227. IoT Controlled Snow Machine

The most homemade snow machine you've ever seen. Made from a hairdryer, polystyrene and MKR1000. Controllable from anywhere in the world* Things used in this project Hardware components Arduino MKR1000 × 1 USB-A to Micro-USB Cable × 1 Apple USB Powe Adapter × 1 Jumper…… Listed under: Other Projects, Projects

228. 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

229. 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

230. 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 – Automation Projects

231. Knock To Open Treasure Chest

Preface My daughter asked me to build her a treasure chest that she could use to store her most valuable things. Obviously she demanded it to have some kind of a locking mechanism so only she could open the box. First thought was to use…… Listed under: Security – Safety Projects

232. Arduino Bluetooth-controlled Mini-Lift

Story We love our workshop, but it has one downside (or maybe upside) – a large flight of stairs to the gallery. We constantly need to move parts and components between one floor and the other, so we've been plotting different ideas: drones, dogs, carrier…… Listed under: Other Projects

233. Voice-Controlled Robot

Story Voice-controlled Robot Voice-controlled robot is both hardware and cloud solution in one piece. The main components are: 1. Alexa Skill – to interpret voice commands and translate them to Google Cloud Messaging messages – deployed to Heroku cloud 2. Android application – to receive…… Listed under: Robotics – Automation Projects

234. Humidity Display of Date, Time and Temperature

Story Have you ever wanted to make your own interface that can display the time, date, along with the temperature and the humidity? Well it's a lot easier than you'd think. A few important components are needed, as shown below. Arduino Uno/Nano Firstly we will...... Listed under: [Temperature Measurement Projects](#)

235. [Serial Basic Hookup Guide](#)

Introduction The Serial Basic is an easy to use USB to Serial adapter based on the CH340G IC from WCH. It works with 5V and 3.3V systems and should auto install on most operating systems without the need for additional drivers. It's a great lower...... Listed under: [Other Projects](#)

236. [Arduino-Powered Water Bottle](#)

Introduction: Drinking enough water is very important for our health. Drinking more water can lead to clearer skin, better overall health, improved productivity and brain function, increased energy levels, and even weight loss. In our busy lives, it is really hard to remember to drink...... Listed under: [Other Projects](#)

237. [Complete Digital Clock including Alarm and Motion Sensor](#)

I have done several designs of digital clocks for Arduino using LEDs and LCD displays, but this one is more special because I added other features like alarm and motion sensor (PIR). Main features PIR (Presence Infrared Sensor) RTC (real-time clock) Alarm Temperature Humidity Water...... Listed under: [Clock – Timer Projects](#)
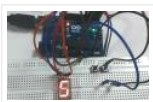
238. [Amazon Kitchen DRS](#)

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](#)

239. [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](#)

240. [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](#)

241. [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](#)
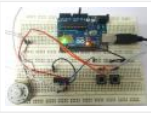
242. [Computer Controlled Robot using Arduino](#)

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](#)

243. [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

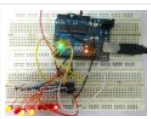244. DC Motor Control using Arduino

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

245. 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

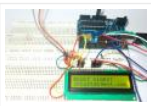246. How to Use Shift Register 74HC595 with Arduino Uno?

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

247. 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

248. 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

249. 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

250. 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

251. 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

252. 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

253. 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

254. 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

255. 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

256. 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

257. 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
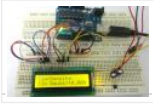
258. Keypad Interfacing with Arduino Uno

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

259. 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

260. 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
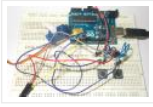
under: Other Projects

261. 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: Other Projects

262. Servo Motor Control using Arduino

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: Motor Projects

263. Automatic Water Level Indicator and Controller using Arduino

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: Other Projects

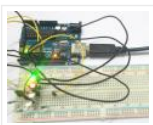264. Working of Force Sensor with Arduino

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: Sensor – Transducer – Detector Projects

265. 8×8 LED Matrix using Arduino

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: LED Projects

266. RGB LED with Arduino

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: LED Projects

267. Servo Motor Control by Flex Sensor

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: Motor Projects, Sensor – Transducer – Detector Projects

