Advanced View Arduino Projects List

List of Projects using arduino with advance view:

1. 
Voice Controlled LEDs using Arduino and Bluetooth Controlling LEDs with voice command seems to be a difficult task, but it's easy and you can quickly build it We just need an Arduino UNO to serially communicate with HC-06 Bluetooth module and a smartphone to send voice command to Bluetooth module HC-06. For..... Listed under: Bluetooth Projects

2. 
Algorithmic Camera Trigger – Shutterino Camera trigger powered by Arduino MKR1000 and controlled by the app. Let the algorithm take the best shots. Thing used in this project Hardware components Arduino MKR1000 Any board with WiFi and support for Firmata protocol will work × 1 Servos (Tower Pro MG996R) ×..... Listed under: Phone Projects

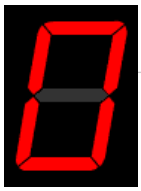
3. 
Arduino Plays Piano Tiles Ever wondered if your phone can play games by itself. Yes, it is possible. You can build a circuit to play Piano tiles on your smartphor The video shows the demonstration of the project. Step 1: Components Required And the circuit can be built with..... Listed under: Sensor – Transducer – Detector Projects

4. 
Auto Intensity Control of Power LED using Arduino Be a bright spark, lights off till it's dark!" sometimes we forget to turn off the lights and waste electricity and you must have also seen street light turned on in the day. We have already built few circuits on Dark detector where lights turn..... Listed under: LED Projects

5. 
Component Designing in Proteus ISIS Hello friends, hope you all are having fun in your life. Today's tutorial is about the component designing in Proteus ISIS. This tutorial actually deals with the presentation of your project. Usually when students give presentation of their projects, then it is asked that add..... Listed under: Wireless Projects

6. 
Arduino RFID Door Lock You have seen RFID Door Lock Mechanism in some Hotels and other places, where you don't need a key to unlock the room. You are given a card and you just need to put it in front of a RFID Reader box, and the lock gets unlocked..... Listed under: Security – Safety Projects

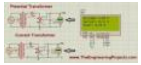
7. 
Temperature Controled Charcoal Smoker Use an Arduino MKR1000 to maintain a constant temperature in a charcoal smoker and allow monitoring over Wifi, Things used in this project Hardware components Arduino MKR1000 × 1 5V Brushless Blower × 1 MOSFET IRF520N Driver Module × 1 100K ohm NTC Thermistors ×..... Listed under: Projects, Sensor – Transducer – Detector Projects, Temperature Measurement Projects

8. 
Interfacing of Seven Segment with Arduino in Proteus Hello friends, today we are gonna have a look on how to interface Seven Segment with Arduino in Prote I have posted an Arduino Library for Seven Segment Display, which is designed by our team and is quite basic in functionality..... Listed under: LED Projects

9. 
Bluetooth Controlled 8×8 LED Matrix Sign Board Display using Arduino Be it the long stretched highways or your doctors front door, we have sign boards plac everywhere to provide us information. But these sign boards are often boring and cannot be configured as per our interest from time to time. So in this proje we..... Listed under: LED Projects

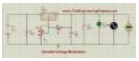
10. 

IoT Santa Tracker on Colorful World Map Use MKR1000 to show the Santa location in real-time on a colorful world map made of neopixels. Things used in this project Hardware components Arduino MKR1000 × 1 Raspberry Pi 3 Model B × 1 FR-1 Printed Circuit Board Blanks × 2 Translucent Colored Cast..... Listed und GPS Based Projects, Projects

11. 
ADC value on LCD using Arduino Hello friends, hope you all are fine and having good life. In today's project, we will see how to display ADC value on LCD using Arduino in Proteus ISIS. Its quite a simple project in which we are gonna measure the voltage of ADC pins..... Listed under: LCD Projects

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

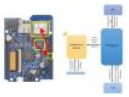
13.  Wifi Enabled 2/4 Wheeled Robot Platform Utilizing MKR1000 WIP- Using a MKR1000 to create a WiFi Enabled 2/4 Wheeled Robot Platform, Hardware is in han now to implement software Things used in this project Hardware components Arduino MKR1000 I was one of 1000 who won this × 1 SparkFun Dual H-Bridge motor drivers..... Listed under: Projects, Robotics – Automation Projects, Wifi - WLan Projects

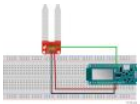
14.  LM317 Voltage Regulator in Proteus Hello friends, hope you all are fine and having fun. In today's post we are gonna have a look at LM317 Voltage Regulator i Proteus. In the previous post, we have seen how to design a 5V Power Supply in Proteus ISIS, which I have designed..... Listed under: Motor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

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

16.  Publish Any Event to Wia Using Your MKR1000 How to setup an MKR1000 and publish an event or location to Wia. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Wia Hand tools and fabrication machines Wia Platform Story Setup Your Environment Install the Arduino IDE..... Listed under: Internet – Ethernet – LAN Projects, Projects

17. TIA Weak Artificial Intelligence IoT Assistant IoT security/environment monitoring device with NFC & fingerprint authentication devices and a Weak Artificial Intelligence Assista Things used in this project Hardware components Arduino UNO & Genuino UNO × 2 Arduino MKR1000 × 1 Solderless Breadboard Half Size × 1 SeeedStudio Grove Base Shield..... Listed under: Projects, Security – Safety Projects, Sensor – Transducer – Detector Projects

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

19.  IoT System To Monitor Soil Moisture With Arduino This IoT system monitors the soil moisture using Arduino and sensors. Data are sent to an IoT cloud platfor to access it anywhere. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Soil Moisture Sensor (with Screw Terminals) × 1 Software apps..... Listed under: Projects, Sensor – Transducer – Detector Projects

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

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

22.  Multiple mode Environmental Sensor Deck with MKR1000 Many fun environmental sensors need a hardware interrupt. With the MKR1000, you no longer nee to choose! You get I2C, analog ins too! Things used in this project Hardware components Arduino MKR1000 × 1 MOD-1016 Lightning Sensor × 1 DFRobot MQ-Gas Sensor × 1..... Listed under: Sensor – Transducer – Detector Projects, Temperature Measurement Projects

23.  Start Connect ARTIK Cloud with Arduino/Genuino MKR1000 Using Arduino/ Genuino MKR1000 to connect ARTIK Cloud control I/O light LED. Things used in th project Hardware components Arduino MKR1000 × 1 Software apps and online services Samsung ARTIK Cloud for IoT Story https://www.arduino.cc/en/Main/ArduinoMKR1000 A simple project let mkr1000 connect to artik cloud, but..... Listed under: LED Projects, Wifi - WLan Project

24. 

Controlling Patient's Fever with Artik & Arduino This project consists of 2 devices. the first one is wearable and monitors temperature, second one will control the temperature. Things used in this project Hardware components Arduino MKR1000 × 2 SparkFun Logic Level Converter - Bi-Directional × 1 Li-Ion Battery 1000mAh × 1 RGB..... Listed under: Medical – Health based Projects, Projects, Tutorials

25. 

HID Attack Over WiFi Using Arduino MKR1000 Arduino MKR1000 as a HID, for performing HID penetration testing over WiFi networks. Things used in this proj Hardware components Arduino MKR1000 × 1 Story Arduino MKR1000 Today I have an Arduino MKR1000 which is a board with built-in wifi chipset specially designed for IOT..... Listed under: Arduino Programmer Projects, Wifi - WLan Projects

26. Dash Button Santa with Arduino MKR1000 Send information to Santa Claus about the status of the gift request. Things used in this project Hardware components Arduino MKR1000 × 1 SparkFun Pushbutton switch 12mm × 1 Jumper wires (generic) × 1 Resistor 10k ohm × 1 NeoPixel strip × 1 Software apps... Listed under: GPS Based Projects, Internet – Ethernet – LAN Projects

27. 

Add SSL Certificates To MKR1000 Cannot connect to your favourite https site with your MKR1000? Follow this guide to install SSL certificate in a easy way usin used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Arduino IDE Arduino Firmware updater..... Listed under: Arduino Programmer Projects

28. 
Water Quality Monitoring Using MKR1000 and ARTIK Cloud Water quality data monitoring for swimming pools, fish aquarium and more! Things used in this project Hardware components Arduino MKR1000 × 1 Jumper wires (generic) × 1 DFRobot pH Meter × 1 Resistor 4.75k ohm × 1 Temperature probe × 1 Softwar apps and online..... Listed under: Temperature Measurement Projects

29. 
Weather Dashboard with MKR1000 and Losant This project is about building a simple weather dashboard using MKR1000 and Losant platform. Things used i this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Software apps and online services Arduino IDE Losant Platform Story Introduction..... Listed under: Sensor – Transducer – Detector Projects, Wifi - WLan Projects

30. 

IoT Smart Socket Arduino And Cayenne A really smart IoT socket. Switch ON/OFF your device by the smartphone using Cayenne Dashboard and Arduino MKR1000. Things used in this project Hardware components Arduino MKR1000 × 1 RobotGeek Relay × 1 9V 1A Switching Wall Power Supply × 1 Software apps and online..... Listed under: Projects, Tutorials

31. 

Using Python and Arduino MKR1000 for Secure IoT Getting started with Python and Arduino MKR1000 for secure IoT projects. Things used in this project Hardware components Arduino MKR1000 × 1 Software apps and online services Zerynth Studio Story Arduino MKR1000 meets Python With the last release, Zerynth officially supports Arduino MKR1000, a device specifically designed..... Listed under: Development Board – Kits Projects

32. 

Home Automation with Arduino MKR1000 and Windows 10 Home Automation through Wi-Fi connectivity (Arduino MKR1000) and Windows 10. Things used ir this project Hardware components Arduino MKR1000 × 1 Relay (generic) Input: 3V × 1 General Purpose Transistor NPN × 1 1N4007 – High Voltage, High Curre Rated Diode × 1 Resistor 10k..... Listed under: Home Automation Projects

33. 
Intelligent Buggy featuring 4Duino-24 4Duino Intelligent Buggy project demonstrate how does uCAM-II works. This project also utilized two 4duino communicating using Server-Client architecture over TCP. It also uses a buggy car which carry the 4duino server and uCAM-II. By using built-in ESP8266, 4duin client sends a request to 4duino..... Listed under: Wireless Projects

34. 
Send MKR1000 Data to Google Sheets This project allows you to transmit DHT environmental data from your MKR1000 to your own customizable Google She for data logging. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × 1 Jumper wires (generic) ×..... Listed under: Other Projects

35. 
Pet Food Dispenser featuring 4Duino-24 In this project, we will use a 4Duino and several IR sensors to create a simple pet food dispenser. 4Duino checks whether a food tray contains enough food or not. It is programmed to read IR values from each sensor. These values change depending on the..... Listed und Sensor – Transducer – Detector Projects

36. 
MKR1000 to Initial State DHT Visulaizations This demonstrates how to use your Arduino MKR1000 to connect to InitialState.com to produce colorful visualizations of your sensor data. Things used in this project Hardware components Arduino MKR1000 × 1 DHT11 Temperature & Humidity Sensor (4 pins) × Breadboard (generic) × 1 Jumper..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sensor – Transducer – Detector Projects

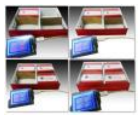
37. 
Assistance for Visually Impaired featuring 4Duino-24 Blind Assistance is a project designed to help visually impaired people detecting obstacles in their way. It uses 4Duino, three ultrasonic sensors, one vibration motor and an LED. These components are attached to a walking stick. Blind Assistance alarms the user if there's an obstacle..... Listed under: Wireless Projects

38. 
MKR1000 Surprise Room Decoration This project is dedicated to my parents, but you can also use it for surprise events for someone special. Things used in th project Hardware components Arduino MKR1000 × 1 5V 4 Channel Relay Module × 1 Male/Female Jumper Wires × 12 Software apps and..... Listed under: LED Projects, Other Projects

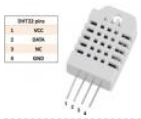
39. 
MKR1000 Servo Control Panel A servo controller using the built-in WiFi abilities of the Arduino MKR1k. The panel consists of a MKR1k web listener and Javascript/ajax. Things used in this project Hardware components Arduino MKR1000 Servos (Tower Pro MG996R) Breadboard (generic) Software apps and onl services Arduino IDE Story..... Listed under: Arduino Programmer Projects, Development Board – Kits Projects, Projects

40. 
Voting Machine featuring 4Duino-24 The 4Duino Polling Machine is an inquiry project that involves two or more people and has implemented the ability to se and receive data on both ends. The Polling Machine Project works by sending and receiving Questions and Answers (from the Choices) in the form..... Listed under: Security – Safety Projects

41. 
MKR1000 Universal Remonster! WiFi connected universal remote with smart phone webapp. Things used in this project Hardware components Arduino MKR1000 Arduino Nano R3 General Purpose Transistor NPN Triggers the PNP transistors of IR LED array Resistor 1k ohm pulls down NPN transistor IR transmitter (generic) IR LEDs. Get..... Listed under: LED Projects, Wifi - WLan Projects, Wireless Projects

42. 
Stock Monitoring featuring 4Duino-24 In this project, we will use several IR sensors to check if an item from an inventory box is present or not. This project makes use of a 4Duino-24 to check whether an item is present or missing from the inventory. The 4Duino uses its..... Listed under: Sensor – Transducer – Detector Projects

