



Use Arduino for Projects

Advanced View Arduino Projects List

List of Projects using arduino with advance view:

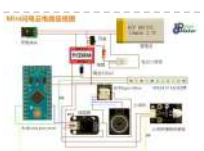
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[Arduino Seismic Activity Monitor – Ethernet Shield](#) Have you ever wanted to impress your friends by saying something crazy like, "I think there's going to be an earthquake soon" moments before an earthquake hits? Or do you just want some warning, a few seconds that could save your life. This project will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#)
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[Hacking a Sonoff Touch Panel to Work With MQTT and Homeassistant](#) There are some great hackable devices in the SONOFF range such as the original SONOFF switches, the Slampher and the SONOFF Luxury wall plate which is the subject of this instructable. These devices are based around the ESP8266 or ESP8285 Wifi modules and are easily..... Listed under: [Home Automation Projects](#)
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[IoT: Weather Box \(with Custom Alarms & Timers\)](#) Please vote for me in the contests i have entered. Hope you enjoy the instructable, and happy making. I was, some time ago, quite interested in IoT projects and so I thought it would be fun to make something associated with the Internet. I recently..... Listed under: [Clock – Timer Projects](#)
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[Arduino Traffic Light Controller with Remote Control](#) I had a traffic light that I was refinishing. The only thing left to do was to build the controller for the light's signal patterns. To give it a twist I incorporated a remote control. This was also the perfect opportunity for me to try..... Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)
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[Light-Up Disco Table using Arduino](#) Every apartment needs awesome furniture, so why not make your own? This coffee table contains LED strips that light up into various customizable patterns and colors. The lights are controlled by an Arduino and a hidden button, and the entire thing is battery powered so..... Listed under: [Game – Entertainment Projects](#)
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[How to Make a Rechargeable Mini Lightning Cloud](#) <https://youtu.be/GrlXwePOK0Q> Do you want to build a rechargeable mini lightning could? Follow this tutorial, you'll be taught how to make one! Step 1: <https://youtu.be/GrlXwePOK0Q> Material List Blazing WS2812 LEDstrip Pegboard DFP layer Mini player module Hot glue gun & glue stick Trumpet Cotton High frequency..... Listed under: [Other Projects](#)
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[Laura: Emotional Compass Lamp](#) Laura is a "counseling" who is helping me to find myself and to understand where I want to go. For his great help, I wanted to give him a present that represents the work we are doing. The inspiration came from the need to find..... Listed under: [Other Projects](#)
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[DIY Arduino FM Radio \(Part 2\)](#) If you have read my first blog on the topic, than you already know what I'm experimenting with. Low price FM Radio, build with TDA7088 / YD 9088. It was obvious, that technology from the early 90-x is outdated. I mean, simple "search and hold" function of..... Listed under: [Projects](#), [Radio Projects](#)
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[Theremin Toy using Arduino](#) I wanted to make a little toy for my granddaughter to play with when she visits. I know like most kids, she enjoys things that make sounds and have different colored lights on them and if she does something, the toy does something. I thought..... Listed under: [Game – Entertainment Projects](#)
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[BT Based Voice Remote Controlled Car Using TIVA MC](#) This is a Tiva microcontroller based project. As there is a fewer data regarding projects based on Tiva, I as an individual am taking this initiative. I hope the readers will encourage it. The project named as bluetooth based voice controlled and remote controlled car..... Listed under: [Car Projects](#)
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[Barcode Based Complete Security and Enrollment System Using Tiva](#) This is Tahir UI Haq, bringing you another exciting and innovative Tiva Micro-controller based project. This is the third instructables in the Series. Hope you will like it. This time it is Bar-code Based Complete Security and Enrollment System. The project focuses on a bar-code..... Listed under: [Security – Safety Projects](#)
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[Using Servos with Arduino made easy!](#) Servomotors or simply servos are essential components of a robot which convert electrical energy into mechanical energy. They are widely used in the field of RC hobby and robotics. But unlike simple geared motors, these servos are made by integrating a geared motor with a..... Listed under: [Motor Projects](#)
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[CC3D Flight Controller Firmware Changing](#) Introduction: The CC3D is a powerful and affordable flight controller that is very popular to use mainly on mini quad copters due to its small form factor. It has many advanced features that you can use if you add a GPS module, even way

point..... Listed under: [Other Projects](#)

14.



[Interactive IOT Stuffed Animal](#) For my first project with Particles's Spark Core, I decided to make an internet-connected stuffed animal! After close consideration, I settled upon a blue and green alien to be the body of this project (see the above picture.) Powered by a Spark Core, this other-worldly..... Listed under: [Other Projects](#)
15.



[Face detection and tracking with Arduino and OpenCV](#) UPDATES Feb 20, 2013: In response to a question by student Hala Abuhasna if you wish to use the .NET Serial class, use the naming convention "\\.\COMn" and replace n with a number > 9 to define your com port for COM ports above 9..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
16.



[Teensy MIDI USB foot controller for controlling Mobius Looper using Arduino](#) Motivation: Playing in a 2 piece band, with the drums and lots of other samples being played back as backing tracks, there was a need to use a looper to add in more elements to the tracks. A hardware based looper fails in this respect,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
17.



[Reaction Speed Timer](#) Many, many years ago – when I was young - I visited the Evoluon in Eindhoven, The Netherlands. At that time it had all kind of technical stuff you could see and you could play with. Nowadays it does no longer exists in that form..... Listed under: [Clock – Timer Projects](#)
18.



[Hacking a Sonoff to Work With Home-Assistant and MQTT](#) OK So my third Instructable and here we're dealing with another Sonoff device, the original Sonoff WiFi smart switch. Theses devices are again based around the ESP8266 and are easily hacked. The devices can switch up to 10A @ 240V so are ideal for switching..... Listed under: [Home Automation Projects](#)
19.



[Under \\$8 Arduino Serial Data Logger – Record to SD Card](#) Disclosure: This project operates the ATmega328-P-PU outside the published ATmel specifications: According to ATmel, the 328P requires slightly over 3.3V to reliably start the oscillator at 16MHz and to otherwise perform acceptably. Lab testing here at SofKinetics has shown that the 'board-duino' 328P-PU can withstand..... Listed under: [Memory – Storage Projects](#), [Projects](#)
20.



[DIY Solar Tracker using Arduino](#) Introduction We aim to introduce young students to engineering and teach them about solar energy; by having them build a Helios as part of their curriculum. There is an effort in engineering to push energy generation away from the use of fossil fuels and towards..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#), [Solar energy projects](#)
21.



[Build a Tank Volume Reader in Under \\$30 Using ESP32](#) The Internet of Things has brought a lot of formerly complex device applications into the homes of many craft brewers and wine makers. Applications with level sensors have been used for decades in large refineries, water treatment plants, and chemical plants. With sensor prices falling,..... Listed under: [Sensor – Transducer – Detector Projects](#)
22.



[iAndroidRemote – Control Android mobile using an Apple Remote](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊) Also this is my entry to the..... Listed under: [Internet – Ethernet – LAN Projects](#)
23.



[Hacking my RC Car using Arduino and Android Smart Phone](#) Have an old toy car? I hacked mine using Arduino and an H bridge circuit to control the motors, used my Sony Z1 Android phone to control it with the recent 1Sheeld I got from Kickstarter. I thought to use the Gyroscope sensor in to..... Listed under: [Arduino Android](#), [Car Projects](#), [Phone Projects](#)
24.



[VivoGame](#) VivoGame (something like "liveGame" in english) is a funny 2 players game whose goal is hit a target with a automated dart. One player wear a "glasses" that doesn't let him see the target. 3 leds that replace each lens, allow the other one, who..... Listed under: [Game – Entertainment Projects](#)
25.