268. Variable Power Supply By Arduino Uno

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: Other Projects

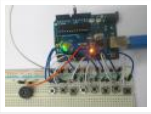269. PC Controlled Home Automation using Arduino

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: [Home Automation Projects](#)

270. [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](#)

271. [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](#)

272. [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](#)

273. [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](#)
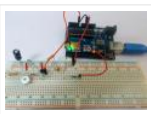
274. [Prepaid Energy Meter using GSM and Arduino](#)

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](#)

275. [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](#)

276. [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](#)
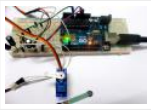
277. [Bluetooth Controlled Toy Car using Arduino](#)

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](#)

278. [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](#)

279. [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](#)

280. [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](#)

281. [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](#)

282. [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](#)

283. [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](#)

284. [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](#)

285. [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](#)

286. [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](#)

287. [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](#)

288. [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](#)

289. [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](#)

290. [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](#)

291. [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](#)

292. [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](#)

293. [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](#)

294. [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](#)

295. [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

296. 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

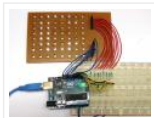297. Arduino based Automatic Plant Irrigation System with Message Alert

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

298. 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

299. 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

300. 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

301. 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

302. 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
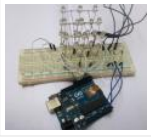
303. MQ-3 Alcohol Sensor, Breakout Board + Arduino

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

304. [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](#)

305. [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](#)

306. [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](#)

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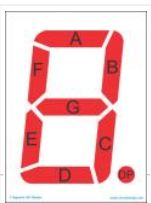
In this article, we are going to Control the Robot Car through the G sensor of our mobile phone and you will be able to move the Robot just by tilting the Phone. We will also use Arduino and RemoteXY app for this G-Sensor Controlled...... Listed under: [Car Projects](#)

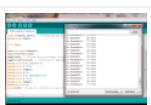308. [Interfacing MQ2 to Arduino- Gas Sensor for Smoke-Butane-CH4 and LPG](#)

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](#)

309. [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](#)

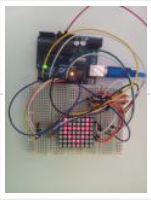310. [Arduino and 7 Segment Display – Interfacing Tutorial](#)

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](#)

311. [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](#)

312. [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

313. 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

314. 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
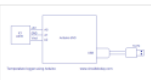
315. Tachometer using arduino

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

316. 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

317. 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

318. 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
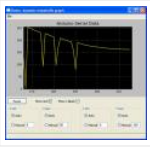
319. Gas Leakage Detector using Arduino and GSM Module with SMS Alert and Sound Alarm

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
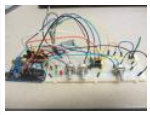
320. Arduino and Python

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
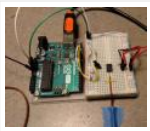
321. Calibration

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

322. 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

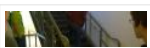323. DS1631 – Arduino Code and Temperature Validation

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
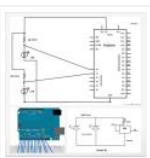
324. Live Action MATLAB – Arduino data logger.

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

325. 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

326. 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
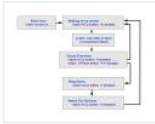
327. LTD SMRT Project (Safe Monitored Rider Transit)

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

328. 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

329. [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](#)

330. [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](#)

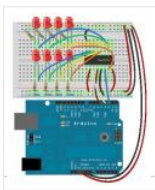331. [High-Power Control: Arduino + TIP120 Transistor](#)

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](#)

332. [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](#)

333. [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](#)

334. [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](#)

335. [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](#)

336. [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](#)

337. [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

338. 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

339. 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

340. 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

341. 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

342. 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

343. 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

344. 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
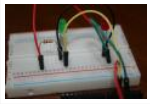
345. Ultrasonic Dimmer

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

346. 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

347. 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

348. 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

349. 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

350. 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

351. 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

352. 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

353. 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 chose this because I wanted to use all available Arduino libraries compatible with them. The Ethernet...... Listed under: Home Automation Projects

354. 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……
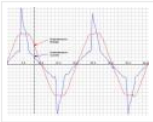
Listed under: Internet – Ethernet – LAN Projects