43. 
MKR1000 WiFi Robot This project consists of a small robot controlled via WiFi using an Arduino MKR1000, MKR2UNO Shield Adapter and Arduino Motor Shield Things used in this project Hardware components Arduino MKR1000 × 1 Arduino MKR2UNO Adapter × 1 Arduino MotorShield Rev3 × 1 Arduino Small DC..... Listed under: Battery Projects, Robotics – Automation Project Ideas

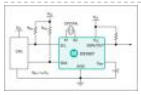
44. 
Temperature and Humidity monitoring with DHT22 sensor Arduino Uno R3 The objective of this tutorial is to learn how to use the DHT22 sensor with Arduino uno. The room temperature and humidity will be printed to serial monitor and also will be displayed to the LCD 4×20 in Proteus ISIS. [caption id="attachment_28379" align="aligncenter" width="300"] DHT22..... Listed under: Temperature Measurement Projects

45. 
Smart Phone Controlled Digital Code Lock using Arduino There are many types of security systems used all over the world and Digital Code Lock is one of the We have already covered many digital locks with simple 16x2 LCD using Arduino, Raspberry Pi, 8051 etc. Here we are going to build a Smart Phone..... Listed under: Security – Safety Projects

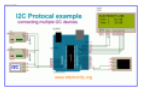
46. 
Create a Private Chat Room using Arduino, nRF24L01 and Processing Creating a Local Network to share personnel and confidential data's has become almost impossible for a common man in our modern world. This is mainly because all common chat methods like Whatsapp, Facebook, Hangout and almost everything involves an internet connection. What if, we could..... Listed under: Wireless Projects

47. 
Smart Phone Controlled FM Radio using Arduino and Processing In this project we will use an existing FM radio which went repair a long time ago, to convert into a Smart Wireless FM Radio controlled using Phone, with the help of Arduino and Processing. We can convert any manually operated electronic device into..... Listed under: Wireless Projects

48. 
Door Alarm using Arduino and Ultrasonic Sensor Security has always been a major concern for all of us and there are many Hi tech and IoT based security an surveillance system are available in the market. Intruder or Burglar Alarm is one of the classic and popular project among the Electronics students..... Listed under: Security – Safety Projects

49. 
Real Time Home Automation Using Arduino Uno R3 and DS1307 RTC (Part-1) Hello every one , welcome back . In this new arduino tutorial series I'm gonna show you how to control every thing in your home on time basis . After doing this project you will be able to control your home appiliences like TV ,..... Listed under: Home Automation Projects

50. 
0-24v 3A Variable Power Supply using LM338 Batteries are generally used to power up the Electronic Circuit and Projects, as they are easily available and can b connected easily. But they drained off quickly and then we need new batteries, also these batteries cannot provide high current to drive a powerful motor..... Listed under: Motor Projects

51. 
Connecting multiple I2C device on Arduino Uno R3 Hello every one ! welcome back ! It's nice to show you my new tutorial after long time .Today we will learn how to connect multiple I2C device (typically for demo temperature sensor) to the Arduino Uno .I recommend download datasheet of that I2C..... Listed unde Arduino Programmer Projects

52. 
DIY Speedometer using Arduino and Processing Android App In this project we make a Cool Speedometer for bikes or any automotives by using Arduino whic broadcast the speed using Bluetooth to an Android application that we created using Processing. The complete project is powered by an 18650 Lithium cell ar hence highly portable along with your vehicle..... Listed under: Bluetooth Projects

53. 
Virtual Reality using Arduino and Processing This is a very interesting project in which we are going to learn how to implement virtual reality using Arduino an Processing. For most of us, the movie Iron man by Jon Favreau has always been an inspiration to build new things that will make..... Listed under: Wireless Projects

54. 
Simple Arduino Audio Player and Amplifier with LM386 Adding sounds or music to our project will always make it looks cool and sounds much more attractive Especially if you are using an Arduino and you have lots of pins free, you can easily add sound effects to your project by just investing in..... Listed under: Sou – Audio Projects

55. 
How to Send Data to Web Server using Arduino and SIM900A GPRS/GSM Module Today we are here with an interesting project in which we will Send Data to t SparkFun server using Arduino and GPRS. This is an IoT based project in which we will use GPRS, present on the GSM Module SIM900A board, to send some data to..... Listed under: Wireless Projects

56. 
Smart Knock Detecting Door Lock using Arduino Security is a major concern in our day to day life, and digital locks have become an important part of these security systems. There are many types of security systems available to secure our place. Some examples are PIR based Security System, RFID based Security. Listed under: Security – Safety Projects

57. 
Fingerprint Based Biometric Voting Machine using Arduino We all are quite familiar with Electronic Voting Machines, where your vote gets registered electronically and you don't need to use ballot paper to vote in election. Today security is a major concern and it also needs to be ensured that someone can't vote twice,..... Listed under: Sensor – Transducer – Detector Projects

58. 
Arduino based Angry Bird Game Controller using Flex Sensor and Potentiometer It's all started with a small game from the dark ages called "Mario", right from the time of being a tiny little guy jumping on ducks to save my princess till being a masculine handsome Prince roaming in Persia (Prince of Persia) fighting against darkness..... Listed under: Game – Entertainment Project Ideas, Game – Entertainment Projects

59. 
Arduino Motion Detector using PIR Sensor Detecting motions or movements has always been important in most projects. With the help of the PIR Sensor it ha become very easy to detect human/animal movements. In this project we will learn how we can interface a PIR Sensor with a microcontroller like Arduino..... Listed under: Sensor – Transducer – Detector Projects

60. 
DC-DC Buck Converter Circuit – How to Step Down DC Voltage In this project we are going to make a Buck Converter Circuit using Arduino and N-Channel MOSFET with a maximum current capacity of 6 amps. We are going to step down 12v DC to any value between 0 and 10v DC. We can control the..... Listed under: Motor Projects

61. 
Arduino Based Digital Ammeter Ammeter is used to measure current flow through any load or device. Here in this Arduino Ammeter, we will explain about measuring of current by using ohm's law. It will be quite interesting as well as a good application of basic science that we studied..... Listed under: Sensor – Transducer – Detector Projects

62. 
Arduino DC Motor Speed and Direction Control using Relays and MOSFET In this project we control direction and speed of a 24v high current motor using Arduino and two relays. No power switches are needed for this circuit, just two push buttons and in Potentiometer to control the direction and speed of DC Motor. One push button..... Listed under: Motor Projects

63. 
Automatic AC Temperature Controller using Arduino, DHT11 and IR Blaster An AC (Air Conditioner) which was once considered to be a luxury item and was on to be found in big hotels, movie halls, restaurants etc... But, now almost everyone has a AC in our home to beat out the summer/winter and those who have... Listed under: Temperature Measurement Projects

64. 
Interfacing Hall Effect Sensor with Arduino Sensors have always been a vital component in any Project. These are the ones which convert the real real-time environmental data into digital/variable data so that it can be processed by electronics. There are many different types of sensors available in the market and you..... Listed under: Sensor – Transducer – Detector Projects

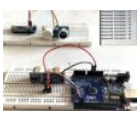
65. 
Cell Phone Controlled AC using Arduino and Bluetooth In today's modern world, where ever we go we have lots of electronic devices around us. But, out of all there is only one device that we personally have in our pockets all the time. Yes, it is our mobile phones. Now Mobile phones have..... Listed under: Phone Projects

66. 
AnduinoWiFi Getting Started Consider this the "Blinky LED" of the anduinoWiFi shield! Things used in this project Hardware components Andium Anduino WiF 1 Arduino Due × 1 Arduino Zero & Genuino Zero × 1 Software apps and online services Arduino IDE Story Motivation Implementing an IoT prototype..... Listed under: Projects, Wifi - WLan Projects

67. 

Connecting Anduino to IFTTT Connect your anduinoWiFi to IFTTT. Control everything around you, or 'let go' and let random events in cyberspace control your Things used in this project Hardware components Arduino Due × 1 Arduino Zero & Genuino Zero × 1 Andium Anduino WiFi × 1..... Listed under: How To – DIY Projects, Wifi - WLan Projects

68. 
how to measure home ac current 110v / 200v with arduino The cool thing about an ACS712 is that current is measured is measured in two directions. What tl means is that if we sample fast enough and long enough, we sure to find the peak in one direction and the peak in another direction. With..... Listed under: Metering – Instrument Projects

69. 
How To Measure Distance Between Two Ultrasonic Sensors Ultrasonic sensor (HC-SR04) is commonly used to find the distance of an object from one particula point. It has been fairly easy to do this with the Arduino and the code is also pretty simple. But in this article we are going to try something..... Listed under: Calculator Projects, Metering – Instrument Projects

70. 
Arduino Based Fire Fighting Robot According to National Crime Records Bureau (NCRB), it is estimated that more than 1.2 lakh deaths have been caused because of fire accidents in India from 2010-2014. Even though there are a lot of precautions taken for Fire accidents, these natural/man-made disasters do occur now and..... Listed under: Robotics – Automation Projects

71. 
Temperature Controlled AC Home Appliances using Arduino and Thermistor Suppose you are sitting in a room and feeling cold and you want your heater to b automatically turned on, and then off after some time when room temperature is increased, then this project help you to control your home appliances automatically according to the..... Listed under: Battery Projects, LCD Projects

72. 
Arduino Relay Control Tutorial LED Blinking is a very common and almost first program for every embedded learner or beginner. In which we blink an LED wit having some delay. So today we are here with the same project but here we will use an AC bulb instead of..... Listed under: Arduino Programmer Projects, Featured, LED Projects

73. 
Measure Sound/Noise Level in dB with Microphone and Arduino Noise pollution has really started to gain importance due to high population density. A norm human ear could hear sound levels from 0dB to 140dB in which sound levels from 120dB to 140dB are considered to be noise. Loudness or sound levels are commonly measured..... Listed under: Arduino Programmer Projects, Phone Projects

74. 
Arduino Metal Detector Metal Detector is a security device which is used for detecting metals which can be harmful, at various places like Airports, shopping malls, cinemas etc. Previously we have made a very simple Metal detector without a microcontroller, now we are building the Metal Detector using..... Listed under: Arduino Programmer Projects, Battery Projects

75. 
Smart Blind Stick using Arduino Ever heard of Hugh Herr? He is a famous American rock climber who has shattered the limitations of his disabilities; he is a strong believer that technology could help disabled persons to live a normal life. In one of his TED talk Herr said “Humans..... Listed under: Arduino Programmer Projects, LCD Projects

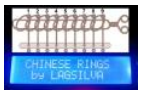
76. 
Arduino Calculator using 4×4 Keypad Programming is always fun and Arduino is a wonderful platform if you are just getting started with Embedded programming. In this tutorial we will build our own calculator with Arduino. The values can be sent in through a keypad (4×4 keypad) and result can be..... List under: Battery Projects, Blog, Calculator Projects, LCD Projects

77. 
Measuring PPM from MQ Gas Sensors using Arduino (MQ-137 Ammonia) Right from the time of industrial age, we mankind have been rapidly developing. Wit every progress we also pollute our environment and eventually degrading it. Now global warming is an alarming threat and even the air that we breathe are getting critical. So air quality..... Listed under: Other Projects

78. 
Temperature and Humidity Data Logger using Arduino In this project, we are going to make a temperature and relative humidity data logger. Arduino is the brain of this project. DHT22 sensor is used for sensing temperature and relative humidity. Arduino Uno is programmed to read temperature, humidity values from DHT22 sensor and..... Listed under: Calculator Projects

79. 
Digital Thermometer using Arduino and DS18B20 Sensor In this project, we are going to make a Digital Thermometer using Arduino Uno. We will use DS18B2 temperature sensor to sense the temperature and Nokia 5110 LCD to display it. DS18B20 is a 1-Wire digital temperature sensor manufactured by Maxim Integrated and is capable..... Listed under: Calculator Projects, LCD Projects

80. 
Laura: Emotional Compass Lamp Story Laura Laura is a "counseling" lamp who is helping me to find myself and to understand where I want to go. For her gre help, I wanted to give her a present that represents the work we are doing. The inspiration came from the..... Listed under: Home Automation Projects

81. 

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

82. 
ATtiny85 EMF Detector Story This is a simple tutorial to create an EMF detector. You can use Arduino for this job, but is better use a microcontroller called Attiny85. It is possible program it throe the Arduino interface. What is a Magnetic Field [from Wikipedia] An electromagnetic field..... Listed under: Sensor – Transducer – Detector Projects

83. 
IoT Pet Feeder: Use circuito.io to build a smart food dispenser for your pet Story This IoT pet feeder is our first IoT project with circuito.io! We are happy to sh it with our community to demonstrate how simple it can be to make basic IoT projects with circuito.io. We are also excited to share this project with you..... Listed under: Home Automation Projects

84. 
Make your own gesture-controlled Wizard’s Walking Staff Story This project uses the Arduino 101, a battery and an LED strip to make a gesture-controlled Wizard's Walking Staff. We'll define three different light-display "spells" you can summon by moving the staff in one of three gestures. Tech: The code uses the Inertial Measurement..... Listed under: Other Projects

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

86. 
Starry Night Prom: How did I stand out at prom? In a light up dress of course! About So for my Junior prom, I really wanted a dress I had seen online that was blue with a sequin ombre, but it was out of my price range, and way too voluminous. My mom and I had made my Homecoming dress the year..... Listed und Other Projects

87. 