[Weather Monitoring System Using TIVA](#) This is Tahir UI Haq and introduces you to another member in the family. This time the project is named as Weather Monitoring System. This is another TIVA based project presented by students of UET LHR. Weather monitoring plays an important role in human life,..... Listed under: [Temperature Measurement Projects](#)
26.



[Analog reading box using an Arduino](#) I made this box for my music project to our school. This is only tutorial for the box, no for playing melody. It's based on serial connected switches. You will need: Some wire 6x switch 1x LED 1x 330 ohm resistor 5x 2000 ohm resistor..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
27.



[Washing machine countdown timer using Arduino](#) Hello, and welcome to my instructable for a washing machine countdown timer. The timer is operated with the very popular Arduino micro controller. See here for more information. Arduino Home Page Aim The aim of this project is to be able to delay the start..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
28.



[BLC Using Arduino Emulator](#) What is this BLC? Ans: Binary logical Calculator using Arduino Uno R3. Formally we are doing Arduino project which is real-time application in introductory labs and other places. This is all about how to create Arduino Uno project which does some

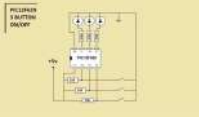
basic computation for our..... Listed under: [Other Projects](#)

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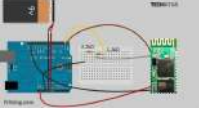
29. [Nintendo Keyless Entry System using an Arduino](#) Use a Classic Nintendo controller to lock and unlock your door! The output from the Controller is read by an arduino and it looks for a particular combination of buttons, once the combination is entered it sends a signal to eject a Cd-Rom Drive which..... Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)
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30. [DIY Cheapest Bluetooth Controlled Home Automation](#) Step 1: COMPONENTS REQUIRED Bluetooth module (HC-05)AT89S52/C51/S51/C52 microcontrollerRelay Driver ULN2003ARelayResistances and capacitors as circuit diagram depicts(below)power module(if the input is more than 5V or else not necessary)IC 7805(5V voltage regulator)1000uF capacitor10uF capacitorled and resistance(as per convenience so that led doesn't get damaged) IMPORTANT NOTE: USE..... Listed under: [Bluetooth Projects](#)
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31. [DIY Infrared Sensor Module using Arduino](#) Have you ever wanted to make a line following robot but the infrared sensors were too expensive for you? Do you want to upgrade the robot in my other instructable? Well this instructable comes in two stages, Stage 1 is the prototyping stage, where you..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
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32. [Rock Paper Scissors Spock Lizard using Arduino](#) Introduction: Okay, I cheated. Any similarities between previous Instructables uploaded by me and the graphics, pictures, text and / or programming code is purely intentional. It certainly made putting this one together a whole lot easier. This Instructable is my Arduino version of the Rock..... Listed under: [Game – Entertainment Projects](#)
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33. [Simple 3 Button On-off With 12f629 \(mikroC\)](#) a simple 3 buttons on-off with pic12f629. it's written with MikroC Step 1: The Code... start the code with "int"----- int x0,x1,y0,y1,z0,z1; ////// with this the GPIO outputs could stay on or off void main() { GPIO = 0x00; ////// all outputs are 0 CMCON..... Listed under: [Other Projects](#)
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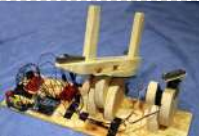
34. [Make your plant smile using Arduino](#) This is a funny project that makes our plants “talk” to us. It’s very simple and you can create it in few hours. We use a sensor to read the soil moisture of our plant and a led matrix to display how the plant “feel”..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
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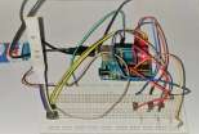
35. [Cheap 2-Way Bluetooth Connection Between Arduino and PC](#) INTRODUCTION In the guide, I will explain how I managed to send data back and forth between a PC and Arduino via a cheap Bluetooth HC-05 transceiver, which can be found for less than \$10 on ebay with the breakout board. The version I have used..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
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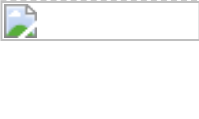
36. [Getting Started With the Particle Photon \(Internet Controlled LEDs\)](#) In the previous instructable I showed you how to get started with IoT using the nodeMCU, in this instructable I will be featuring the Particle Photon which is an easy to use IoT device to get started with designing IoT projects. The particle photon is smaller than..... Listed under: [LED Projects](#)
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37. [Auto Fish Feeder using Arduino](#) How often do you ever forget to feed your fish? Well, for me I don't forget that much. I just couldn't go out town for a couple of days and also be ridiculous if I should bring my tank along. When I won a Sparkfun..... Listed under: [Home Automation Projects](#)
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38. [Interfacing Servo Motor With NodeMCU](#) This here is my first Instructable project. So you want to get started with NodeMCU? Well, I'm here to share with you.Today, I'm going to show you how to get started with NodeMCU. Let's GO ! NodeMCU has on board ESP8266-12E makes the board suitable..... Listed under: [Motor Projects](#)
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39. [PS/2 Keyboard Or Mouse using Arduino](#) Arduino isn't limited to taking input from sensors: you can even connect up a full-size PS/2 keyboard just as if it were a "real" computer and type away! Connecting a keyboard to an Arduino may sound a bit odd (after all, it's just a little..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
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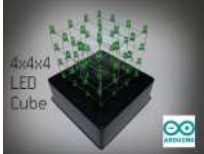
40. [Laser-guided Ghost Climber using an Arduino](#) Almost inevitably, when I try to climb the same route I'll forget exactly what sequence of holds they used and end up following a slightly different path. Even when I remember exactly which course to follow, I'll still wonder whether I'm doing it as quickly..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
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41. [Controlling an RGB LED With an Android Smartphone Using Arduino and Bluetooth Module](#) The very first project of my channel is about controlling an RGB LED using annoying push buttons.... I feel that the project was not a good one to learn about micro-controllers, because most of the micro-controllers uses are not fully utilised in that project.... So, This is..... Listed under: [LED Projects](#)
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42. [The Jack'O Lantern Early Warning System using Arduino](#) This was originally going to be a tutorial on how to hook up a pumpkin to the internet so that the lights inside it could be controlled via twitter, text message, motion or more. To get started I carved a pumpkin for the first time..... Listed under: [Security – Safety Projects](#)
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43. [Basic IC Tester Using Arduino NANO](#) 1. Components required for this project. 2. Procedure to do this project. 3. Coding of Arduino Nano with verification. 4. Circuit diagrams. 5. Simulations and application list. So lets begin.....! Step 1: What This Project Dose ? Basic Information and working of this project is,..... Listed under: [Other Projects](#)