---

355. 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

---

356. 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

---

357. 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

---

358. 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

---

359. 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

---

360. 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

---

361. 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

---

362. 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

---

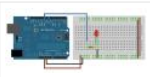363. [Autonomous drone that you already have in your pocket!](#)

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](#)

364. [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](#)

365. [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](#)

366. [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](#)

367. [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](#)

368. [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](#)

369. [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](#)

370. [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](#)

371. [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](#)

372. [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](#)

373. [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](#)

374. [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](#)

375. [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](#)

376. [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](#)

377. [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](#)

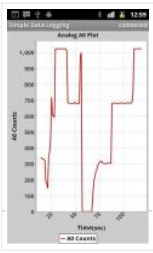**378.** [ZIF socket Arduino-compatible board](#)

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](#)

379. [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](#)

380. [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](#)

381. [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](#)

382. [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](#)

383. [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](#)
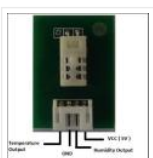
384. [Control an iPod with the Arduino](#)

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](#)

385. [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](#)
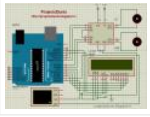
386. [Arduino Powered Four Letter Word Generator](#)

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](#)

387. [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](#)

388. [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](#)

389. [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](#)

390. [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](#)

391. [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](#)

392. [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](#)

393. [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](#)

394. [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](#)

395. [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](#)

396. [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](#)

397. [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](#)

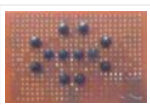398. [Play Music using Arduino Esplora](#)

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](#)

399. [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](#)

400. [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](#)

401. [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](#)

402. [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](#)

403. [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](#)

404. [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: <u>Internet – Ethernet – LAN Projects</u>, <u>Projects</u>

---

405. <u>Temperature Display Using LCD</u>

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: <u>LCD Projects</u>

---

406. <u>Arduino Based Lie Detector</u>

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: <u>LED Projects</u>

---

407. <u>Easy Home Surveillance</u>

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: <u>Home Automation Projects</u>, <u>Security – Safety Project Ideas</u>, <u>Video – Camera – Imaging Projects</u>

---

408. <u>Lambda Calculus in a Can using Arduino</u>

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: <u>Development Board – Kits Projects</u>, <u>Projects</u>

---

409. <u>Fritzing – The Ultimate Tool For Sketching Out Electronics Projects [Cross Platform]</u>

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: <u>Development Board – Kits Projects</u>

---

410. <u>LCD Shifter for Arduino</u>

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: <u>LCD Projects</u>

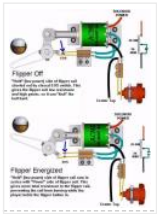411. <u>Arduino 7 Segment LED Display and Counter – Tutorial #8</u>

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: <u>LED Projects</u>

---

412. <u>Temperature Sensor DS18B20</u>

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: <u>Metering – Instrument Projects</u>

---

413. 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

414. 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

415. 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

416. 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

417. 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

418. 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

419. 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

420. 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

421. [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](#)
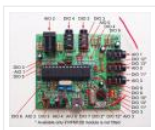
422. [PC-350: Arduino Synthesiser](#)

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](#)
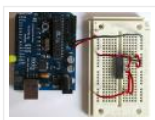
423. [Compact Protoboard Arduino type thing yea](#)

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 improeved, but the consept is the same and so is...... Listed under: [Development Board – Kits Projects](#)

424. [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](#)

425. [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](#)

426. [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](#)

427. [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](#)

428. [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](#)

429. [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

430. 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

431. 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

432. 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

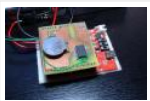433. Arduino UNO Tutorial 8 – NightLight

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

434. 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

435. 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

436. 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

437. 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

438. 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

439. 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
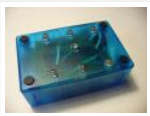
440. Home Automation with Android and Arduino Yún

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

441. 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

442. 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

443. 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

444. 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

445. 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

446. 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 – Audio Projects

447. 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

448. 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

449. 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

450. 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

451. 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
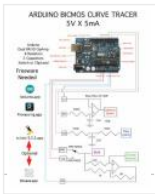
452. DIY- G-force measurement system

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

453. 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

454. 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

455. [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](#)