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

88. 
Plant Monitoring System using AWS IoT Story Picture this you are going on a vacation for a week or so and are worried about your house plant at home.Here a great project to under take a week before you head out for your vacation. Build yourself a plant monitoring and notification system..... Listed under: Home Automation Projects

89. 
LedMatrix Tweet Visualization Story Description Display tweets with a certain hashtag on a led-matrix using an Arduino/Genuino Yùn or Yùn-Shield. We will us a Python script to log into twitter and check for updates. Configuring the Yun101/YunShield In order to connect your board to internet you first have..... Listed under: Other Projects

90. 
Purdue ExoMIND Glove Description The ExoMind Glove is a wearable device equipped with 7 accelerometers that are used to quantify forearm, wrist, and fing angles. Additionally, an EMG with conductive fabric electrodes is secured into the sleeve of the device to monitor muscle activity. The glove houses an..... Liste under: Medical – Health based Projects

91. 
Integrating Wiscore Alexa EVK and Arduino via Serial Port Story Wiscore: Integrating Arduino with Alexa As part of the series of tutorials for the Wiscore Alexa AVS EVK, we will see how to integrate Arduino boards (Uno, Leonardo, Due etc) directly with Alexa Voice Service. The Wiscore board provides the means to communicate with..... Listed under: Other Projects

92. 
Arduino101 / tinyTILE BLE: Match-Making Sunglasses Story Instead of using an app, what if you could send a signal to eye-contact someone you are interested in talking to, in a social setting, even from afar? I'm not proposing a different way to start a date. I'm exploring a new usage of..... Listed under: Game – Entertainment Projects

93. 
Paint Your Dimmer Switch on the Wall Motivation What to do you do when you have some Bare Conductive paint and some Philips Hue lightbulbs laying around? You paint a dimmer switch on your wall using conductive paint! Getting Started Some things you'll need to get started: Arduino Due (or Zero) AnduinoWiFi..... Listed under: Home Automation Projects

94. Using Nokia 3310 84×48 LCD with Arduino Story The Nokia 5110 is a basic graphic LCD screen for lots of applications. It was originally intended to be used as a cell phone scre This one is mounted on an easy to solder PCB. It uses the PCD8544 controller, which is the same..... Listed under: Phone Projects

95. 
Fidget Spinner RPM Counter Hi everyone! This is my next project, Fidget Spinner RPM Counter or Arduino Tachometer with Hall-Effect Sensor. 1: Requirement Parts Required: Fidget Spinner neodyimium magnet Arduino Uno LED + resistor 220 Ohm Hall-Effect Sensor - a3144 resistor 10 k Wires Breadboard LCD 1602 Hall-Effect..... Listed under: Sensor – Transducer – Detector Projects

96. 
An Urban Plant Watering Solution This device improves plant irrigation in urban environments. Powered by an Arduino 101, it uses on-board tools along with few external sensors to calculate optimum conditions for watering plants in its own environment, and then waters the plant itself at the calculated time. It..... Listed under: Home Automation Projects

97. 
Cycflix: Exercise Powered Entertainment Now that the cheesy title has pulled you (Fitflix was taken and I didn't want to be sued) I'll tell you about the project, i uses a stationary exercise bike connected to an Arduino Nano to control the streaming of Netflix on a PC, I..... Listed under: Game – Entertainment Projects

⬆

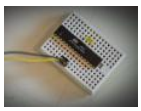
98. Controlling Robot Over Bluetooth Using Xbox Steering Wheel So I'm guessing that I'm like a large amount of people on this site that are low key hoarders, keeping anything the could turn into a project or salvage for parts and this is an example of that. I have this old Mad Catz Steering..... Listed under: Robotics – Automation Projects

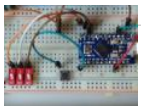
99. 

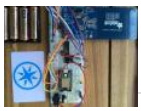
Can I Use an Arduino Uno for This? So back when I first started working with micro controllers, Arduinos mainly the most annoying this ever was when i would follow someones tutorial for a project and they would use the Arduino uno, I would be using the Arduino micro or something, i would..... Listed under: Other Projects

100. 
Distance Measurement Vehicle via Websocket Story When you measure distance between two point general way is to use a ruler. But you can use a lot of oth ways: by laser, map, foot or walking meter. The walking meter is very useful when you are measuring curved (not straight) distance..... Listed under: Meterin Instrument Projects

101. 
Reducing Arduino Power Consumption Story When it comes to portable electronics, one of the most important features is how to maximize the battery life. T ATmega328P, used on popular boards like the SparkFun RedBoard, Arduino Uno, and Pro Mini are actually quite power hungry. The RedBoard and Arduino Uno,..... Listed under: Other Projects

102. 
Arduino on Internal Oscillator Crystal as Clock Source Story I have been working out ways to make a minimal Arduino to fit in the smallest space possible, and limit the power consumption of the microcontroller. (You can go through this project for more info about reducing power consumption at: Reducing Arduino Power Consumption)..... Listed under: Clock – Timer Projects

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


104. 
Darby's not dead Story In the future there is a bar where all the dead punk rockers hang out. They are each given a MiFare classic card programmed with thei name and 666 credits. This is the device the bartender uses to keep track of their tab. This..... Listed under: Internet – Ethernet – LAN Projects

105. 
2 Players Competition/Quiz Buzzer Box System Using Arduino Story A bit of background. My brother came to me with an odd box that a friend of his asked someone to make so that they can determine the fastest contestant to push a button. The box consisted of some LEDs, two buttons, and two..... Listed under LED Projects

106. 
Congnitive GSM Autonomous Water Meter Story Imagine you could administer remotely your water utility service in real time, turning on or off your water services according to your usage patterns or needs, and not just letting the water flow in all the time, you could prevent taps for leaking a..... Listed under: Metering – Instrument Projects

107. 
Back-Saver: Backpack-carrying follower robot powered by Wunderbar Hardware components: SparkFun RedBoard × 1 DC Stepper Motor 28-BY-J-48 × 1 MB 10 LV-Max-Sonar EZ1 × 1 WunderBar × 1 Story A Sparkfun Red-Board utilizes a LV-Max Sonar component to judge distances between the user and the robot, powering the DC stepper motor to..... Listed under: Robotics – Automation Projects

108. 
How to use the TFT display 2.2" QVGA with Arduino Story The main purpose of this project is to build a system based on chip ATMEGA328P, Arduino compatib and interface it with a 2.2" QVGA TFT display using the library ILI9341. As an alternative to the self-build system you can use an Arduino Pro 3.3..... Listed und Other Projects

109. 
Easy Serial on the ATtiny Introduction The Atmel tinyAVR MCU's are great little chips for projects but can prove difficult to debug. Some ATtiny chips do not hav direct support for hardware based serial and therefore the Serial object is unavailable in your code, however, it is easy to add..... Listed under: Other Projects

110. 
CyDuino : An Arduino Dev Board with Lots of Goodies Story We (most of us) really like Arduino because it's possible to make cheap clones, lots of libraries, examples, forum support and community out there. Outside Arduino world, I like Cypress PSoC for some of its cool features like Graphical IDE, APIs, great features and..... Listed under: Sensor – Transducer – Detector Projects

111. 
Trinket Firmware Exorcism Story Warning: Digispark uses Attiny85 PIN#1 as I/O - remove RESET button functionality Notes FOR ADVANCED USERS ONLY The Trinket 5V and the Digispark share the same hardware design, right down to the LED being on PB1. Personally, I prefer the Trinket hardware over the Digispark,..... Listed under: Other Projects

112. 
A Semaphore for your Office Desk Story This is a small semaphore you can put on your desk. You can use it to tell whatever you want to the people around it. For example, because you need some concentration and you'd like your colleagues not to disturb you. Or to tell..... Listed under: Other Projects

113. 
Chachka (Trinket clone) Chachka is born! Chachka is an Adafruit Trinket CLONE built from the ATtiny85 microcontroller. Because it is a current Adafruit produ it has a training guide and its own support forum and lots of sample code. All of this means that like an Uno clone, the..... Listed under: LED Projects

114. 
Waterproof 10 Minute Timer Story I went for a shower one day, was getting late for office. Running tight on time, but I didn't want to come out of hot shower cold morning. Without any clock in my bathroom I was saying to myself "Lets enjoy the shower..... Listed under: Clock – Timer Projects

115. 
Build the Internet for your friend Background A few years ago, a co-worker turned me on to this TV program called "The IT Crowd". The show revolves around two-person IT team and their "Relationship Manager", Jen, who inadvertently landed the job by including some basic PC skills on her resume..... Listed under Internet – Ethernet – LAN Projects

116. 
Arduino : Lead Acid Battery Capacity Tester (Updated) Story Yosh ! At last, finished working on this project. I have been working on this project for a while, the got bored and left the remaining work (mostly firmware) for a couple of months, ah ! the longest project I ever did..... Listed under: LED Projects

117. 
ATTiny Joule Thief NeoPixel Introduction I've been fascinated with joule thief circuits since I made my first one. It's amazing what all you can power from a sin AA or AAA battery. The only problem is you can't do much beyond light up an LED because the current isn't..... Listed under: LED Projects

118. 
PicoDuino = Digispak + RGB LED + Button + Relay Driver Hardware components: Atmel ATTiny85 × 1 DigiSpark × 1 Software apps and online services: Arduino IDE STORY StartFragment How to get FREE board Order 1pc Picoduino board Create project max. 30 days from order Write project steps on instructables ... Include link to my..... Listed under: Development Board – Kits Projects

119. 
IR Thermometer, Stopwatch, Cooking Timer, Inactivity Tracker Hardware components: Arduino UNO & Genuino UNO × 1 Adafruit MLX90614 × 1 Atmel AVR for Arduino 328P/168P/8A × 1 SparkFun 7-Segment Serial Display - Red 3 digit display used × 1 Breadboard (generic) 8x2 cm × 2 16 MHz Crystal × 1 Slide Switch... Listed under: Metering – Instrument Projects, Temperature Measurement Project Ideas

120. 
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 Texa Instruments..... Listed under: Development Board – Kits Projects

121. 
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: Ardui IDE STORY Winter..... Listed under: Temperature Measurement Projects

122. 
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

123. 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

124. 
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 ma 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

125. 
Easily run your ATtiny at 16MHz, without an external clock, from the Arduino IDE Hardware components: Atmel ATTiny85 × 1 SparkFun Tiny AVR Programmer Software apps and online services: Arduino IDE STORY Introduction The Atmel tinyAVR MCU's (ATtiny) are a series of chips optimized for applications requirir performance and/or power efficiency in a small package. These have internal..... Listed under: Arduino Programmer Projects, Clock – Timer Project Ideas

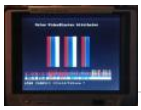
126. 
ATtiny85 for Simple Projects: Arduino Basics Bare bones: The ATtiny85 on its Own The ATtiny is a small, inexpensive chip that can replace the Arduino in a project you have prototyped. This helps make the project smaller and more permanent, as well as freeing up the Arduino for more fun! The..... Listed under: LED Projects

127. 
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

128. 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 wit 

arduino uno and with motor. However it is best to have a small and portable device that..... Listed under: LED Projects

129. 
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 boa 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 – Etherne LAN Projects

130. 
AVR VideoBlaster More VideoBlasting So why didn't the TVout library reach any higher resolution than 160x100? 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 Project

131. 
POV Cylinder with Arduino Due Introduction This is my first Arduino project. My work was inspired by several maker projects that created Persistence of Visior 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

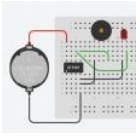
132. 
Programming the ATtiny85 (Using an Arduino Uno) Today, we are going to build a circuit to program an ATtiny85 with our Arduino. Supplies We are going to need the following: Some jumper wires 1 x 10 micro farad capacitor The ATtiny85 Chip A breadboard An Arduino For Extra visual's (that are not..... Listed und Arduino Programmer Projects

133. 
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 bei 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

134. 
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

135. 
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

136. 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



137. 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

138. 
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

139. 
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. 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

140. 
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

141. 
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 o 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

142. 
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

143. 
Are we getting close? Proximity Sensors + Arduino In past tutorials, we have covered temperature, color, time, direction, but never distance or proximity. I thin 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

144. 
Arduino: Individually Control Shift Register Pins If you want an article on general 74hc595 shift register usage with detailed explanition on how it works/what i 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

145. 
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

146. 
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 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

147. 
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

148. 
Sensing Barometric Pressure | BMP085 + Arduino Light, location, temperature... What’s next? Well, how about Barometric pressure? You know.. that thing tha 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

149. 
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

150. 
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

151. 
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

152. 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 th post is to explain how to fade a LED with the ESP32, using the LED PWM functionalities of the..... Listed under: LED Projects

153.  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 assembl 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 – K Projects

154.  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

155.  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

156.  High Sensitivity Light Sensor TSL230R + Arduino A while back we covered the TEMT6000, a great little analog sensor for getting ambient light readings when y 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..... Liste under: Sensor – Transducer – Detector Projects

157.  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 resistanc 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

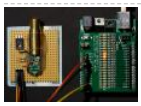
158.  Touch Sliders With A Softpot + Arduino You all know the potentiometer, you turn it, and you can read on your arduino where it was turned to. Well 3M makes product called the softpot that is a linear touch potentiometer. So instead of turning a knob, you touch it. The really..... Listed under: Sensor – Transducer – Detector Projects

159.  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 san 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

160.  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 c 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

161.  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. In 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

162.  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

163.  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 hobbies 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

164.  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

165.  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

166.  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

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

⬆

168. 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

169. 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 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

170. 
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

171. 
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

172. 
Sensing Humidity With The SHT15 + Arduino The SHT15 is a digital humidity sensor that outputs a fully calibrated humidity reading. And... because what we a 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

173. 
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..... List under: Sensor – Transducer – Detector Projects

174. 
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 simp 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

175. 
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 coole 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..... List under: Sensor – Transducer – Detector Projects

176. 
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

177. 
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 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

178. 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 Project

179. 
Displaying on Paper – Thermal Printer + Arduino The following code and library are compatible with arduino software 1.0+ ONLY. You can download the newe 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

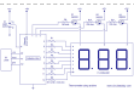
180. 