- [Homemade Dual H-Bridge – L298 Breakout Board using Arduino](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials COMPONENTS: 1 x perf board 13x26 holes (3,5 x 7,0 cm) 2 x..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- [Make your own 1x1 22 IO pin Arduinio Compatible](#) Tested ExtraCore boards and kits are now available for sale from Rugged Circuits. What is it? This Instructable will give you all the files and information you need to make your own Arduino Compatible in small surface mount package. It requires a board manufactured to..... Listed under: [How To – DIY – Projects](#), [Projects](#)
- [MFRC522 RFID Reader Interfaced With NodeMCU](#) If you have noticed in an office before, you would be probably aware of those RFID cards or Tags that would unlock specific doors depending on your access.Well let's make a simple NodeMCU RFID reader using the MFRC522 module, and program the NodeMCU to provide..... Listed under: [Other Projects](#)
- [Led Star with Arduino and WS2811 Neopixels](#) Description This little project makes a great ornament to hang in your window at Christmas time. It is a 20" wide star with 50 "neopixel" leds around the perimeter. Each led is individually addressable and it is controlled by an arduino device which can be..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
- [MQTT and Wifi Powered Mailbox Flag](#) A couple of years I embarked on my own home automation project. It started off by building a server controlled 433 MHz transmitter build with an Arduino to switch lots of cheap PT2262 based remote switches. Later I added an Arduino based receiver for my..... Listed under: [Wifi - Wlan Projects](#)
- [Arduino Joystick Mouse Control Code](#) Using the Mouse library, you can controls a computer's onscreen cursor with an Arduino Leonardo, Micro, or Due. This particular example uses a pushbutton to turn on and off mouse control with a joystick. Cursor movement from the Arduino is always relative. So every time..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
- [Instructables Hit Counter \(ESP8266-01\)](#) Some time ago, I tried to make an "Instructables Hit Counter" using the Instructables API, and an Arduino Uno with a wired network shield. However, with the limited RAM of the Arduino Uno, I was unable to get the system to work. A while ago, I noticed..... Listed under: [Wifi - Wlan Projects](#)
- [Arduino The 5\\$ KarduinoSS pad](#) So, looking at these Kaoss pads and alike hardware, I found that there is hardly any point in this device being so expensive, when you just want to use it as MIDI controller. Going through my parts bin, I found a Synaptics touchpad from an old..... Listed under: [Sensor – Transducer – Detector Projects](#)
- [Arduino Modules – Flame Sensor](#) Quick and simple start guide for using and exploring the Flame Sensor module with an Arduino. The model in the example I am using is from Deal Extreme [DX] and can be found HERE. (The instructable for the Rain Sensor is now available!) Materials needed:..... Listed under: [Sensor – Transducer – Detector Projects](#)
- [Control Servo Motor Using Accelerometer](#) Lets begin with another cool instructable. In this Instructable we will learn how to control the position of Servo Motor using Accelerometer with NodeMCU. Step 1: Things to Be Collected To begin with this instructable all you need is : Hardware Requirement ADXL335 : Accelerometer..... Listed under: [Motor Projects](#)
- [Arduino Row-column Scanning to control an 8x8 LED Matrix Code](#) LED displays are often packaged as matrixes of LEDs arranged in rows of common anodes and columns of common cathodes, or the reverse. Here's a typical example, and its schematic: These can be very useful displays. To control a matrix, you connect both its rows..... Listed under: [LED Projects](#), [Projects](#)
- [OLED Display \(SPI\) With Particle Photon](#) Particle Photon is a tiny micro controller, just about the size of an arduino nano. But the photon is designed for easy IoT prototyping, it supports OTA updates to its firmware. So all we have to do is get it connected to the internet and we..... Listed under: [LED Projects](#)
- [Read ASCII String using Arduino](#) This sketch uses the Serial.parseInt() function to locate values separated by a non-alphanumeric character. Often people use a comma to indicate different pieces of information (this format is commonly referred to as comma-separated-values), but other characters like a space or a period will work too. The values..... Listed under: [LED Projects](#), [Metering – Instrument Projects](#), [Projects](#)
- [Arduino Controlled Lego Lighthouse](#) Lighthouses have been guiding boats to safety for thousands of years. One of the earliest and most notable of these was the Pharos of Alexandria. This huge structure stood for nearly two thousand years. When deciding on a lego project, I wanted to build something..... Listed under: [Game – Entertainment Projects](#)
- [Romantic Led Heart SMD](#) Hi makers! This is my first instructables and I want to address some important things firts: I made this project with the idea of using the lest amount of tools so that everyone could do it! Even I don't have lot's of tools, only the..... Listed under: [LED Projects](#)
- [Interface I2C LCD Using NodeMCU](#) Wassup Makers!! In this Instructables we will learn how to interface an LCD (Liquid Crystal Display) to the NodeMCU board. These 16x2 LCDs are very popular and broadly used in electronics projects as they are good for displaying information like sensor data from your project, and also they are very cheap..... Listed under: [LCD Projects](#)
- [Arduino Sprinkler System plus Web control](#) A smart sprinkler system for the rest of us... No soldering involved ! Just pile up a couple of shields on top of an arduino and control your sprinkler system from anywhere. A couple of friends wanted to replicate the sprinkler system presented in this..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)

61.  [OLED Interfaced to NodeMCU](#) OLED!! What is an OLED? OLED (Organic Light Emitting Diodes) is a flat light emitting technology, made by placing a series of organic thin films between two conductors. When electrical current is applied, a bright light is emitted. OLEDs can be used to make displays and lighting. Because..... Listed under: [LED Projects](#)
62.  [Arduino Controlled Relay Box](#) This project is designed to help you construct some relay boxes for controlling power from your wall socket using an arduino or microcontroller. The inspiration for writing an instructable came when I decided to build some relay boxes for my personal Garduino project. For safety concerns..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
63.  [4x4x4 LED Cube \(Arduino Uno\)](#) In this tutorial I'll show you how to make a 4x4x4 LED cube for around \$15.00. The cube has 64 green LEDs which make up it's 4 layers(positives) and 16 columns(negatives). These are all wired to a Arduino Uno. An Arduino is a single-board microcontroller,..... Listed under: [LED Projects](#)
64.  [ESP8266 ESP-12E Arduino Clock W/ Outside Temp & LEGOS & NeoPixel Ring](#) We went all 'cord-cutter' and ditched our Cable box and realized something was now missing in our family room...the oh so familiar LCD clock that was always present. I decided to get to work on a replacement and had some fun with it. If you're like me..... Listed under: [Clock – Timer Projects](#)
65.  [Arduino Chicken Coop Controller](#) Over the last few years my family has been keeping ex-battery hens - they are about 18 months old and have had a horrendous life kept cooped up in small cages in large warehouses. As much as we love these little bundles of joys and..... Listed under: [Home Automation Projects](#), [Projects](#)
66.  [Debounce an input using Arduino](#) This example demonstrates how to debounce an input, which means checking twice in a short period of time to make sure it's definitely pressed. Without debouncing, pressing the button once can appear to the code as multiple presses. Makes use of the millis() function to keep track..... Listed under: [How To – DIY – Projects](#), [Projects](#)
67.  [Arduino Calculator](#) In this Instructable I will show you how to make an Arduino calculator that is just as good as any other calculator (well... sort of). Even though it's probably not practical due to it's size, repetitive use of the equals button (due to the lack..... Listed under: [Calculator Projects](#)
68.  [ESP8266 Basement Monitor](#) My basement gets wet when it rains a lot so I wanted a way to monitor it. I decided to try using an ESP8266 as it has built in WiFi. I paired that with a DHT22 Humidity & Temperature Sensor and a float sensor to..... Listed under: [Sensor – Transducer – Detector Projects](#)
69.  [DIY AM Radio With Arduino](#) After I finished my last project, I couldn't stop thinking how to build an AM receiver, that would also operate in conjunction with my little friend Arduino. To minimize a workload and complexity, especially with RF part of the circuitry, I come up to conclusion,..... Listed under: [How To – DIY – Projects](#), [Projects](#), [Radio Projects](#)
70.  [Blink Without Delay using Arduino](#) Sometimes you need to do two things at once. For example you might want to blink an LED (or some other time-sensitive function) while reading a button press or other input. In this case, you can't use delay(), or you'd stop everything else the program while..... Listed under: [LED Projects](#), [Projects](#)
71.  [Controlling Devices in Swift With BLE](#) In this project we will use an iPhone to control devices connected to an STM32 device. The project is a starting point for more exciting experiments such as remote controlled robots or any other thing you might want to control in your home. I encourage..... Listed under: [Other Projects](#)
72.  [DIY navigation device for blind people using Arduino and Android smart phone](#) In this project you can cover your eyes and let your smartphone navigate you to avoid obstacles, the application is mainly a DIY navigation device for blind people. I knew that 1Sheeld is about to launch a new text to speech shield, and so I..... Listed under: [Arduino Android](#), [Home Automation Projects](#), [How To – DIY – Projects](#), [Medical – Health based Projects](#), [Phone Projects](#)
73.  [ESP32 Solar Weather Station](#) For my first IoT project I wanted to build a Weather Station and send the data to data.sparkfun.com. Small correction, when I decided to open my account in Sparkfun, they were not accepting more connections, so I choose another IoT data collector thingspeak.com. Continuing... The system..... Listed under: [Solar energy projects](#)
74.  [Home Made Arduino Prototype Shield](#) Hi. I've just got myself an Arduino Uno R3 and I'm really new in the world of Arduinos. There's so much to learn and explore 😊 One of the first shields that I'm tempted to buy is the Prototype Shield. I think building a prototype..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
75.  [Arduino Timer Interrupts](#) Timer interrupts allow you to perform a task at very specifically timed intervals regardless of what else is going on in your code. In this instructable I'll explain how to setup and execute an interrupt in Clear Timer on Compare Match or CTC Mode. Jump..... Listed under: [Clock – Timer Projects](#), [Projects](#)
76.  [CO2 Ppm Sensor Logger \(\\$140\)](#) The goal of this project is to build a cheap alternative to measuring CO2 ppm in the air. It's a nice simple way to see over-time change in ppm using a cheap NDIR carbon sensor and a temperature/pressure sensor to achieve better accuracy. In this..... Listed under: [Sensor – Transducer – Detector Projects](#)