456. [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](#)

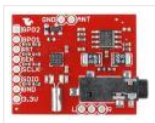457. [Arduino-based AVR High Voltage Programmer](#)

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](#)

458. [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](#)

459. [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](#)

460. [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](#)

461. [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](#)
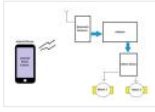
462. [Arduino LEDs](#)

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](#)

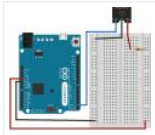463. [Arduino Leonardo AVR Development Board](#)

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](#)

464. [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](#)

465. [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](#)

466. [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](#)

467. [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](#)

468. [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](#)

469. [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](#)

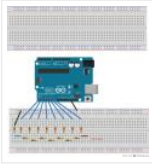470. [Perfboard Hackduino ($8 Arduino-compatible circuit)](#)

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](#)

471. [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](#)

472. 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

473. 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

474. 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

475. 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
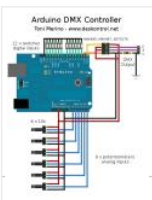
476. Mobile Controlled Automation Using Arduino

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

477. 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

478. 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

479. 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

480. 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](#)

481. [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](#)

482. [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](#)

483. [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](#)

484. [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](#)

485. [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](#)

486. [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](#)

487. [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](#)

488. [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

489. 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

490. 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
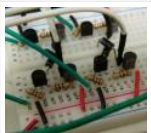
491. Arduino Buzzer Circuit

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

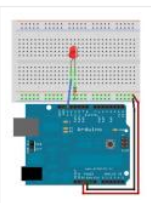492. Thermal Camera: Arduino UNO + MLX90614 IR Thermometer

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

493. 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

494. 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

495. 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

496. 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

497. 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

498. 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

499. 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

500. 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

501. 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

502. 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

503. 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

504. 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

505. 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](#)

506. [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](#)

507. [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](#)

508. [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](#)

509. [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](#)

510. [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](#)

511. [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](#)

512. [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](#)

513. [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](#)
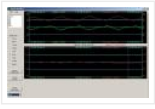
514. [Arduino Projects: Digital Audio Recorder](#)

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
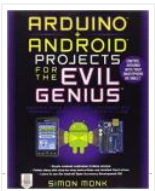
515. Indoor Weather Station using Arduino

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

516. 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

517. 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

518. 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

519. 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

520. 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
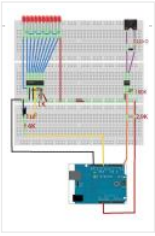
521. Interfacing an Arduino with LCDs

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

522. 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

523. 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

524. 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

525. 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

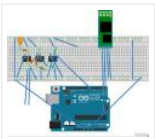526. Arduino Distance Detector with a Buzzer and LED's

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

527. 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

528. 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

529. 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

530. 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
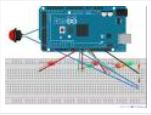
of...... Listed under: Motor Projects

531. 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

532. 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

533. 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

534. 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

535. 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
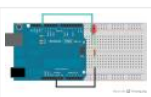
536. [FTC] Open Feathercoin ATM

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
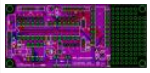
537. Scooterputer

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

538. 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

539. 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](#)

540. [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](#)

541. [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](#)

542. [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](#)

543. [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](#)

544. [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](#)

545. [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](#)

546. [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](#)

547. [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](#)

548. [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](#)

549. [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](#)

550. [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](#)

551. [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](#)

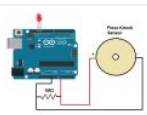552. [Learning Sequential Logic Design for a Digital Clock](#)

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](#)

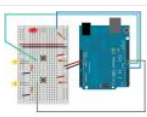553. [Homebrew Arduino Pulse Monitor (Visualize Your Heartbeat)](#)

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](#)
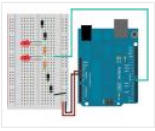
554. [How to Build a (Piezo) Knock Sensor Circuit](#)

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](#)

555. [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](#)

556. [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](#)

557. [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](#)
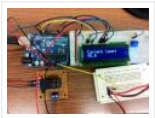
558. [Polargraph Drawing Machine](#)

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](#)

559. [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](#)

560. [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](#)

561. [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](#)