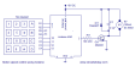
Long Distance Remote Light Sensor With RFM95W/RFM98W LoRa There are many wireless communication options when connecting Arduino boards. One of t most popular ones is the Wi-Fi. It works well at small distances, and around Wi-Fi hotspots, however when the modules need to connect over long distance at areas where Internet is not..... Listed under: Sensor – Transducer – Detector Projects

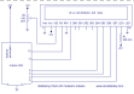
181. Arduino Nano: Flame Sensor With Visuino Recently somebody asked for tutorial on Infrared Flame Sensor. It took a while due to severe work overload, but finally I succeeded to make it. The Infrared flame sensors use infrared light to detect flame. While experimenting with my one I discovered that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

182.  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

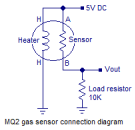
183.  Ultrasonic range finder using arduino Ultrasonic range finder using 8051 mictrocontroller has been already published by me in this website. This time it is an ultrasonic range finder using arduino. HC-SR04 ultrasonic range finder module is used as the sensor here. The display consists of a three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

184.  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 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

185.  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: Mot Projects

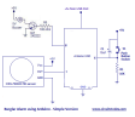
186.  Interfacing LCD to Arduino – Display Text and Characters on LCD Screen using Arduino A Liquid Crystal Display commonly abbreviated as LCD is basically a display unit built using Liquid Crystal technology. When we build real life/real world electronics based projects, we need a medium/device to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

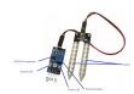
187. LPG sensor using arduino LPG sensor using arduino with alarm and cutoff. A simple LPG sensor using arduino is shown in this article. This circuit indicates the amount of LPG the air. The circuit sounds an alarm and trips a relay when the concentration is above a predetermined..... Listed under: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

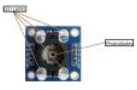


MQ2 gas sensor connection diagram

188.  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 conta certain unique data..... Listed under: Other Projects

189.  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

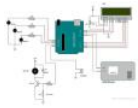
190.  Arduino and Soil Moisture Sensor In this article, we are going to interface a Soil moisture sensor FC-28 with Arduino. This sensor measures the volumetric content of water inside the soil and gives us the moisture level as output. The sensor is equipped with both analog and digital output, so.....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

191.  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 Ardu 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

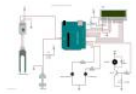
192.  Pulse Sensor and Arduino – Interfacing In this article, we are going to interface a Pulse Sensor with Arduino. The pulse sensor we are going to use is a plug an play heart rate sensor. This sensor is quite easy to use and operate. Place your finger on top of the sensor..... Listed under: Sensor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

193.  Interfacing Accelerometer to Arduino In this article, we are going to interface the GY-521 accelerometer with Arduino. The GY-521 has an InvenSense MPU605 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

194. 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 devic can..... Listed under: Home Automation Projects



195. 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 unde Robotics – Automation Projects

196.  Arduino Irrigation and Plant Watering using Soil Moisture Sensor This project is about a moisture-sensing automatic plant watering system using Arduino UN(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

197.  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

198.  Arduino based voting system Voting systems are one of the finest examples of Embedded devices and applications. The complexity and robustness of a votin 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

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

200.  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 th 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

201.  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

202.  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

203.  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 Desigr 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

204.  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

205.  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 yo 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

206.  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

207. 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 case..... Listed under: Other Projects

208. 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

209. 

Garduino – Automatic plant watering system During summers, most people are too lazy to water the potted plants every day and plants will eventually wither 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

210. 
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 pla 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

211. 
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

212. 
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. INPU PERIFERALS:..... Listed under: Other Projects

213. 
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: Oth Projects

214. 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 for real. Voice powered products are already taking over the market and this voice controlled home project will enable..... Listed under: Home Automation Projects

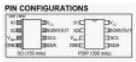
215. 
IQ Alarm clock using Arduino for heavy sleepers Raising from bed can be the most painful thing you could ever do. We often set alarms to wake up but ends u in snoozing it out or even kick the alarms away. To address this we have come up with an Arduino project "..... Listed under: Clock – Timer Projects

216. 
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

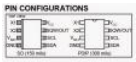
217. 
How to use position wheels with your Arduino Hello everyone, em here today with an interesting tutorial on using position wheels using your favorite Arduinc The whole idea behind this article is to explain the logic behind position wheels, the way it works and how to implement it in your project. If you prefer..... List under: Other Projects

218. 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

219. 
How to Make Arduino Based Collision Detection Warning System This is arduino based collision detection warning system. This kind of system is fastest growi 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

220. 

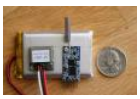
Interfacing Arduino with DS1307 real time clock This topic shows how to interface Arduino with DS1307 real time clock to make a clock and calender. To understand the project and code easily you have to read the datasheet of the DS1307. DS1307 Pin assignment: The picture is taken from ds1307 datasheet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

221. 

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 th 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

222. 
Arduino 4-Digit 7-Segment LED Display 7 Segment LED displays are used in many applications as front panel number indicators. The most common applicatio 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

223. 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

224. 
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

225. 
Flash Freeze Photography with an Arduino Freeze moments in time to easily produce extraordinary close-up pictures with your digital camera, an Arduino, an these simple circuits. I have always been impressed by high-speed photography. The photographic capture of what normally goes unseen, or at least unnotice is intriguing and oftentimes beautiful..... Listed under: Game – Entertainment Projects

226. 
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

227. 
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

228. 
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

229. 
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 ambie light sensor and an LCD. Previously, we presented a general overview of the Quark D2000 development board. Subsequently, we explored the use of the boar GPIO and PWM. In this..... Listed under: Sensor – Transducer – Detector Projects

230. 
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! Yo 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..... Liste under: Other Projects

231. 
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 t proper exposure for a photograph. Today..... Listed under: Sensor – Transducer – Detector Projects

232. 
MCP9802 temperature sensor and Arduino MCP9802 is a digital temperature sensor from Microchip that measures temperatures between -55°C and +125°C 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

233. 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 bu

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

234. 
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 st hugely popular..... Listed under: LCD Projects

235. 
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

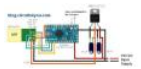
236. 
Arduino measures heart beat rate from fingertip The PIC16F628A based heart rate meter is one of the most popular projects published on Embedded Lab. In this article, I am going to show how to replicate the same project using a simpler platform like Arduino. The Arduino heart rate meter will use Arduino..... Liste under: Medical – Health based Projects

237. 
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

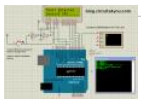
238. 
Arduino Crowtail and Easy Pulse Plugin Arduino Crowtail is a modular and ready-to-use building block set from Elecrow for rapid prototyping with Arduino. It consists of a base Arduino Uno shield to which various sensor and I/O modules can be conveniently interfaced through standardized connectors. In this example, I am going to illustrate..... Listed under: Other Projects

239. 
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

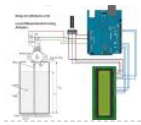
240. 
Serial seven segment LED display shield Seven segment LED displays are brighter, more attractive, and provide a far viewing distance as well as a wider viewir angle compared to LCD displays. This project describes a serial seven segment LED display shield for Arduino Uno or compatible boards. The shield consists of..... Listed under: LED Projects

241. 
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 cos saving than using Xbee,..... Listed under: Other Projects

242. 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 th 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



243. 
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 c 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

244. 
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

245. 

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 a 16x2 LCD, you can usually identify this display by the 16-pin interface. You only need to solder 10 of..... Listed under: LCD Projects

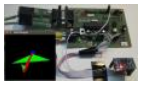
246. 
How to Make Your Own Arduino Clone Board Want to save money by making your own Arduino clone boards? Or want to make a custom board specifically fo your needs, then this project is for you! Make Arduino board from cheap electronic components available at your local store. Just follow these simple step..... Listed under: Other Projects

247. 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

248. 

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 v show you how to make your home..... Listed under: Home Automation Projects

249. 
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 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

250. 
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) sensor 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

251. 
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 r 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

252. 

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 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

253. 
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

254. 
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 y 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

255. 

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 connectio 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

256. 

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 t 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

257. 

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 extr 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

258. 

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 projec 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

259. 
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. Th 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

260. 

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 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

261. 

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

262. 

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!..... List under: Other Projects

263. 

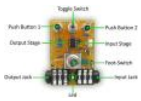
Audio Amplifier Circuit on PCB Using LM386 In this project, we tend to area unit getting to create a Headphone/Audio electronic equipment by exploitation se designed PCB. This project is especially designed for amplifying the audio signal from the headphones however we will additionally use it for amplifying the subwoofer or speaker output,..... Listed under: Sound – Audio Projects

264. 

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 le indicators..... Listed under: Other Projects

265. 

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, s 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 throug an obstacle sensor..... Listed under: Other Projects

266. 

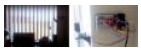
How to Make a Programmable Guitar Pedal With Arduino! This DIY Guitar Pedal project is for guitarists, hackers, and programmers that want to learn about digital signal processing, effects, synthesizers, and experiment without deep knowledge of DSP, electronics, or hardcore programming. pedalSHIELD UNO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

267. 

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

268. 

DIY Arduino Tutorial: How to Automate a Lamp for Ceremonial Inaugurations "Knowledge removes ignorance, just as light removes darkness", as it is wisely sa 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

269. 

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

270. 

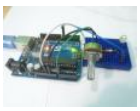
Arduino Servo Catapult: DIY Catapult using Arduino Use an Arduino and a servo to shoot food to your cat! (Also works with other animals). Check out the vide below to see how this Arduino Servo Catapult works. While maybe not the most practical application, this project will teach you the basics of servo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

271. 

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..... List under: Sensor – Transducer – Detector Projects

272. 
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

273. 
LazyMax 1000: Arduino Phototransistor and Haptics Project The idea for this Arduino phototransistor project came to me based on an idea that was shared b 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

274. 
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

275. 
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

276. 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

277. 
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

278. 
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

279. 
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

280. 
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

281. 
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 temperatur 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

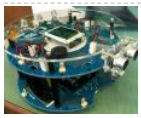
282. 
Arduino Weather Station Web Server In this tutorial we are going to make a weather station that will tell us temperature, humidity and heat index of a particu location. It will show these values in a web browser. You can monitor these data by entering the IP address in a mobile, computer or..... Listed under: Sensor Transducer – Detector Projects

283. 
Temperature Controlled Fan using Arduino Here we are going to make a temperature controlled DC fan. DHT22 sensor is used to sense the room temperatur 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

284. 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

285. 
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..... Liste under: Other Projects

286. 
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 deta 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

287. 
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. 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

288. 
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

289. 
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 b Flowcode user John Crow. Flowcode can be downloaded..... Listed under: Other Projects

290. 
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..... Liste under: Other Projects

291. 
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 unde Other Projects

292. 

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 swa in the pool, trying to mimic a perfect dolphin kick and imagining you were a mermaid rather than..... Listed under: Other Projects

293. 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 visualizat with coffee left in can, water in machine, time left until machine is finished, estimated time..... Listed under: CNC Machines Projects

294. 
Wireless Motor Speed Control System with Arduino ICStation team introduce you the NRF24L01 Wireless Motor Speed Control System.This system works und 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

295. 
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

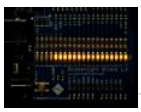
296. Chatty Coasters Chatty Coasters are interactive coasters that listen for silences and insert provocative conversation starters into them. Chatty Coasters are interactive drink holders that listen for silences in conversation and insert provocative questions into them. In order to encourage healthy,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

297. 
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. Fo 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 unde LED Projects

298. 
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 ca and even control them remotely. Basically, you have to leave a mobile phone in your car and when the..... Listed under: Car Projects

299. 
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

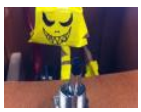
300. 
DIY Temperature & Humidity & Smoke Detector Alarm System The working voltage of this system is DC5V. It can measure the current temperature, humidity and smoke. It can display real-time data by the 1602 LCD and can realize the sound and light alarm when in the dangerous temperature and humidity. It is a simply..... Listed under: How To – DIY – Projects

301. 
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 you line of thinking / what you will allow as an answer. So here is my..... Listed under: Clock – Timer Projects

302. 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

303. 
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

304. 
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 familia 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: Oth Projects

305. 
Useless Box Story Fascinated by this humorous anthropomorphic idea on instructables that left me philosophizing deeply about the essence of art, I decided 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

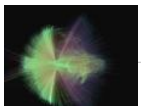
306. 