77.  [Quiz Game Show Buzzer using Arduino](#) A good friend of mine who's a teacher was doing quizzes in her class making students compete to answer questions... resulting in them complaining they raised their hands before the others. I decided to give her this quiz show type buzzer for Christmas to solve..... Listed under: [Game – Entertainment Projects](#)

78.  [Omnik Inverter Off It's Cloud and on My MQTT](#) I have a solar power installation using an Omnik string inverter. Omnik is a China based manufacturer of PV inverters and they make extremely efficient devices. Optionally, you can install a WiFi module to make it "connected". I am very content with the device, with..... Listed under: [Wifi - Wlan Projects](#)

79.  [Make an Arduino LCD shield](#) In this short tutorial we make an Arduino LCD shield. Updated 18/03/2013 Today we are going to make an Arduino shield with an LCD module. More often than not I have needed to use an LCD shield in one of my projects, or with the..... Listed under: [LCD Projects](#), [Projects](#)

80.  [Web Client using Arduino](#) This example shows you how to make a HTTP request using an Ethernet shield. It returns a Google search for the term "Arduino". The results of this search are viewable as HTML through your Arduino's serial window. Circuit The Ethernet shield allows you to connect..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

81.  [LED Head Arduino TED](#) LED HEAD TED meet the world. I have always been interested in a bare-bones Arduino but never really saw the point if it was not practically useful, This is my entry into Little Bits contest, I tried to stay true to the " little bits"..... Listed under: [Game – Entertainment Projects](#)

82.  [Cute Drawing Buddy V1, SCARA Robot – Arduino](#) I want to make a robo arm with less cost which draw cute pictures. That robot want to make my Daughter happy and it can able to dance. I saw a Cutest drawing robot in Kickstarter. I like it very much and want to make..... Listed under: [Robotics – Automation Projects](#)

83.  [Arduino Esplora Remote](#) This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The application on the computer reads the sensors on the Esplora board and controls the buzzer and the RGB LED through a graphical interface. The image in..... Listed under: [Projects](#), [Radio Projects](#)

84.  [Weather Portal](#) There have recently been a series of web query projects that use the miraculously tiny and affordable ESP8266 micro controllers. Most have involved the output going to a tiny screen with small graphics. The local YMCA in Anchorage just completed a beautiful remodel but lacked..... Listed under: [Other Projects](#)

85.  [Access control with Arduino plus Keypad 4x4 plus Servo](#) Hi guys, I bring a new instructable for arduino, the control access with password, 4x4 keypad and a servo. We will use the Password and Keypad library for arduino, besides using the servo library, but this project can also be modified by changing the servo,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#)

86.  [Animatronic Eyes and Wii Nunchuck Part 2 using Arduino](#) After I built the animatronic eyes in PART 1, I wanted to complete the face with a voice and possibly moving eyebrows. If you look back at my PART 1, you'll see that for the base I used a model from Thingiverse. Once you have..... Listed under: [Game – Entertainment Projects](#)

87.  [Adafruit's Circuit Playground As a Robot Controller With Bluetooth](#) A friend gave me one of Adafruit's circuit playgrounds (developer edition) to use, and I wanted to see would it make a good robot controller. The circuit playground is packed full of features like sensors, neo-pixels and even an accelerometer. I wanted to add a..... Listed under: [Robotics – Automation Projects](#)

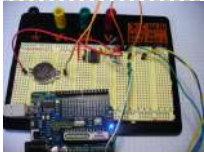
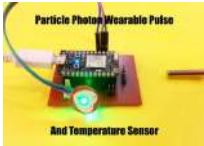
88.  [iPod Information Screen using Arduino](#) My girlfriend, a music buff, asked me to come up with a better way for her to look at the track information of the current song playing on her iPod touch while she was using it in the car. Those of you that have or..... Listed under: [Phone Projects](#), [Projects](#)

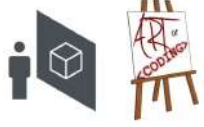
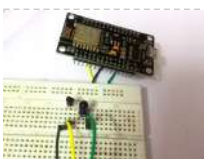
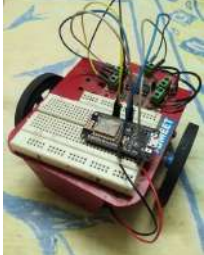
89.  [Autonomous Race Car using Arduino](#) Build this autonomous driving robot car based on a old RC toy car. I removed the radio control board from the car and replaced it with a brain in the form of an Arduino UNO board (plus a motor driver board) and gave it an..... Listed under: [Car Projects](#)

90.  [Manual Controlled Toll Gate Using Push Button](#) n this Instructable we will simulate an Toll Booth Gate by using a manual Push Button to open and close the gate. How Does It Work? When the vehicle comes in front of the gate, the push button is pressed & the gate is opened, this is done by sending a..... Listed under: [Motor Projects](#)

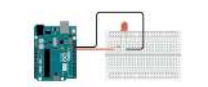
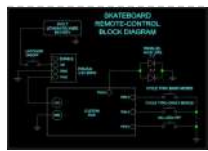
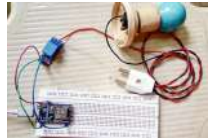
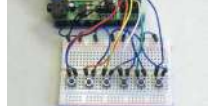
91.  [Arduino powered GLCD \(Graphic LCD\)](#) Displays are always nice. So far I've just been demonstrating how to use 7-segmented displays to display numbers using very few resources. But what if you want to display text? Or pictures? Or both? Well in order to do that, you're going to need a..... Listed under: [LCD Projects](#)

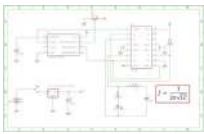
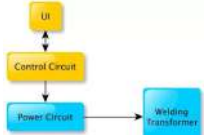
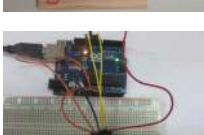
92.  [Measure Your WiFi Signal Strength Using Particle Photon](#) WiFi has become an integral part of our life and daily billions of people use WiFi as a method to access the internet. But the range of WiFi is limited, unlike a cellular connection. A normal WiFi router usually has a range of about a 100m..... Listed under: [Wifi - Wlan Projects](#)