562. [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](#)

563. [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](#)

564. [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](#)

565. 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

566. 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

567. 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

568. 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

569. 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

570. 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

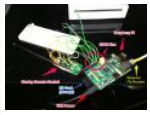571. Power Laces- the Auto lacing shoe

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

572. 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

573. 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](#)

574. [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](#)

575. [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](#)

576. [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](#)

577. [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](#)

578. [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](#)

579. [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](#)

580. [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](#)

581. [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](#)

582. [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](#)

583. [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](#)

584. [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](#)

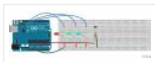585. [Bluetooth Controlled Robot](#)

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](#)

586. [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](#)

587. [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](#)

588. [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](#)

589. [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](#)

590. [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](#)

591. [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](#)

592. [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](#)

593. [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](#)

594. [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](#)

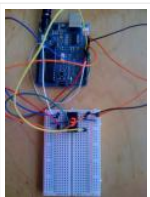595. [How to Transmit Mouse Data Using Xbee with Arduino](#)

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](#)

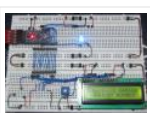596. [How To Save a Text In The EEPROM of The Arduino](#)

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](#)

597. [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](#)

598. [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](#)

599. [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](#)

600. [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](#)

601. [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](#)

602. [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](#)

603. [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](#)

604. [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](#)

605. [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](#)
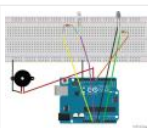
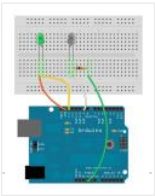606. [How to Use IR Remotes with Arduino (Current and Updated)](#)

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](#)

607. [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](#)

608. [Arduino for Photographers: Building a Universal Intervalometer](#)
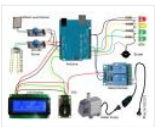
Practicing the art of time-lapse photography without an intervalometer is doable, but not particularly efficient. And while any decent photo equipment store will be happy to sell you one, you can go the DIY way and build your own intervalometer based on the excellent Arduino platform. Theoretically, building…… Listed under: [LED Projects](#)

609. [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](#)

610. [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](#)

611. [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: [Featured](#), [Home Automation Projects](#)

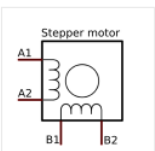612. [Arduino Compatible apc220 Wireless rf Module with Graphics LCD](#)

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](#)

613. [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](#)

614. [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](#)

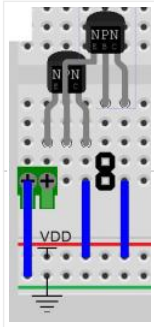615. [Arduino Bipolar Stepper Motor](#)

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](#)

616. [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](#)

617. [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](#)

618. [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](#)

619. [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](#)

620. [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](#)

621. [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](#)

622. [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](#)

623. [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 Technical Specifications...... Listed under: [PWM Projects](#)

624. [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](#)

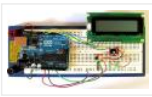625. [Pololu Dual VNH5019 Motor Driver Shield for Arduino (ash02a)](#)

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](#)

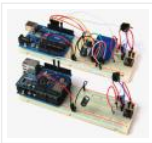626. [Arduino Programming For Beginners: The Traffic Light Controller](#)

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](#)

627. [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](#)

628. [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](#)

629. [Arduino Project # 1 – Make an Ultrasonic Distance Calculator](#)
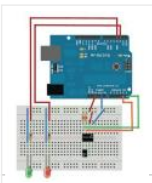
Arduino Project – The distance calculator I have been playing with Arduino (micro-controller) for about 2 years now and I am becoming more and more passionate about circuits. For those who are not aware of Arduino, check out my article "Arduino – A Guide for…… Listed under: [Calculator Projects](#)

630. [Arduino Project 4: Enhancing your mini robot](#)

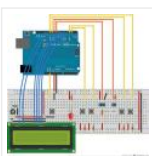You'll need these: HC-SR04 – Get this ultrasonic sensor from eBay.com.au for $2. SG90 Servo Motor – We've seen this servo selling for around $4 on ebay. Motor drive shield – You can get this expansion board for $5 online. If you're new to APC…… Listed under: [Robotics – Automation Projects](#)