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

307. 
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

308. 
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

309. 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 screen. Paper Piano Arduino Code Step by step - Paper Instrument Development Software needed Processing: https://processing.org/ Capacitive Arduino..... Listed under: Oth

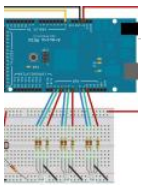


Projects

310. 

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

311. 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



312. 

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 und Security – Safety Projects

313. 

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 aroun and..... Listed under: Other Projects

314. 

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 i 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

315. 

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

316. 

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

317. 

Arduino Weight Measurement using Load Cell and HX711 Module Today we are going to Measure the Weight by interfacing Load Cell and HX711 Weight Sens 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 w are building..... Listed under: Metering – Instrument Projects

318. 

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

319. 

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 preve any mishappening there are various products to detect the leakage. Here we have developed an Arduino based LPG gas detector alarm. If gas..... Listed unde Other Projects

320. 

Live Temperature and Humidity Monitoring over Internet using Arduino and ThingSpeak Humidity and Temperature are very common parameters for measur 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

321. 

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

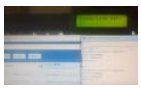
322. 

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

323. 
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

324. 
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

325. 
How to Send Data from Arduino to Webpage using WiFi Wireless communication between Electronic devices and modules is very important, to make them 'Fi 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 hav already covered..... Listed under: Other Projects

326. 
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 r 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 th article,..... Listed under: Other Projects

327. 
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

328. 
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

329. 
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

330. 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 10 One of most important characteristics of this board, I think, is the BLE connection. Then I want..... Listed under: Sensor – Transducer – Detector Projects

331. 
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

332. 
Control Door Lock Remotely Using Smartphone Introduction Hi, friends. I came to this idea of controlling a door latch/lock remotely using a smartphone wher 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

333. 
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

334. 
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 th 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

335. 
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: Cloc Timer Projects

336. 
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

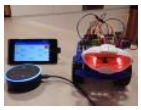
337. 
Grill & Deck-Door Monitor Story We use our barbecue grill and our deck frequently. After once leaving the grill on all night, I wanted an easy way to check to make sure the grill is off before going to bed. This is especially important since our grill is tapped..... Listed under: Other Projects

338. 
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 expos 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

339. 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

340. 
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 sh 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

341. 
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 unde Other Projects

342. 
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

343. 
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

344. 
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

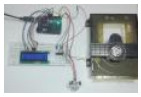
345. 
Arduino-Powered Water Bottle Introduction: Drinking enough water is very important for our health. Drinking more water can lead to clearer skin, better over health, improved productivity and brain function, increased energy levels, and even weight loss. In our busy lives, it is really hard to remember to drink..... List under: Other Projects

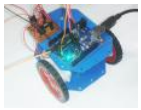
346. 
Complete Digital Clock including Alarm and Motion Sensor I have done several designs of digital clocks for Arduino using LEDs and LCD displays, but this one more special because I added other features like alarm and motion sensor (PIR). Main features PIR (Presence Infrared Sensor) RTC (real-time clock) Alarm Temperature Humidity Water..... Listed under: Clock – Timer Projects

347. 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

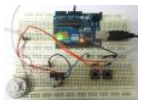
348. 
Alarm Clock Story After designing the "Clock Set Date Time" and hearing the suggestion of ArduPic , I thought it would be a good idea and also useful, add a "wake-up alarm." A small change to the code and adding a few components: Here's "the Alarm Clock"..... Listed under: Clock – Timer Projects

349. 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 b which contains 6 different numbers on all of its sides. We throw dice on a surface to get..... Listed under: Other Projects

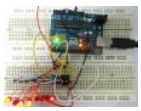
350. 
Automatic Door Opener using Arduino You must have seen automatic door openers in shopping malls and other commercial buildings. They open the door when someone comes near the entrance and close it after sometime. A number of technologies are available to make such kinds of systems like PIR sensors, Radar sensors, Laser..... Listed under: Other Projects

351. 
Computer Controlled Robot using Arduino After designing this line follower robot using arduino uno, I have developed this computer controlled robot. It can b 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

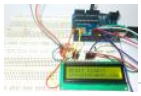
352. 
DTMF Controlled Robot using Arduino In present time almost all the people are familiar with robots. Robots play a very important role in human life. Robots a a machine which reduces the human efforts in heavy works in industries, building etc. and makes life easy. We are here with our next robot..... Listed under: Robotics – Automation Projects

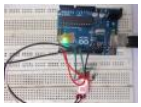
353. 
DC Motor Control using Arduino Here we are going to interface a DC motor to Arduino UNO and its speed is controlled. This is done by PWM (Pulse Width Modulation). This feature is enabled in UNO to get variable voltage over constant voltage. The method of PWM is explained here;..... Listed under: Motor Projects

354. 
Arduino Based LED Dimmer using PWM This LED DIMMER is an Arduino Uno based PWM (Pulse Width Modulation) circuit developed to get variable voltage o 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

355. 
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 outp 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

356. 
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 16x2 LCD display. It is accomplished by the data communications between Arduino, LCD, DHT11 sensor Module and DC fan tha is controlled by..... Listed under: Temperature Measurement Projects

357. 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

358. 
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 a 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 und LED Projects

359. 
Accelerometer Based Hand Gesture Controlled Robot using Arduino Robots are playing an important role in automation across all the sectors like constructio 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

360. 
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 AD 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

361. 
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 16x2 LCD screen. A combined te mperature and himid sensor DHT11 is used with Arduino uno..... Listed under: Temperature Measurement Projects

362. 
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 detec 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

363. 
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 b using Arduino Uno. It is very..... Listed under: Home Automation Projects

364. 
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 16x2..... Listed under: Other Projects

365. 
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

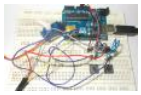
366. 
Arduino Based LED Chaser using Rotary Encoder In this project we are going to interface a ROTARY ENCODER with ARDUINO. ARDUINO UNO is an ATMEGA controller based development board designed for electronic engineers and hobbyists. In ARDUINO we have 20 I/O pins, so we can program 20 pins of UNO to be..... Listed under: LED Projects

367. 
Keypad Interfacing with Arduino Uno In this tutorial we are going to interface a 4x4 (16 key) keypad with ARDUINO UNO. We all know keypad is one of the mo devices used in electronics engineering. Keypad is the easiest and the cheapest way to give commands or instructions to..... Listed under: Other Projects

368. 
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

369. 
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..... Liste under: Other Projects

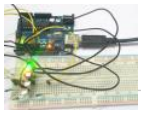
370. 
RFID Interfacing with Arduino In this tutorial we are going to design a system to read the ID of RFID cards. RFID stands for Radio Frequency Identification. Eac card has a unique ID embedded in it. These systems have many applications, like in offices, shopping malls and in many other..... Listed under: Other Project

371. 
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 unde Motor Projects

372. 
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 transmitte in environment then they return back to the origin as..... Listed under: Other Projects

373. 
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

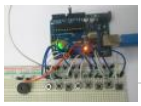
374. 
8×8 LED Matrix using Arduino In this project we are going to design an 8x8 LED matrix display, for that we are going to interface an 8x8 LED matrix module wi Arduino Uno. An 8x8 LED matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence..... Listed under: LED Projects

375. 
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

376. 
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

377. 
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 t 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

378. 
PC Controlled Home Automation using Arduino This project explains designing a home automation system which is controlled by a computer to switch On an 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 Un board as a..... Listed under: Home Automation Projects

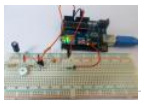
379. 
Arduino Based Tone Generator In this project we will develop a tone generator using Arduino Uno. We will have buttons interfaced with the UNO and each on of them generates different intensity of tone. The frequency of tone generated by the UNO is same at every internal. It's the intensity of the..... Listed under: Other Projects

380. 
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 whi 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

381. 
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

382. 
GSM Based Home Automation using Arduino Mobile phone is a revolutionary invention of the century. It was primarily designed for making and receiving call & 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..... Liste under: Home Automation Projects

383. 
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 mob phones. In this project we are building a automated system by using Arduino and GSM module. You can recharge the electricity balance through this..... Liste under: Metering – Instrument Projects

384. 
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 a 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

385. 
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

386. 
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

387. 
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

388. 
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 communicatior By this serial communication data can be shared between two controllers, which is a required in various embedded system..... Listed under: Arduino Programmer Projects

389. 
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..... List under: Robotics – Automation Projects

390. 
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 whe 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 project

391. 
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 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

392. 
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 mak our best efforts to make..... Listed under: Home Automation Projects

393. 
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

394. 
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

395. 
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

396. 
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

397. 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


398. 
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 powerf 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

399. 
Track A Vehicle on Google Maps using Arduino, ESP8266 & GPS Vehicle Tracking System becomes very important now days, especially in case of stolen vehicle 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

400. 
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

401. 
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

402. 
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 (Ligh 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

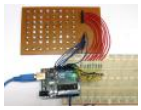
403. 
Smoke Detector using MQ2 Gas Sensor and Arduino Smoke Detectors are very useful in detecting smoke or fire in buildings, and so are the important safety parameters. In this DIY session, we are going to build a Smoke Detector Circuit which not only sense the smoke in the air but also reads and displays the level..... Listed under: Sensor – Transducer – Detector Projects

404. 
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..... Liste under: Medical – Health based Projects

405. 
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

406. 
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

407. 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


408. 
Scrolling Text Display on 8×8 LED Matrix using Arduino In this tutorial we are going to design an 8x8 LED Matrix Scrolling Display using Arduino Uno, which wil show scrolling alphabets. 8x8 LED Matrix contains 64 LEDs (Light Emitting Diodes) which are arranged in the form of a matrix, hence the name is LED..... Liste under: LED Projects

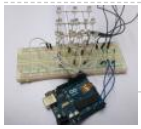
409. 
IOT Based Dumpster Monitoring using Arduino & ESP8266 In this DIY, we are going to make an IOT based dumpster/garbage Monitoring System which will tel us that whether the trash can is empty or full through the webserver and you can know the status of your 'Trash Can' or 'Dumpsters' from anywhere in the..... Listed under: Other Projects

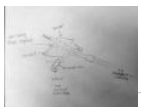
410. 
The Big Easy Stepper Motor Driver Stepper (or step) motors are really cool. They are perfect for automation or any time you need a motor to turn to a specific point, at a specific speed, in a specific direction. And, unlike typical motors, steppers are able to do all of this,..... Listed under: Motor Projects

411. 
Sensing Humidity With The SHT15 The SHT15 is a digital humidity sensor that outputs a fully calibrated humidity reading. And... because what we are measur is actually relative humidity, and relative humidity being relative to temperature, the SHT15 has a builtin digital thermometer. This makes things much easier t work..... Listed under: Sensor – Transducer – Detector Projects

412. 
MQ-3 Alcohol Sensor, Breakout Board + Arduino Iot has happened since our last article was published and to celebrate the continuance of bildr we'll be playir 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

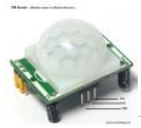
413. 
Arduino + MLX90614 IR Thermometer Being able to sense temperature is cool... But being able to read the temperature of an object without even touching it simply awesome. The MLX90614 is a sensor that can do just that. By reading the infrared light coming off an object, this guy..... Listed under: Temperature Measurement Projects

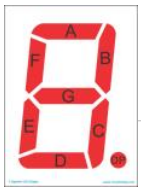
414. 
DIY 3X3X3 LED Cube with Arduino In this project we are going to design a 3x3x3 LED CUBE and connect it to Arduino UNO to get different patterns. For a beginner we will start with a simple pattern. A typical 3*3*3 LED cube connected to UNO is shown in the image above,..... Listed under: How To – DIY – Projec

415. 
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

416. 
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 pho 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: Ca Projects

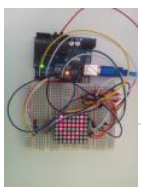
417. 
Interfacing MQ2 to Arduino- Gas Sensor for Smoke-Butane-CH4 and LPG In this article, we are going to learn how to interface MQ2 Gas Sensor with Arduino. MQ2 is basically a general purpose gas sensor (similar to MQ5) which can sense a broad range of gases like LPG, Butane, Methane(CH4), Hydrogen and in addition to these..... Listed under: Sensor – Transducer – Detector Projects

418. 
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 alsc known as Pyroelectric..... Listed under: Sensor – Transducer – Detector Projects

419. 