93.  [ATTiny powered Arduino Projects](#) Arduino is a great platform. No question. But what if I told you that you could take your entire board and compact it into tiny package. And I mean really small. The chip in the picture is an ATTiny84, and that is the big version..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Projects](#)
94.  [Irrigation logic controller/project log using Arduino](#) Hello, I am going to explain my project in just a minute, but first I wanted to explain how I became involved in this project. I like to save money were I can, so it is not hard to understand why I carpool to work..... Listed under: [Home Automation Projects](#)
95.  [Arduino Self-Driving Car](#) This is basically a Self-Driving Car powered by Arduino R-3 Development Board and a L293D Motor Shield.It uses the data given by the HC-SR04 Ultrasonic Sensor which is connected to analog pins of the arduino board. As an additional feature, I have added a Micro..... Listed under: [Car Projects](#)
96.  [Keyless Entry / Arduino](#) Keyless Entry System Enter the correct code into the keypad and the servo will unlock the door. Enter the incorrect code and Sorry you stay out. There was a couple of stipulations i wanted in my Keyless Entry system: Helper Light. A light that would..... Listed under: [Calculator Projects](#)
97.  [An Arduino real time clock shield](#) Today we are going to make a real time clock Arduino shield. Doing so will give you a simple way of adding ... real time capability to your projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time..... Listed under: [Clock – Timer Projects, Projects](#)
98.  [Spotted Gecko Habitat Temperature Monitor/Thermostat W/Arduino & ESP8266 ESP12](#) Soooo....Wifey decided that it was time for a new pet. Spin the wheel....A Spotted Gecko!! Well, Geckos are apparently very temperature sensitive creatures so we invested in a UTH (Under Tank Heatpad) for those of us that are new to the world of reptiles. The purpose..... Listed under: [Temperature Measurement Projects](#)
99.  [Qtechknow Robot Obstacle Course using Arduino](#) Have you ever thought of controlling your FuzzBot wirelessly? Do you want to make a real - life video game? Do you want to learn about the tech behind NFC and RFID? - the Qtechknow Robot Obstacle Course How - To Guide is for you!..... Listed under: [Robotics – Automation Projects](#)
100.  [Twitter Physical Client Using Arduino](#) In this project I'm building a physical Twitter client using Arduino and a flag, basically an arduino powered retweet indicator, whenever any of my tweets is retweeted some physical action will happen to notify me of that. You'll need: 1. Flag. 2. Arduino. 3. Laptop..... Listed under: [Internet – Ethernet – LAN Projects](#)
101.  [Particle Photon – Wearable Pulse and Temperature Sensor](#) The Particle Photon is a microcontroller suitable for wearable project's considering it's small form factor and that it supports OTA updates. For those of you who do not know what a Particle Photon is it is a tiny microcontroller with on board WiFi (Cypress WiFi chip) and..... Listed under: [Temperature Measurement Projects](#)
102.  [Simple RFID access system using Arduino](#) In this tutorial you can make an RFID access system. It's very simple and can be used with a wide variety of end-uses. Updated 18/03/2013 The purpose of this project is to prototype a basic RFID access system. Although it is not that complicated, this..... Listed under: [Projects, RFID - NFC projects, Security – Safety Projects](#)
103.  [IOT BMI Indicator and Mood Light Using Feather Huzzah and IFTTT](#) Recently my wife has suggested that I should lose a few pounds in weight (too much time geeking out and not enough time in the gym). With that in mind -and in true nerd fashion- I wanted to create a method to see my progress,..... Listed under: [LED Projects](#)
104.  [Clock Four – Scrolling text clock using Arduino](#) Introduction Time for another instalment in my highly-irregular series of irregular clock projects. In this we have "Clock Four" – a scrolling text clock. After examining some Freetronics Dot Matrix Displays in the stock, it occurred to me that it would be neat to display..... Listed under: [Clock – Timer Projects, Projects](#)
105.  [The Pill Reminder using Arduino](#) Back in January 2014 I was at a meetup of Baby Boomer Makers at TechShop in San Carlos, California. We were going around the table, each taking a turn to talk about projects we'd like to do. Bob spoke up to describe a problem his..... Listed under: [How To – DIY – Projects](#)
106.  [IoT – Automatic Router \(and Server\) Reset](#) Usually inventions are invented to serve a need or to solve a problem. So this small gadget that i constructed came to serve a need of mine.I have a NAS, Atom based file server, that runs on Ubuntu, but from time to time the operating..... Listed under: [Internet – Ethernet – LAN Projects](#)
107.  [Bear With Me Using Arduino](#) This instructable teaches how to make our Bear With Me system, a prototype that allows two users to tangibly send and receive hugs (as well as motion) in near real-time. The bears will be able to send tweets when physically hugged. Their hearts will glow..... Listed under: [Game – Entertainment Projects](#)
108.  [Getting Started With Freescale K64F](#) There is a lot of buzz going around Arduino and the series of boards. One of the most used board from the Arduino series is the Arduino Uno. But what many people don't notice is that there is a board similar to Arduino UNO but has..... Listed under: [Other Projects](#)
109.  [Using switch to control Piezo speaker with Arduino](#) In this project, we will learn how to use a speaker (peizo sounder) and use switch button to change the pitch of the sound. Sorry about this one, you might find it a bit difficult to digest at first, and I didn't realise it's actually..... Listed under: [Projects, Sound – Audio Projects](#)