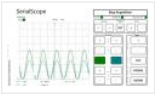631. [Capacitive Touch Sensor on Arduino](#)

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](#)

632. [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](#)

633. 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

634. 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

635. 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

636. 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

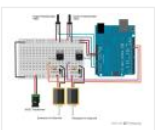637. Ultrasonic Range detector using Arduino and the SR04 Ultrasonic sensor

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

638. 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

639. 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

640. 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

641. 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](#)

---

642. [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](#)

---

643. [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](#)

---

644. [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](#)

---

645. [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](#)

---

646. [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](#)

---

647. [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](#)

---

648. [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](#)

---

649. [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](#)

---

650. [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](#)
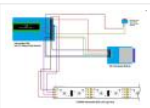
651. [Getting Started with Arduino – LED Blinking](#)

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](#)
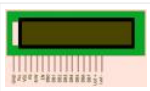
652. [26-Way MIDI DRUMS](#)

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](#)

653. [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](#)

654. [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](#)

655. [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](#)

656. [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](#)

657. [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](#)

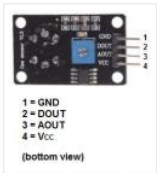658. [How to Build an HC-SR04 Distance Sensor Circuit](#)

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](#)

659. [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](#)

660. [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](#)

661. [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](#)

662. [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](#)

663. [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](#)

664. [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](#)
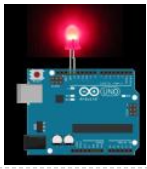
665. [Arduino Light Meter Circuit](#)

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](#)

666. [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](#)

667. [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

668. 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

669. 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

670. 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

671. 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

672. 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

673. 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

674. 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

675. 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

676. [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](#)

677. [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](#)

678. [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](#)

679. [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](#)

680. [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](#)

681. [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](#)

682. [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

683. 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

684. 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

685. 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

686. 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
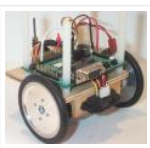
687. How to Connect and Read a Keypad with an Arduino

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

688. 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

689. 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

690. 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

691. 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

692. 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

693. 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

694. 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

695. 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

696. 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

697. 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

698. 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
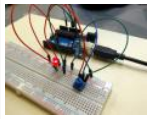
699. Arduino Police Flasher Kit

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

700. 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

701. 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

702. 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
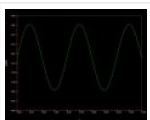
703. Arduino Lab 2 – Morse Code Generator

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

704. 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

705. 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

706. 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

707. 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

708. 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](#)

709. [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](#)

710. [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](#)

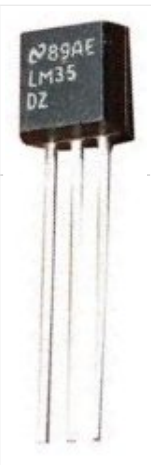711. [Arduino-Based Optical Tachometer](#)

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](#)

712. [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](#)

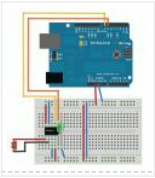713. [How to Build a LM35 Temperature Sensor Circuit](#)

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](#)

714. [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](#)

715. [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

716. 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

717. 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

718. 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

719. 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
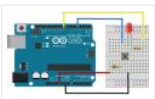
720. Acorn Chime using arduino

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

721. 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

722. 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
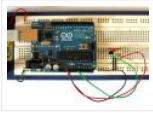
723. Use Arduino to Interface with a Remote Controlled Power Switch

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

724. 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

725. 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

726. 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
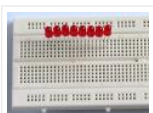
727. Dual LED Flasher

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

728. 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

729. 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

730. 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
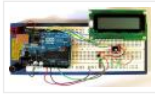
731. Arduino LCD

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
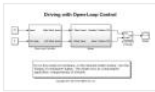
732. Let's make an Arduino real time clock shield

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](#)

733. [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](#)

734. [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](#)
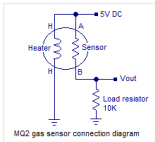
735. [Musical MIDI Shoes using arduino](#)

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](#)

736. [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](#)

737. [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](#)