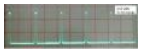
Arduino and 7 Segment Display – Interfacing Tutorial In this article, we are publishing a tutorial on how to interface seven segment LED display to Arduino. Seven segment displays are used in many embedded system and industrial applications where the range of outputs to be shown is known beforeha Basic 1 digit seven segment..... Listed under: LED Projects

420. 
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

421. 
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 mat 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: L Projects

422. 
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

423. 
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

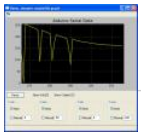
424. 
Tachometer using arduino Tachometer is a device used for measuring the number of revolutions of an object in a given interval of time. Usually it is expressed in revolutions per minute or RPM. Earlier tachometers purely mechanical where the revolution is transferred to the tachometer through mechanical coupling. Listed under: Other Projects

425. 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


426. 
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

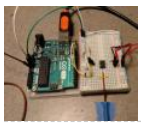
427. 
Open source EEG/ECG/EMG Introduction Electrodes on the skin can be used to measure muscle (electromyography, EMG) brain (electroencephalography, EEG and heart (electrocardiogram, ECG/EKG) activity. These electrophysiological measures are popular for clinical, research and hobbyist applications (such as bra computer interfaces). Most commercial systems are “medical grade” – these..... Listed under: Medical – Health based Projects

428. 
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 hom application – Gas Leakage Detector using Arduino and..... Listed under: Sensor – Transducer – Detector Projects

429. 
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

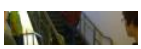
430. 
Calibration This example demonstrates one techinque for calibrating sensor input. The board takes sensor readings for five seconds during the startup, and tracks the highest and lowest values it gets. These sensor readings during the first five seconds of the sketch execution define the minimum and..... Listed under: Sensor – Transducer – Detector Projects

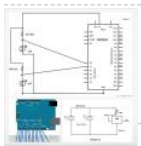
431. 
Arduino Resistance Data Logger I was working on a project were I needed a cheap and efficient way to log the changing resistance of a sensor while simultaneously logging the temperature. This project is similar in many respects to the other data loggers on my site. Three prototypes have..... Listed under: Memory – Storage Projects

432. 
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

433. 
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 machine 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 – Storag Projects

434. 
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

435. 
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: Arduin Programmer Projects

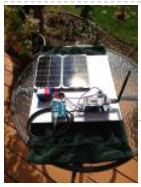
436. 
LTD SMRT Project (Safe Monitored Rider Transit) The proposed new LTD public transportation system uses people counters on the bus system to get an accurate measure of rider tendencies across different routes at specific times. Each bus will be equipped with two sensors which will generate numeric data n larger than 4..... Listed under: Development Board – Kits Projects

437. 
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..... Liste under: Interfacing(USB – RS232 – I2c -ISP) Projects

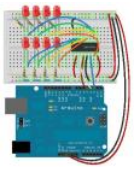
438. 
Using an Arduino as a Latching Relay I wrote this one hot week in July 2010. I've been leaving my front door ajar, to get some air through the house. Probably not a very good idea. So I thought I'd hook up an Arduino to ensure that no one takes advantage of..... Listed under: LED Projects

439. 
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

440. 
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 a 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

441. 
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 you projects and add..... Listed under: Solar energy projects

442. 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 Pdui 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

443. 
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 Arduin 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

444. 
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. W 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

445. 
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 a 14 GPIO pins, with an..... Listed under: Wifi - WLan Projects

446. 
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

447. 
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

448. 
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 b 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

449. 
Tutorial 15: Arduino Serial Thermometer The Arduino reads temperature from a MCP9700 temperature sensor IC and displays the temperature in the Arduinc IDE serial monitor window. Also see the Arduino LCD thermometer tutorial (tutorial 14). Prerequisites Complete Tutorial 9: Using the Arduino Serial Port befor attempting this tutorial. Components Besides..... Listed under: Sensor – Transducer – Detector Projects

450. 
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

451. 
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 losir 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 Boarc Kits Projects, How To – DIY – Projects, Phone Projects

452. 
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

453. 
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

454. 
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 reques 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

455. 
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 c 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

456. 
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 c I need? To create the Amblone setup described in this guide, you will need the following: Amblone software..... Listed under: LED Projects

457. 
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 com 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

458. 
Basics of Turning your Remote Controll Vehicle into an Autonomous System (Drone) Using an Arduino I began this project with the objective of cheaply turnin 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

459. 
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 n 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

460. Connect A 16×2 LCD Display To An Arduino Welcome to my FIRST instructable, i will show you how to connect a 16x2 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

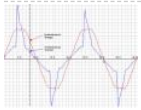
461. 
How to tweet from an Arduino using the wifi sheild Hey, I am a big fan of Instructables. I have consistently used it for the past 3 years and now its time for me write one myself.Here we go. This instructable is for those who want to make some inanimate object tweet automatically. Like say for..... Listed under: Wirele Projects

462. Webserver for home appliances control This instructable describes how a simple but powerful webserver used for controlling of home appliances can be don 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

463. 

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

464. 
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

465. 
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 prir 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

466. 
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

467. 
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 animatic 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

468. 
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 lett 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, L Projects

469. 
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 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

470. 
RaspiDuinoRover – (Yet another) iPhone driven moving Raspberry Pi and Arduino rover Architecture RaspiDuinoRover is made of three main parts: A Raspber 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

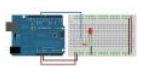
471. 

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

472. 
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 - Telemet wireless system -..... Listed under: Phone Projects

473. 
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 writ every letter of the alphabet, every number, and every symbol found on a standard US keyboard..... Listed under: Sensor – Transducer – Detector Projects

474. 
Gesture controlled robot using Arduino This gesture controlled robot uses Arduino,ADXL335 accelerometer and RF transmitter-receiver pair. We will divide th 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 parall to the ground-stationary..... Listed under: Robotics – Automation Projects

475. 
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

476. 
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 neede to drive the motors of the RC car. This can be..... Listed under: Game – Entertainment Projects

477. 
RC MOOD LYTE RC MOOD LYTE is a commercial quality flameless light engine for heavy, everyday use in the home, restaurant, catering and hospitality industr ,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

478. 
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 a MIT (Massachusetts Institute of Technology) Media Lab..... Listed under: Game – Entertainment Projects

479. 
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 w 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: Gam Entertainment Projects

480. 
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 hc 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

481. 

Home Automation Using Arduino & Autohotkey Its been awhile since i last posted something here. Was kinda busy with my university exams & all! Idea for th 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

482. 
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,..... Liste under: LED Projects

483. 
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

484. 
Microcontrolled Farm Equipment Modified BaleScoop(for picking hay bales out of the field) from manual levers to arduino controlled functions. This eliminate 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

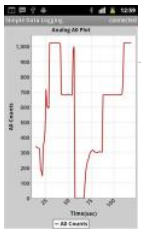
485. 
Turn your Arduino into a Magnetic Card Reader Everyone has used a magnetic card reader, I believe. I mean, who carries cash these days? They're not difficul to get your hands on, either, and during a trip to my favorite local electronics shop, I found a bin full of these guys. So....of course,..... Listed under: Memory – Storage Projects, Projects

486. 
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

487. 
ZIF socket Arduino-compatible board In this tutorial we make an Arduino-compatible board that holds the microcontroller in a ZIF socket. Updated 18/03/201 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

488. 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

489. Simple Remote Data Plotting using Android / Arduino / pfodApp Simple Remote Data Plotting using Android / Arduino / pfodApp This Instructable shows you how to plot Ardu 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 programmi



is required..... Listed under: Arduino Android, Arduino Programmer Projects, Phone Projects

490. 

How To Make a Simple Variable Frequency Generator Using Arduino A frequency generator is a very handy device in electronic design, development, testing a 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

491. 

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) displ 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

492. 

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

493. 

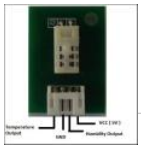
Control an iPod with the Arduino This tutorial will describe a way of controlling an iPod remote, and thus, an easy way of getting some music and sound out o your Arduino project. The remote we used was an unofficial remote I found on the worldwide auction site for around 10..... Listed under: Interfacing(USB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

494. 

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 16x2 LCD displays the resistor value and when we connect a diode... Listed under: LED Projects

495. 

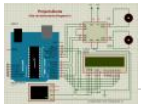
Arduino Powered Four Letter Word Generator Build an Arduino-powered version of the "Four Letter Word Generator" (FLW). This version generates "words" o the fly - it does not use a list. The "original" version from the 1970's used B7971 nixie alphanumeric tubes. These tubes are getting hard to find and they're..... Listed under: Game – Entertainment Projects, LED Projects, Projects

496. 

HSM-20G Interface with Arduino Uno The HSM-20G is an analog humidity and temperature sensor that outputs analog voltage respects to relative humidity a 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

497. 

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 yo 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

498. 

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 f the student or hobbyist. Thus during this article you will be tend to learn how to control your robot..... Listed under: Robotics – Automation Projects

499. 

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

500. 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 continuati 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..... Liste under: Gan – Entertainment Projects, Projects

501. 
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..... Liste under: Wireless Projects

502. 
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

503. 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

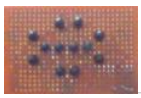
504. 
Digital thermometer using arduino Digital thermometer using arduino and LM35. This article is about a simple three digit digital thermometer using arduino. Range of this thermometer is from 0°C to 99.9°C. There is also a provision for displaying the temperature in °F scale. Three terminal analog temperature sens LM35..... Listed under: Metering – Instrument Projects

505. 
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: Gam Entertainment Projects, Home Automation Projects, Projects, Sound – Audio Projects

506. 
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

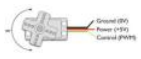
507. 
Play Music using Arduino Esplora This example shows how to play notes on the buzzer mounted on the Arduino Esplora. Buzzers can generate different audic signals in audible frequency ranges. A note is an audio signal at a specific frequency. If you know the frequency of the notes you want..... Listed under: Projec Sound – Audio Projects

508. 
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 w and..... Listed under: Sensor – Transducer – Detector Projects

509. 
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

510. 
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 applicatic the microcontroller based systems..... Listed under: Phone Projects

511. 
MultiMovEDIA – Description of my Project The title “MultiMovEDIA” does not mean much – if anything – at first sight. However, looking at more carefully, we ca 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

512. 
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 brief introduction how to simulate the LED blinking via Arduino UNO and its implementation in proteus ISIS. Now, today we are..... Listed under: Motor Projec

513. 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 Etherne client with a MAC address, IP address, and DNS address. It connects to http://www.arduino.cc/latest.txt. The conent of the page is viewable through your..... Listed under: Internet – Ethernet – LAN Projects, Projects

514.  Temperature Display Using LCD Here is a Simple Temperature Display Circuit using LCD (Liquid Crystal Display). For Heat Sensor we have used IC LM35 (Precision Centigrade Temperature Sensors) whose Output voltage is linearly proportional to the Celsius (Centigrade) temperature. Output of LM35 IC is 10mv/degree centigrade for eg if..... Listed under: LCD Projects

515.  Arduino Based Lie Detector We have previously posted the the project lie detector, now here is is also a lie detector using arduino. Here is a simple tutorial to build a simple lie detector which will give visual indication through LED arrangement whether the person speaks lie or truth. The project uses a..... Listed und LED Projects

516.  Easy Home Surveillance Everyone wants to keep their home secure. If zombies have swarmed your house, you want to know it's not safe to return, RIGHT? What better way to do this than to set up a surveillance system? Now it's easier than ever to have. And, you don't..... Listed under: Home Automation Projects Security – Safety Project Ideas, Video – Camera – Imaging Projects

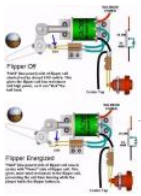
517.  Lambda Calculus in a Can using Arduino You can get soup in a can. You can get bread in a can (*). Now the long wait is over! You can finally get Lambda Calcu in a can. Project LambdaCan is an amusing exercise in absurdity. It implements a reducer (interpreter) for the..... Listed under: Development Board – Kits Projects, Projects

518.  Fritzing – The Ultimate Tool For Sketching Out Electronics Projects [Cross Platform] Despite sounding like an alcopop, Fritzing is actually an incredible bit of fre software you can use to create circuit and component diagrams for use with rapid-protoyping electronics boards such as the fantastic open-source Arduino. A such, it's open source too, entirely cross platform and..... Listed under: Development Board – Kits Projects

519.  LCD Shifter for Arduino The original idea was to create a library that simplify the use of IC 74HC595 between Arduino and other hardware. In this Instructable will share this to you using as example the control of a 16x2 LCD. The example will show on the LCD..... Listed under: LCD Projects

520.  Arduino 7 Segment LED Display and Counter – Tutorial #8 This is a simple 0 to 9 counter circuit constructed using Arduino! Here, a common cathode 7-segme LED display is connected to Arduino for displaying the digits. The code (Arduino sketch) allows push button increment of the counter from 0 to 9. The whole circuit..... Listed under: LED Projects

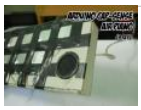
521.  Temperature Sensor DS18B20 Electronic Brick, Waterproof and other Versions NOTE: There are different-appearing versions but they work the same. This is a electronic thermometer which has high accuracy over a wide range (accurate to ±0.5°C over the range of -10°C to +85°C) (Workable from -55°C to +125°C). You..... Listed under: Metering – Instrument Projects

522.  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

523.  StrobeDuino – Computer-controlled RGB strobe/lamp After experimenting with Arduino and Processing serial communication i wanted to do something cool. 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

524.  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 Therem 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

525. 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

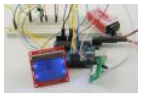


526. 