110.  [Word Clock in German using Arduino](#) While in Germany last year, I saw a world clock in a store similar to this one in a store that was priced at 900€. I read several instructables online on how to create a World Clock so I decided to give it a shot..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
111.  [WiFi Bathroom Humidity Sensor W/Fan Control, App & Automation](#) <https://youtu.be/EOwaKpxijXI> Step 1: The Board & Shields Wemos D1 Mini 11 digital input/output pins, all pins have interrupt/pwm/I2C/one-wire supported(except D0) 1 analog input(3.2V max input) a Micro USB connection Compatible with Arduino Compatible with nodemcu DHT11 Temperature: -20~60°C Humidity: 20-95%RH (±5%RH) It uses D1 and..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
112.  [How to set up a Public Window](#) Public Window (<http://www.publicwindow.net>) is an open source project which allows artists to display their creations in a window and have people from all around the world interact with it. This is a step-by-step guide on how to set up a Public Window of your own. A..... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)
113.  [Moisture Control Unit – MCU](#) In this Instructables, you will see how to Interface Moisture sensor to your NodeMCU. And check the moisture value and the same to be displayed on the LCD. We'll use Liquid Clear Crystal to display the moisture value. This 16x2 LCD is very popular and broadly used in electronics projects as they..... Listed under: [LCD Projects](#)
114.  [Sonar For The Blind using Arduino](#) This is a project I'm calling Tacit. No, I didn't bother making an awkward backronym for it, it just seemed like an appropriate name that's a lot shorter (though less descriptive) than "Hand-Mounted Haptic Feedback Sonar Obstacle Avoidance Assistance Device". It measures the distance to things and translates that into pressure..... Listed under: [Medical – Health based Projects](#), [Projects](#)
115.  [Backpack Anti-Theft Alarm using Arduino](#) If you're a student, like me, then you have heard of all the theft that occurs on campuses today. I can't even leave my backpack alone for five minutes without worrying about it getting stolen. To ease my mind and to help fellow students, I've..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
116.  [Automatic Water Heating System 2.0](#) This is the modification of my old version. This is a technology in small box. In the previous version there is no possibility of adjusting the temperature that we need. It had only 2 temperature setup. In this version I added temperature adjustment using rotary..... Listed under: [Temperature Measurement Projects](#)
117.  [Automated 5 Gallon Bucket Feeder](#) This bucket feeder design was motivated by the fact that my wife and I live in different cities and have a cat that hates to ride in the car. The automated feeder makes it possible to be able to leave our cat at one apartment..... Listed under: [Other Projects](#)
118.  [Arduino Breadboard Shield](#) Are you tired of having a hard time trying up a circuit on a breadboard because your arduino takes up a lot of space? This shield can be a solution to your problem! The Arduino breadboard shield is again, an accessory for your arduino board..... Listed under: [Development Board – Kits Projects](#)
119.  [Arduino Serial Communication Code](#) Arduino can send output through serial communication to your computer over USB. The output can be anything such as status, text, sensor reading, value, number etc. You can view the status output by clicking Serial Monitor button at Arduino Environment software. Instruction; 1) Connect your..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
120.  [Universal Remote Using ESP8266\(Wifi Controlled\)](#) This project is to replace the conventional remote control for all the home appliances like AC, TV, DVD players, music system, SMART appliances !!! Making a whole junk of remote littering around, making us puzzle!!! This project will save us from the junk to remotes..... Listed under: [Wifi - WLAN Projects](#)
121.  [Amazon Alexa Enabled USB Fan](#) Amazon's Alexa is cool. USB fans are cool. Alexa enabled USB fan, even cooler. This fan turns on with a voice command to an Amazon Alexa device, "Alexa, turn [insert your name here]'s fan on". The fan is also set to turn off automatically after..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
122.  [Connect several digital inputs to one analog input using Arduino](#) I often run out of digital pins on my Arduino. Anything as complicated as, say, a video game controller, was near impossible with the amount of pins I had available. Multiplexing buttons works, but it requires lots of connections and soldering. So, I put together..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
123.  [RC tank with a moving FPV camera using Arduino](#) In this instructable I show you how to build remote control tank with FPV camera. At the beginning I build only RC tank without FPV camera but when I was driving it in the house I have not seen where it is. So I came..... Listed under: [Video – Camera – Imaging Projects](#)
124.  [WiFi Car Using NodeMCU](#) We have build car using many transmission technologies. But what about a WiFi Controlled Car? Actually speaking..Wifi is till now the most promising technology and engineers are using that tech to improve it more and more. This tech is most popular today and will remain..... Listed under: [Wifi - WLAN Projects](#)
125. [Arduino home energy monitor shield](#) Although products are becoming more and more available for monitoring your home power usage, I'm one of those idiots who can't leave well enough alone and who would rather shell out \$100 and hours of my time in order to save \$20 and learn something..... Listed under: [Metering – Instrument Projects](#), [Projects](#)



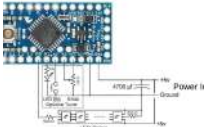
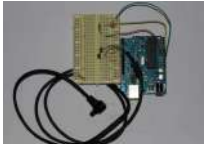
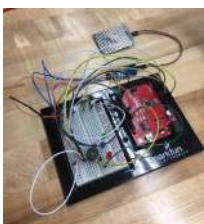
126.  [Quiz Game Controller using "Lights and Sounds Buzzers" and Arduino](#) Jeopardy style quiz games are favorites for creating excitement and educational instruction at the same time. Teachers, summer camp counselors, and even industry educators find this type of game to help generate interest and involvement from the participants. The idea behind the game is simple,..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
127.  [Blink led example arduino with python](#) To blink an LED with an Arduino using Python, you will need to: Connect the LED to the Arduino board. You will need to connect the positive leg of the LED (the longer leg) to a digital output pin and the negative leg (the shorter..... Listed under: [How To – DIY – Projects](#), [LED Projects](#)
128.  [PCB – Skateboard Floodlight V2](#) A while back, we constructed a pair of LED skateboard truck-risers. That project was intentionally created without the aid of advanced tools and techniques. We decided to try the concept again but without limiting ourselves. This time around we used custom designed PCBs and 3D printed..... Listed under: [LED Projects](#)
129.  [Arduino Phone Book](#) Ever wanted to have a Phone Book, controlled using a microcontroller, which is very easy to use, and you can use it while talking on phone, and is saving data on SD Card? then this instructable is for you. In this instructable you will learn..... Listed under: [Phone Projects](#)
130.  [IoT Set-up to Operate/control 220-240 Volt AC Bulb/Device: NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser \(HTML + JavaScript/jQuery\)](#) What are we messing with? IoT (Internet of things) set-up to operate/control 220-240 Volt AC Bulb/Device NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser (HTML + JavaScript/jQuery) WARNING!! – THIS PROJECT INVOLVES WORKING WITH HIGH VOLTAGES THAT CAN CAUSE SERIOUS..... Listed under: [Other Projects](#)
131.  [Soundgraffiti with arduino mega](#) So we haven been working on the new soundgraffiti board. This is an installation wich creates sounds using sprayed water. The connection is made with water. We used copper plates as our sensor. the plates had a cutout line in the middle of 0,1 mm..... Listed under: [Sound – Audio Projects](#)
132.  [Arduino: Electrical Engineering Basics](#) In this week's arduino tutorial, we take a bit of a detour and focus on some key elements of electrical engineering design that we'll be using in future episodes. [box type="note" color="#202020" bg="#ffbb00" font="verdana" fontsize="14" radius="20" border="#000" float="right" head="Attributes"]Thanks to Jeremy..... Listed under: [Other Projects](#), [Projects](#)
133.  [Simple IoT Remote Switch With MQTT and ESP8266](#) Many years back when I was still quite heavily involved in the day-to-day company IT matters, we need to subscribe to a service called "Smart Finger" when we put our servers in a datacenter. Basically what this service is all about is to allow datacenter..... Listed under: [Robotics – Automation Projects](#)
134.  [Temperature Sensor for Shower using Arduino](#) With this device you diminish the use of water in your house or work. Instead of waiting to see vapor in the shower to get in, this device help you to know when the water its at the temperature you want and you can instantly..... Listed under: [Home Automation Projects](#), [Projects](#), [Temperature Measurement Projects](#)
135.  [Fifty Dollar Box Bot Using Arduino](#) The objective is to construct a programmable hobby bot that is affordable and simple to make. The parts will be purchased from places such as Wal-Mart, Radio-Shack, any Hobby Store, or online store that is accessible to the public. The price range is 50 dollars..... Listed under: [Robotics – Automation Projects](#)
136.  [Motion Controlled Ultrasonic Lamp using Arduino](#) Recently I've been learning about Ultrasonic waves and how to harness their power. It's simple enough to make some type of sonar device, but I wanted to take at a step cooler and see if I could use Ultrasonic waves to not only detect movement,..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
137.  [Cayenne and SparkFun IoT 433 Mhz Sockets](#) I know the Z-Wave or Netatmo system for IoT, domotic system and automation of house. But now you can make a simple system that uses a Node MCU board and Cayenne platform for control five 110/220 V sockets. You can download the Cayenne app on your phone or visit the Dashboard..... Listed under: [Other Projects](#)
138.  [Arduino Interrupts and Debouncing](#) Interrupts are an extremely useful, yet often feared element of microprocessors. Interrupts allow you to run a program, while still being able to react to asynchronous input from the outside world. [box type="note" color="#202020" bg="#ffbb00" font="verdana" fontsize="14" radius="20" border="#000" float="right" head="Attributes"]Thanks to..... Listed under: [Other Projects](#), [Projects](#)
139.  [Internet/cloud Controlled Home Automation Using Esp8266 \(aREST, MQTT, IoT\)](#) Step 1: COMPONENTS REQUIRED Only 4 components required - 1. ESP8266 NODEMCU or WEMOS D1 mini or any esp8266 wifi development board2. RELAY (5V or 6V)3. ULN2003 or UNL2003A (Relay driver IC)4. Jumpers (obviously or else solder it!!) The main structure of the project is..... Listed under: [Internet – Ethernet – LAN Projects](#)
140.  [Chat Server Using Arduino](#) A simple server that distributes any incoming messages to all connected clients. To use, open a terminal window, telnet to your devices IP address, and type away. Any incoming text will be sent to all connected clients (including the one typing). Additionally, you will be..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
141.  [Monkey Automats Using Arduino](#) This instructable will guide you through the process of building a set of automaton monkeys in the style of "Hear No Evil, See No Evil, Speak No Evil." Our design ends with two monkeys reacting at the push of a button located in the Speak..... Listed under: [Game – Entertainment Projects](#)