738. [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](#)
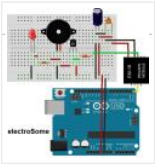
739. [The Lightning Simulator/Breathalyzer/Graphic Equalizer – Arduino Powered using arduino](#)

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](#)

740. [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](#)
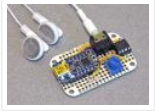
741. [Arduino + WiFi, Music Responsive LED Light Fixture using arduino](#)

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](#)

742. [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](#)

743. [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](#)

744. [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](#)

745. [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](#)

746. [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](#)

747. [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](#)

748. [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

749. 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

750. 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

751. 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

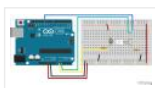752. Simple Animatronics with Servos and Arduino using arduino

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

753. 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

754. 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

755. 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

756. 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

757. 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](#)

758. [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](#)

759. [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](#)

760. [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](#)

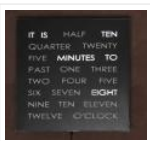761. [Review – Maxim MAX7219 LED Display Driver IC using arduino](#)

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](#)

762. [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](#)

763. [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](#)

764. [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](#)

765. [Make a simple platform and give mobility to your computer using arduino](#)
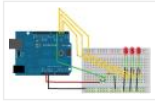
A computer is a very handy thing to use in your robots. If you start listing all the features that can be used for robotic purposes you'll find that it is cheaper to buy a netbook than buying LCD, wifi and bluetooth modules, cameras, speech synthesizer…… Listed under: [RTOS – OS Projects](#)

766. [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](#)
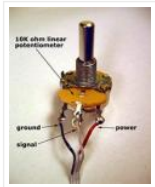
767. [Arduino Binary Die using arduino](#)

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](#)

768. [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](#)

769. [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](#)

770. [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](#)

771. [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](#)

772. [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](#)

773. [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](#)

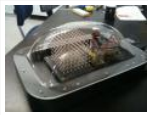774. [Car No. 06 Programmed Automatic Driving Car using arduino](#)

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](#)

775. [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](#)

776. [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](#)

777. [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](#)

778. [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](#)

779. [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](#)

780. [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](#)

781. [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](#)
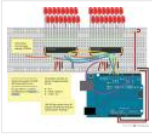
782. [A Makers Wedding – Photo booth usnig arduino](#)

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](#)

783. [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](#)

784. [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](#)

785. [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](#)

786. [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](#)

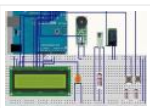787. [VOICE CONTROL CAR USING ARDUINO AND ANDROID](#)

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](#)

788. [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](#)

789. [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](#)
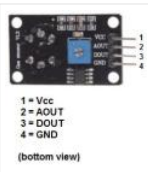
790. [Camera and flash trigger module using arduino](#)

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](#)
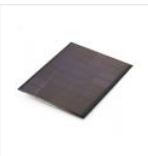
791. [3x3x3 LED cube shield using arduino](#)

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](#)

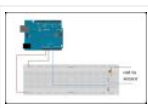792. [MQ-8 Hydrogen Gas Sensor Circuit Built with an Arduino](#)

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](#)

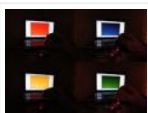793. [Simple Solar Power using arduino](#)

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](#)

794. [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](#)

795. [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](#)
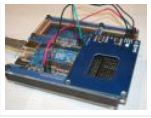
796. [Reviving a dead arduino](#)

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](#)

797. [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](#)

798. [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

799. 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

800. 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

Previous　　1　**2**　3　4　Next

USEFUL LINKS

Advance Search

USEFUL RESOURCES

Arduino Complete Projects List

Arduino UNO Projects List

Arduino Offline Projects PDF

Arduino Mega 2560 projects

Arduino Tutorial Courses Videos

Esp8266 Arduino Projects List

Arduino Zero Projects List

Arduino Nano Projects List

ESP32 Arduino Projects List

Arduino Tutorial Online Courses Video Training

FACEBOOK

Arduino Project…
39K likes

Liked

ADVANCE SEARCH

Select Category:

Select a Category

Enter Search Terms:

Search for...

Search

LAST VISITED:

IoT Santa Tracker on Colorful World Map

Publish Any Event to Wia Using Your MKR1000

Digital light chip draws sensor 0.65μA