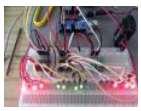
Arduino multi-mode lamp with soft touch switch In this Arduino-based project, we will build a lamp with multiple light displays: color sequencer, dimming ligh color chaser, firelight - all selected by a touch bar on the circuit board. All the functions are done in software, including the touch sensor, which is a..... Listed under: Home Automation Projects, LED Projects, Projects

527. 

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

528. 

HSM-20G temperature & humidity analog sensor + Nokia5110 LCD Temperature and humidity measurement are always a nice addition to hobbyist projects. I 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

529. 

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

530. 

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. Luck 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

531. 

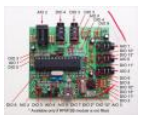
PC-350: Arduino Synthesiser Contents 1 Aim 2 Research 2.1 Experimental Musical Instruments 2.2 Interfaces 2.2.1 Arduino and Nintendo Wii Nunchuck 2.2.2 Arduino and Nintendo DS Touchscreen 2.3 Sound Out 3 User Scenario 4 Development 4.1 Requirements & Analysis 4.1.1 Components 4.1.2 What I Need to D 4.1.3 The..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

532. 

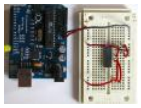
Compact Protoboard Arduino type thing yea This ible is for the building of my small, almost matchbox size, arduino compatable board. As seen in this ible.. http://www.instructables.com/id/Pocket-Ardiuno-kit/ I experemented with the one in this ible to see how it can be impreoved, but the consept is the same anc so is..... Listed under: Development Board – Kits Projects

533. 

Solar powered wireless Arduino based Geiger counter porject. Hello, I have plans to build myself a solar powered wireless Geiger counter using a RH Electron 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

534. 

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 boar has..... Listed under: Development Board – Kits Projects

535. 

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

536. 

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

537. 

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

538. 

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

539. 

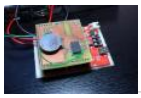
Daox's diy arduino thermal differential controller We have a great thread that contains lots of info on thermal differential controllers here. However, I wanted start a thread dedicated to my own development of a thermal differential controller that I'll be using for my attic heat reclamation project. Tonight I setup..... Listed under: Sensor – Transducer – Detector Projects

540. 
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

541. 
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 particul 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

542. 
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

543. 
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

544. 
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

545. 
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 ligh 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

546. 

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 wire 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

547. 
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

548. 
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 me:..... Listed under: Arduino Programmer Projects

549. 
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

550. 
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 hou and minute hands, which..... Listed under: Clock – Timer Projects, Projects

551. 
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

552. 
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. Hardwar 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

553. 
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 und Development Board – Kits Projects

554. 
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 workin 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

555. 
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

556. 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

557. 
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 v 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

558. 
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

559. 
CustomKeys using an Arduino CustomKeys is a customizable, Arduino-based, polyphonic synthesizer. The CustomKeys keyboard uses capacitive touch sensin 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

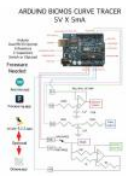
560. 
Nerd++: Controlling Dioder RGB LED Strips with Arduino, Pt. 1 – Getting Started A few weeks ago, it came to my attention that IKEA do a set of colour-changeable LED strips. I've been looking for a decent way of providing some lighting behind my computer to reduce eye-strain for a long time, and these seemed perfect: I was..... Listed under: LED Projects

561. 
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 LED HOW..... Listed under: Game – Entertainment Projects, How To – DIY – Projects

562. 
Autonomous Robot Part 3: Ghosty Introduction Ghosty is an autonomous little robot who is adventurous and loves to explore his surroundings. However, unl 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

563. 
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

564. 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

565. 

Arduino Laser Security Shield *** I AM THIRTEEN. I REALLY ENJOY PUTTING TOGETHER THESE INSTRUCTABLES. PLEASE SHOW SUPPORT BY VOTING FOR ME II 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

566. 

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

567. 

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..... Liste under: Development Board – Kits Projects

568. 

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

569. 

Si4707 Hookup Guide Introduction Weather-band radio is an awesome public service provided in the US, Canada, and Bermuda. With hundreds of transmittir stations dotting the country, weather radio acts as the “voice of NOAA” (National Oceanic and Atmospheric Administration). In addition to spouting out weath forecasts, weather radio..... Listed under: Development Board – Kits Projects

570. 

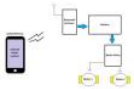
Arduino UNO Tutorial 6 – Rotary Encoder We have written a tutorial for Rotary Encoders using a Microchip microcontroller but now would be a good time to make an Arduino UNO version. With a rotary encoder we have two square wave outputs (A and B) which are 90 degrees out of phase..... Listed under: Other Projects

571. 

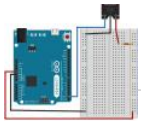
Arduino LEDs Description In this tutorial you will set up and turn on a single LED. Note that this code can actually be executed with just the Arduino and no other components as in Figure 5. If you notice, next to pin 13 is a tiny LED..... Listed under: LED Projects

572. 

Arduino Leonardo AVR Development Board Arduino Leonardo AVR Development Board is a microcontroller board based on the Atmel ATmega32u4. It offers 2 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

573. 

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 W 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

574. 

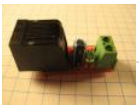
Sending MIDI Messages Introduction If you completed any of the buzzer projects, you will know by now that there is much fun to be had in making the Arduin create noises. The only issue you might have had is with the quality of the sound. Since MIDI is..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

575. 

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

576. 

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 microscop 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: Vid – Camera – Imaging Projects

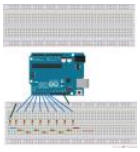
577. 
Temperature Sensor 2 0 Overview This board allows you to use a thermistor to measure the temperature of something. It is designed to be used to measure things in the range of 100C - 300C, but with the proper calibration and resistors, it can be adapted to any temperature..... Listed under: Temperature Measurement Projects

578. 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

579. 
Perfboard Hackduino ($8 Arduino-compatible circuit) Never again will you have to dismantle a finished project just to reuse an Arduino board! This tutorial wi 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

580. 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

581. 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



582. 

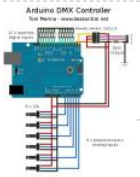
The DIY Arduino Telescope GOTO control project Why make your own Arduino control system? After completing my homemade telescope mount it was powered by a Meade DS motor kit. This system was extremely slow, underpowered and unreliable. It was also impossible for me to change the programming maintain the system. I..... Listed under: How To – DIY – Projects

583. 
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

584. 
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 c flexibility. We are studing a WiFi robot with camera controlled by Arduino. The robot will be..... Listed under: Motor Projects

585. 
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

586. 
Toaster Oven Reflow Technique Introduction This page describes how to reflow solder surface mount printed circuits using a cheap toaster oven. It owes a gre 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

587. 

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

588. 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

589. 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

590.  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

591.  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

592.  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

593.  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 PCF856 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

594.  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

595.  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

596. 

Temperature Sensing using DS18B20 Digital Sensors Note: When referring to Arduino below, this works in the same way on the emonTx which is arduino-base 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

597. 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 Ardu 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

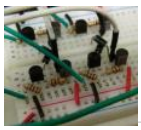
598.  Arduino Platform – Interrupts Introduction Introduction This is my second article relating to the Arduino Microprocessor Platform. The first one was a simple implementation of the SIMON game using the Arduino. The article can be found here. For an introduction to the Arduino Hardware, see jeffb42's excellent articles, as there..... Listed under: Development Board – Kits Projects

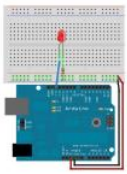
599. 

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

600. 
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 Programme Projects

601. 
Thermal Camera: Arduino UNO + MLX90614 IR Thermometer I did the following steps: 1) Hardware: Connect the MLX90614 (refer to the datasheet) as follow 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

602. 
Arduino MicroBot Project Steps On the breadboard, build two bi-directional motor control circuits (also known as "H-bridge") circuits. These circuits will contrc 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

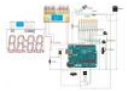
603. 
Blinkenlights Topics: Overview Hardware A Basic Schematic Diagram Resistors Reading Resistor Values Putting it Together Trying it out! More on Resistors and LEDs Software Comments Variables Procedures References Project 1.Overview As mentioned earlier, Arduino consists of two major parts: the hardware (the Arduino board) and the..... Listed under: LED Projects

604. 
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

605. 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

606. 
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

607. 
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

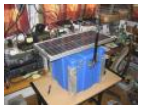
608. 
General Purpose Input Output Arduino Shield This example shows technique for calibrating sensor input and shows the sensor outputs by controlling LEDs a SSD, also shows how to monitor the state of a switch. Hardware Required 8 LEDS 2 push button switches 2 sliding switches 4-SSD with MAX7221/7219 LM35 Speaker Circuit..... Listed under: LED Projects

609. 
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 LE 4.1.2 Connecting and Controlling External LED 4.2 Buzzer 4.3 Switches 5..... Listed under: How To – DIY – Projects

610. 
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 strange of..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

611. 

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

612. 
Technical Details of Logging Seawater Temperature Block Diagram This diagram shows the basic components required for collecting temperature readings frc 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

613. 
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 wish 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

614. 
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

615. 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

616. 
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

617. 
Simulating and controlling GE Color Effects Lights with Arduino Overview This project builds a Christmas lights controller for the GE Color Effects lights allowin programmed control of up to 8 sets of Christmas lights. Furthermore, it provides a function specific language for programming patterns for these lights and a emulation environment for testing the..... Listed under: LED Projects

618. 
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

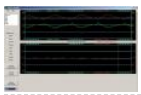
619. Tutorial: Arduino Motor/Stepper/Servo Shield – Part 1: Servos This post starts a small (or larger?) series of tutorials using the Arduino Motor/Stepper/Servo Shield with the FRDM-KL25Z board. That motor shield is probably one of the most versatile on the market, and features 2 servo and 4 motor connectors for D or stepper motors..... Listed under: Motor Projects

620. 
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 Windo 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 have to talk to..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

621. 
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. 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

622. 
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 - simpl 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

623. 
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, fro Thomas Edison to Alan Blumlein, the British electrical engineer who, in 1931, invented 'binaural recording' – what we now call..... Listed under: Sound – Audio Projects

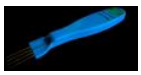
624. 
Indoor Weather Station using Arduino Introduction In my first article using the Arduino 2009 board, I described a simple temperature sensor interfaced using developed the board and Visual Basic code to give a fairly usable indoor weather station. Overall Operation The Arduino 2009 acts as a..... Listed under: Sens – Transducer – Detector Projects

625. 
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..... List under: Temperature Measurement Projects

626. 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 standarc 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

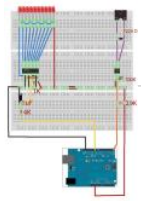
627. 1B – Arduino Project – Perry the Predator Pillow The Team Kaitlin Schaer as scribe; Bryan Gardiner as tutor; Ruben Markowitz as designer; Anna Failla as integrator Introduction In a time where the logistics of sleep can be all too much to handle, there is a solution! There is a smarter pillow, a pillow that..... Liste under: Home Automation Projects

628. 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

629. 
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 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

630. 

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 focus 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

631. 
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 Proje

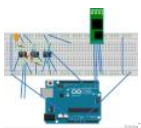
632. 
Arduino Event-Driven Universal AV Remote TL;DR - I wanted all of my AV components to turn on and change inputs as soon as I started Airplaying music to my iPhone, so I popped open the Apple TV, wired up a photocell sensor to an Arduino Uno,..... Listed under: Wireless Projects

633. 
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 Andrc 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

634. 
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

635. 
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, 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

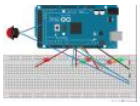
636. 
Displaying Arduino data Arduino temperature display I've had an Arduino-based weather station since June 2009, but one problem with it has been that there hasn't been any easy way to display the data in real time without going to the database (or the raw import files) to see..... Listed under: LCD Projects

637. 
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 lea 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

638. 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 w the Arduino..... Listed under: Wireless Projects

639.  Stepper Motor Control System Based On Arduino With ULN2003 Chip Project Summary: This project uses ULN2003 chip to drive. The working voltage is DC5V 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

640.  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 control board. Required Components LED strip, Arduino Nano, Dupont line and a control board. So, how to make a LED..... Listed under: LED Projects

641.  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

642.  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

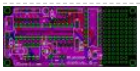
643.  RC Quadrotor Helicopter This project is a RC quadrotor helicopter (quadrocopter, quadcopter, quadricopter, etc). It's a RC helicopter that uses 4 rotors. You need some pre-requisite skills: How to use Arduino, enough to get started Soldering, wiring, basic electronic skills Basic hand tool operation A quadrotor helicopter flies..... Listed under: How To – DIY – Projects

644.  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

645.  [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

646.  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 batt might need recharging. Waiting until the electric starter no longer works is somehow lacking. So after..... Listed under: LED Projects

647.  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 i the world you live) that..... Listed under: Development Board – Kits Projects, LED Projects

648.  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 t LCDuino..... Listed under: LCD Projects

649.  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

650. 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, 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

651. 
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

652. 
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

653. 
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 bui 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

654. 
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 mode based on Global..... Listed under: Home Automation Projects, Security – Safety Projects

655. 
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

656. 
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

657. 
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 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