142.  [CardioSim](#) First of all, this is my first Instructable, and I'm not a native English speaker (or writer), therefore I apologize in advance for the overall low quality. However, I hope that this tutorial can be helpful for people using a heart rate (HR) monitor system..... Listed under: [Clock](#), [Timer Projects](#)
143.  [Arduino Controlled Motion Sensor](#) In this Instructable, I'll be explaining how to build a motion activated alarm! It uses an Arduino microcontroller, a PIR (passive infrared) sensor, and a type of alarm. You can use an LED indicator, a buzzer, or a piezo. That's the easy part. I will..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
144.  [Spot Welder 1-2-3 Arduino Firmware](#) Why another spot welder project? Building a spot welder is one of the (arguably few) cases in which you can build something for a fraction of the price of the commercial version with comparable quality. And even if build-before-buy were not a winning strategy, it..... Listed under: [Other Projects](#)
145.  [MaKey MaKey Shield for Arduino](#) MaKey MaKey is a project created by Eric Rosenbaum and Jay Silver. It's an Arduino based keyboard. A very special keyboard, because you can use apples, bananas or Play Doh as keyboard keys. Sounds strange, but it works very well. How it works: The trick is..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
146.  [Classic Joystick to USB Adaptor using Arduino](#) If you grew up in the early 1980's and were into video games, you probably had an Atari 2600, ColecoVision, or similar game console. The controllers or joysticks for each of these systems had a distinct feel that is different from today's game consoles or..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
147.  [128x64 OLED Enclosure the Easy Way](#) There are lots of Instructables on how to use SSD1306-based 128x64 OLED displays. Many of these write-ups are very informative but just about all of them look like an unfinished science project. (In fairness, most are directed at getting up and running with the display, not creating..... Listed under: [LED Projects](#)
148.  [Jar of Fireflies](#) This project uses green surface-mount LED's along with an AVR ATTiny45 microcontroller to simulate the behavior of fireflies in a jar. (note: the firefly behavior in this video has been greatly sped up in order to be easier to represent in a short film. The..... Listed under: [LED Projects](#)
149.  [LEGO T-Intersection LED Traffic Light using Arduino](#) Video not playing? See it on YouTube: <http://www.youtube.com/watch?v=q0tiiWwC6Zo>
Background Every Christmas we set up a large LEGO train layout in a section of the living room. This year, I ended up winning an eBay auction for a number of older-model LEGO road plates, one of..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
150.  [Six wheeled All Terrain Vehicle \(6WD\) using Arduino](#) Hello, In this post we'll be making a Six wheel drive all terrain vehicle (ATV). These are rare and hence expensive robots (at least in India). I made this ATV as my summer project. Dagu manufactures a similar 6WD chassis but its way too expensive..... Listed under: [Robotics – Automation Projects](#)
151.  [VRBOT \(Voice Recognition Robot\)](#) In this Instructable we'll make a robot (more like a RC car) which is controlled by voice i.e. Voice Recognition. Before I start to give you any further details one must know that this is Voice Recognition and not Speech Recognition that means the controller..... Listed under: [Robotics – Automation Projects](#)
152.  [CoaTracker Using Arduino](#) Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you..... Listed under: [Sensor – Transducer – Detector Projects](#)
153.  [ESP8266/ESP-12 Arduino Powered SmartThings DS18B20 Temp. Sensor](#) We all like to know what the current room temperature is, and sometimes what the temperature is in another room, or maybe even in your vacation house on the other side of the world. Maybe you want to monitor the temperature in your pet Lizard's..... Listed under: [Temperature Measurement Projects](#)
154.  [Model Police Car using an Arduino](#) We wanted to build a model police car with working lights and sirens. Then we decided to add a motor and instead of using a switch to turn everything on and off we used a photodiode. For our car the photodiode signal is a simple on off..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
155.  [Drain Clog Detector](#) Don't let a clogged drain slow you down! Coming back from our vacation, me and my wife were surprised by the water covering the floor of our apartment, and we found out it's not even clean water, it's drain everywhere. After clearing the drain and cleaning..... Listed under: [Sensor – Transducer – Detector Projects](#)
156.  [Remote Control: ESP8266 With Coin Cell](#) The big problem using the ESPs is the power consumption when Wifi "goes up", about 100-200mA, peak up to 300mA. Normal coin cells deliver a few mA, peak up to 20-40mA. But for the ESPs the voltage will collapse. We need "a little help of my..... Listed under: [Other Projects](#)
157.  [Open a box with the flick of a switch!](#) Have you ever given something to someone and wished that the box you gave it in opened automatically? No? Well neither have I (well, maybe) :D. However if you have, this is the guide for you! With just a flick of a switch the box..... Listed under: [Robotics – Automation Projects](#)
158. [How to turn inkjet printer to print on Coffee using Arduino](#) The aim of this project is to make latte printer, I used 1 printers and 1 scanner, it prints one line a time, all what I have done is hacking the sensors of the printer and I used Arduino Uno to send different values..... Listed under: [Game – Entertainment Projects](#),



[Home Automation Projects](#)