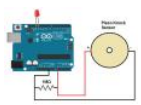
658. 
Arduino based Bi-color LED Matrix Flappy Bird Game We have built quite a few projects using the Bi-color (Red and Green) LED Matrix Driver Module kits from have published them as instructables here. Each of these modules uses two MAX7219 Display Driver ICs to drive a Bi-color LED Matrix. These ICs..... Listed under: LED Projects

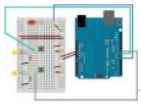
659. 
Arduino based Electronic Queuing System This is a Queuing System project requested by a clinic asistant which allows the doctor enter number from a keyboard and display it on a 32x16 LED panel. This project uses two Arduino, the first Arduino functioned as a SENDER which included a PS2 keyboard..... List under: LED Projects

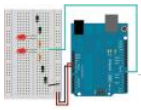
660. 
Digital Arduino Voltmeter with Temperature Step 1: The case I dug out an appropriate case from the dumpster, milled out a rectangular hole for the lcd, and drilled holes to mount the LCD and the Arduino. I used brass standoffs and fiber washers to prevent shorts. Then I gave the..... Listed under: Metering – Instrument Projects

661. 
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) u 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

662. 
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

663. 
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

664. 
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 thi 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

665. 
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 thi state of the Arduino pins to reduce the number of pins needed to control LEDs. In the..... Listed under: LED Projects

666. 
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 o the coin slot detector is a simple way to tackle the complicated modern problem low-rise jeans..... Listed under: Sensor – Transducer – Detector Projects

667. 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

668. 
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 difficu 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

669. 
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 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

670. 
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 real like about the shield:..... Listed under: How To – DIY – Projects

671. 
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 ca 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

672. 
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 – -ISP) Projects

673. 
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

674. 
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

675. 
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

676. 
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 exhi 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 1 December 2008 inclusive, and had a..... Listed under: LED Projects

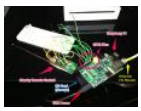
677. 
Arduino-Controlled Robotic Drum For years I have been telling anyone who listens that I was going to build a robotic drum. Most people kind of shrugged indifferently. Even as I built it, most people kind of glanced over at it and conveyed doubtfulness. It seemed like no one..... Listed under: Robotics – Automatic Projects

678. 
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 u a whole new world to me. This is my third instructable ..... Listed under: Robotics – Automation Projects

679. 
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 abou 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

680. 
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 'Practica 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

681. 
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

682. 
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 acce and remote control of electronic devices for those..... Listed under: Home Automation Projects

683. 
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 a 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

684. 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

685. 
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: LE Projects

686. 
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

687. 
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 Arduin 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

688. 
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

689. 
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 view who is..... Listed under: Home Automation Projects

690. 
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

691. 
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 Bo The output voltage of the ACS712..... Listed under: Solar energy projects

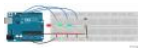
692. 
LED firefly Jars There's a nice charm to fireflies in a jar—except for, you know, all the dead bugs afterwards. I decided to make a bunch of fake fireflies in real ja for decoration at an outdoor event. The fireflies are yellow LEDs controlled by a small ATtiny45..... Listed under: LED Projects

693. 
Accelerometer Controlled Robot Most of industrial robots are still programmed using the typical teaching process, through the use of the robot teach pendan proposed an accelerometer-based system to control an industrial robot using two low-cost and small 3-axis wireless accelerometers. These accelerometers a attached..... Listed under: Robotics – Automation Projects

694. 
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

695. 
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 f 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(US – RS232 – I2c -ISP) Projects, Video – Camera – Imaging Projects

696. 
Automatic Garden Watering Device – Arduino As part of the Content Creation course for my MLIS degree (Our class blog: http://scumakers.wordpress.com/), 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

697. 
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 ther 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

698. 
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

699. 

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 ar Arduino Pro Mini. (Details at the end) Step 1: Assembly + Code You'll need a handful of motors..... Listed under: Motor Projects

700. 
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: have a..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

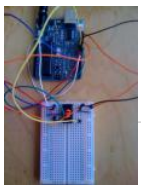
701. 
Washer Dryer Laundry Alarm using Arudino & SMS Text Messaging Alerts Have you ever wished there was a better way to be notified when your laundry was done? Have you ever forgotten a load in the washer because you couldn't hear the buzzer and your clothes became smelly and moldy from sitting there for to long?..... Listed under: Home Automation Projects, Wireless Projects

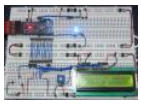
702. 
Converting infrared to RF signals with Arduino In this project we will show you how to switch on and off the power sockets box with an IR remote. Not only the power sockets box, but other RF receivers can be switched on and off with the same IR remote as well. We..... Listed under: Wireless Projects

703. 
How to Make a Wireless Path Tracking System Using Mouse, XBee and Arduino The applications of microcontroller are not limited to control simple electrical 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

704. 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

705. 
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 lo 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

706. 
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

707. 
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

708. 
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 sande 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

709. 
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, 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

710. 
Arduino Garage Controller Although there are many garage door projects on Instructables using Arduinos, I needed/wanted something different. Last year, w 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

711.
Arduino based Drone Quadricopter [gallery ids="19920,19921,19922,19923,19924,19925,19926,19927"] arduino based Drone Quadricopter It's a tiny quadrot 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

712. 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 Sweep 1x Battery 1..... Listed under: Robotics – Automation Projects

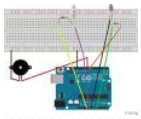
713. 

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: Secur – Safety Projects

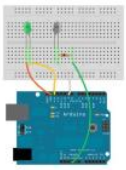
714. 
Arduino Bicycle Alarm and Lights This alarm is a good way to alert you if somebody messes with your bike. I had a bicycle stolen a while back and decided the had to be a better way to keep my bike secure. When I searched for bicycle alarms, all I..... Listed under: Security – Safety Projects

715. 

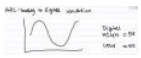
How to Use IR Remotes with Arduino (Current and Updated) I'm tired of these complicated tutorials on how to use certain things. I like simple, easy to understand, step by step instructions. My biggest problem was with IR and POV*. I've finally mastered how to control my project with any TV remote in a few.. Listed under: Wireless Projects

716. 
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 crosse the infrared..... Listed under: Wireless Projects

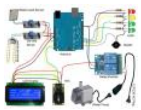
717. Arduino for Photographers: Building a Universal Intervalometer Practicing the art of time-lapse photography without an intervalometer is doable, but not particularly efficient. And while any decent photo equipment store will be happy to sell you one, you can go the DIY way and build your own intervalometer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



718. 
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

719. 
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..... List under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sensor – Transducer – Detector Projects

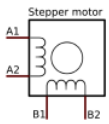
720. Arduino Automatic Watering System INTRODUCTION & OBJECTIVES: I is a simple system, using Arduino to automate the irrigation and watering of small potted plants or crops This system does the control of soil moisture, doing indications via LEDs and in case of dry soil emitting a alarm beep. In..... Listed under: Featured, Home Automation Projects



721. 
Arduino Compatible apc220 Wireless rf Module with Graphics LCD 16 node mesh, up to 1000m between nodes, sample two analog voltages per node, link an 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

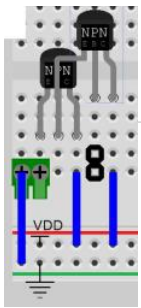
722. 
Arduino DS1307 Clock 1) Introduction and Images Hello friends, today I am going to build a Digital Clock using Arduino UNO and famous DS1307 Real Time Clock IC. Before we begin, here are some images of the completed project. You can find the YouTube video at the bottom..... Listed under: Clock – Timer Projects, LCD Projects

723. 
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 Transducer " displacement transducers "..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sensor – Transducer – Detector Projects

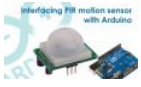
724. 

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

725. 
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

726. 

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

727. 
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

728. 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 U 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

729. 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

730. 
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

731. 
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

732. 
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

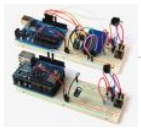
733. 

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 inp 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 – Instrum Projects

734. 
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) pe motor, or a continuous..... Listed under: Motor Projects

735. 
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 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

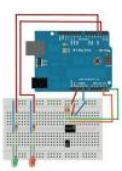
736. 
Tutorial 14: Arduino LCD Thermometer In this tutorial, a temperature sensor (MCP9700 linear active thermistor IC) and LCD are connected to the Arduino. The Arduino reads the temperature from the MCP9700 on analog pin A0 and displays the temperature on the LCD. This video shows the circuit operating. When touched..... Listed under: LCD Projects

737. 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 ultraso

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

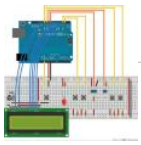
738. 

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

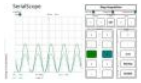
739. 
Arduino Project 4: Enhancing your mini robot You'll need these: HC-SR04 – Get this ultrasonic sensor from eBay.com.au for $2. SG90 Servo Motor – We've seer this servo selling for around $4 on ebay. Motor drive shield – You can get this expansion board for $5 online. If you're new to APC..... Listed under: Robotics – Automation Projects

740. 
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

741. 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

742. 

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 wireles 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

743. 

Simple Arduino Wireless Mesh Build a low cost simple wireless mesh using arduinos and long range APC220 radio modules. Wireless mesh networks can han 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

744. 

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

745. 

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 yc how to do just that. All you need is an Arduino, an LCD screen and a..... Listed under: LCD Projects

746. 

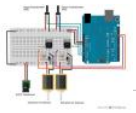
Ultrasonic Range detector using Arduino and the SR04 Ultrasonic sensor his is a preliminary instructable that will take you through the steps I took to get the SR04 ULTRASONIC SENSOR connected and working to the Arduino. It will then be incorporated to my mini environment monitor. Eventually, if it all fits, it wi end up..... Listed under: Sensor – Transducer – Detector Projects

747. 

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 get past the blinky lights on a breadboard stage with your Arduino and you're ten or know..... Listed under: LED Projects

748. 

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

749. 

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

750. 

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

751. 

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

752. 

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 c 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

753. 

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 blu 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

754. 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 indicat 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

755. 
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: Roboti – Automation Projects

756. 

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

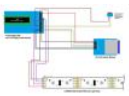
757. 
Arduino Platform – SIMON Game Implementation Introduction Having been a CodeProject member for several years, and not having got round to ever publishing an article, left me feeling a bit disappointed in myself. I have thought many a time on what kind of article I can produce. Then after coming across.. Listed under: Game – Entertainment Projects

758. 
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

759. 
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 U development board, working simultaneously and have the..... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sensor – Transducer – Detector Projec

760. 
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

761. 
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 Project

762. 
LPD8806 SD/LCD Digital Light Wand! (Last Update – 20 September 2014) I have gathered the information from the HL1606 Digital Light Wand Blog and brough 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

763. 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

764. 
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

765. 
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

766. 
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

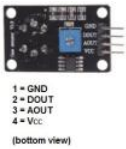
767. 
How to Build an HC-SR04 Distance Sensor Circuit An ultrasonic distance sensor is a sensor that can measure distance from a solid or physical object. An ultrasonic range finder does this through sound waves. It sends out high-frequency sound waves and then waits to listen back for these sound waves. If it has..... Listed under: Sensor – Transducer – Detector Projects

768. 

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

769. 

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 ca 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

770. 

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. Th 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

771. 

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 us 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

772. 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

773. 

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

774. 

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 readc of light striking the circuit. In this way, the circuit will function as a light meter. When..... Listed under: Metering – Instrument Projects

775. 

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 moistu or..... Listed under: How To – DIY – Projects, Sensor – Transducer – Detector Projects

776. 

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

777. 

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

778. 

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 c 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

779. 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

780.  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 circ 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

781.  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 basec 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: Meteri – Instrument Projects

782.  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

783.  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 build your own ultrasonic batgoggles using an Arduino microcontroller clone, Devantech ultrasonic sensor and welding goggles for around $60..... Listed und Game – Entertainment Projects

784.  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, (FS 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

785.  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 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

786.  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 wheth 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

787.  Spectrographic Auroral Indicator – A Northern Lights Warning Device using arduino 3/16/2011 EDIT: The Wing Kp Predicted Geomagnetic Activity Index model now deployed and operational. Costello is now considered non-operational and will be discontinued on 23 Mar 2011. Comments and questions are welcomec at SWPC.CustomerSupport@noaa.gov The Wing Kp Predicted Geomagnetic Activity Index model is known..... Listed under: Security – Safety Projects

788.  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 L 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

789. 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 und Sensor – Transducer – Detector Projects

790. 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

791. 
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 platte 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

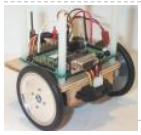
792. 
How to Drive a 7 Segment LED Display with an Arduino In this project, we will show how to drive a single 7 segment LED display with an arduino microcontroll A 7 Segment LED Display is an electronic device housing 8 individual LEDs. Using this device, we can display all numerals and many alphabetical characters an many more..... Listed under: LED Projects

793. 
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, a 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

794. 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 LE can be lit to any color. This is why it is called a full color LED module. By..... Listed under: LED Projects


795. 
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

796. 
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

797. 
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

798. 
How to Interface GPS with Arduino Every single location in the entire globe can be specified in terms of geographical coordinates. The geographical coordinat 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 c a..... Listed under: GPS Based Projects

799. 

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

800. 
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