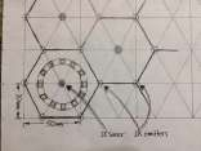
159. [Alexa Controlled Servo](#) Introduction I have a laptop on a shelf in my office that monitors several cameras that are around the outside of my house. They alert me to deliveries and visitors. While I can use a web browser to see their images it is easier to just..... Listed under: [Other Projects](#)
160. [Autonomous Control of RPM of Engine Using Feedback System From a IR Based Tachometer](#) There is always a need for automating a process, be it a simple/monstrous one. I got the idea to do this project from a simple challenge that I faced while finding methods to water/irrigate our small piece of land. The problem of no current supply lines and costly..... Listed under: [Other Projects](#)
161. [Arduino + fischertechnik TX-C – Connecting I2C True Colour Sensor](#) Colour reading is a real issue for industrial models. I've been working on it for more than 12 months now, since December 2009. After many months of hard work, • starting with the standard colour reader (season 1) with features a red LED, •..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
162. [The 4x4x4 LED cube using an Arduino](#) In this instructable I will show you how to make a 4x4x4 LED cube that will be controlled by an Arduino Demulionove. now yes you might say" that Arduino has only 14 I/O pins well also the 6 analog pins can be used as pins..... Listed under: [LED Projects](#), [Projects](#)
163. [Make Your Own Connected Heating Thermostat and Make Savings With Heating](#) What is the purpose? Increase the comfort by heating your house exactly as you want Make savings and reduce greenhouse gas emissions by heating your house only when you need Keep control on your heating wherever you are Be proud you did it yourself Step 1: How Does It Increase Your Comfort ?..... Listed under: [Temperature Measurement Projects](#)
164. [Gravity Touch bluetooth glove using Arduino](#) Hey guys! I'd like to share with you the input device I created specifically to interact with AR glasses like the Google Glass, Meta, Moverio BT or with the VR headsets like Oculus Rift, Samsung Gear VR, vrAse, Durovis Dive. Those new products are amazing..... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
165. [Froggy World 3 The Seesaw Using Arduino](#) Froggy put on a little eye makeup before heading out for the new ride, "The Seesaw." The Seesaw is the third ride in the amusement park for adventurous plastic frogs. This ride received Froggy from "The Boot" and slides him over to a waiting rail..... Listed under: [Game – Entertainment Projects](#)
166. [Solar Weight-Based Plant Management With ESP32](#) Growing plants is fun and watering and caring for them is not really a hassle. Microcontroller applications to monitor their health are all over the internet and the inspiration for their design comes from plant's static nature and the ease of monitoring something that doesn't..... Listed under: [Solar energy_projects](#)
167. [Arduino DIY SD Card Logging Shield](#) Ready-made SD card logging shields for the Arduino typically cost in the range of \$15 - \$25. This is quite reasonable, but we might save a couple of bucks if we make our own. Not to mention all the fun in building it. Forget about..... Listed under: [Other Projects](#), [Projects](#)
168. [Virtual USB Keyboard Using Arduino](#) Communicating with a host computer can allow a simple Arduino-based system to gain access to a wide variety of devices and information. Most people link an Arduino to a host using serial communications across a USB connection with custom code running on the host to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
169. [Temperature and Humidity Monitor Using DHT22 & MAX7219](#) We always need to see the temperature and humidity when we sitting in our house to know whether we need to turn on/off AC, heater, cooler, etc. So here we have build this circuit to display temperature and humidity on the 7-segment displays, and we have used..... Listed under: [Temperature Measurement Projects](#)
170. [Smart Homer Web-enabled TV remote using Arduino](#) Smart Homer, a Web-enabled TV remote puppet Smart Homer is a Web-enabled puppet that turns on your TV when Simpsons is on. As Homer is too lazy to browse the Web himself, a script in the cloud checks the online TV program for him. If..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
171. [Construct A Musical FootBall Using Arduino](#) This project is to construct a musical football. The reason for my project is that I was inspired by a little kid with autism who love sports and music. So what better way to have fun then have a ball that you can play with..... Listed under: [Game – Entertainment Projects](#)

172.  [Dynamic LED Lighting Controller for Art](#) Introduction: Lighting is an important aspect of visual art. And if the lighting can change with time it can become a significant dimension of the art. This project started with attending a light show and experiencing how the lighting could totally change the color of..... Listed under: [LED Projects](#)
173.  [Simple Arduino L.E.D Police Lights](#) This was one of the first programs i wrote for the arduino after having it a few days 😊 we will be making l.e.d police lights with minimal materials Step 1: You will need. You will need Arduino (or suitable clone) Breadboard 2x 240ohm resistors..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
174.  [Lightning Shutter Trigger for a Camera using Arduino](#) I knew there were devices that could trigger a camera to fire during a lightning strike, but their circuits were more complicated than I wanted to make. I'm a software guy not a hardware guy so I decided to use an Arduino and that allowed me to write a..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
175.  [Movement Activated Redstone](#) This project is a motion activated redstone lamp. It works by using a crumble microcontroller and an ultrasonic distance sensor wired up to a relay. This project is being entered into the minecraft competition and any votes, favorites or comments would be greatly appreciated! Step..... Listed under: [Other Projects](#)
176.  [Dr Blinkenlights... \(or how I learned to afford the BlinkM\)](#) I love the idea of the BlinkM (individually addressed RGB leds controlled with 2 pins), but not so much the price (nearly 15 quid each!). Luckily, the hardware is open source and somebody has brought out an alternative firmware (although if you know where to..... Listed under: [LED Projects](#)
177.  [Space Battleship Yamato 2199 With Trinket Microcontrollers](#) Because of the remake of the animation and movie of Space Battleship Yamato, in addition to the attractive design of Bandai model. It make me interest to build this space battleship model again. Bandai not mention its scale, maybe ~1:2500 by estimation. <https://youtu.be/b5TzmONvX3o> <https://youtu.be/SdxBiHjwRUM> Step..... Listed under: [Motor Projects](#)
178.  [Arduino wall avoiding robot](#) This instructable assumes very little with respect to prior knowledge. If there are any areas you feel could be improved or clarified, please feel free to message or comment and I will update. Here are all the details you need to produce a simple wall..... Listed under: [Robotics – Automation Projects](#)
179.  [Power Quality Meter \(PQ Monitor\) using Arduino](#) Arduino UNO project, Power Quality Meter, someone would call it's PQ Monitor or PQ Analyzer. I had already published one blog devoted RMS voltage measurements on full band 20 – 20 000 Hz audio signals. (Following my own style, I'd refer to already published..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
180.  [Audio VU meter with Extra wide Dynamic Range 69 dB using Arduino](#) O'K, after having some fun with stereo version of the VU meter I described in my previous blog-post, now it's time to do a serious stuff. Studio grade VU meter !!! 24 steps, equally spaced every 3 dB, covering Extra wide Dynamic Range from -63 up to..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sound – Audio Projects](#)
181.  [Using Temperature, Rainwater, and Vibration Sensors on an Arduino to Protect Railways](#) In modern-day society, an increase in rail passengers means that rail companies must do more to optimize networks to keep up with the demand. In this project we will show on a small scale how temperature, rainwater, and vibration sensors on an arduino board can..... Listed under: [Temperature Measurement Projects](#)
182.  [Build A Light Suit Using Arduino](#) Why build a light suit? Probably because I've watched tron a few too many times (the 1984 version of course). I'd just discovered Arduino and was very excited, I'd made LED's flash and buzzers sound but now I wanted to make something new and interesting,..... Listed under: [LED Projects](#)
183.  [ESP32 LoRa Changing Frequency](#) What would you think about a program, made in the C language of the Arduino IDE, that makes the LoRa radio change frequency? This is what you will learn about in my video today, where you will learn about the differences between LoRa radio, LoRaWAN..... Listed under: [Other Projects](#)
184.  [Dot Matrix Printer from a CD/DVD Reader with Arduino](#) Hey! Some time ago while going through the pages here in Instructables, something catch my attention, a printer made of a CD reader, and i was amazed. I thought: "This is incredible, I have to make one!" I know that these kind of projects don't..... Listed under: [CNC Machines Projects](#), [Video – Camera – Imaging Projects](#)
185.  [Cardio Data Logger](#) Although nowadays many portable devices (smartbands, smartwatches, smartphones,...) are available that can detect the Heart Rate (HR) and perform trace analysis, chest strap belts-based systems (like the one in the upper part of thr picture) are still widespread and used, but lacking the possibility to..... Listed under: [Phone Projects](#)
186.  [Arduino powered hangman giftbox/lockbox](#) A medium sized box that requires the user to succeed in a game of hang man in order to gain access to the contents of the box. Great gift Idea!!! my Arduino sketch will be included in this instructible sorry for the poor quality pictures!..... Listed under: [Game – Entertainment Projects](#)
187.  [Mail Alarm](#) After completing my GSM Home Alarm V1.0 and some time of using, I decided to make some modifications. <https://youtu.be/obGU1exGBt4> In the hardware the main changes are the replacement of the ultrasonic sensor and the introduction of a keypad. On the software, I change the SMS notification by..... Listed under: [Clock – Timer Projects](#)

188.  [Measure RPM – Optical Tachometer using Arduino](#) This Instructable will show you how to make a Portable Digital Optical Tachometer using an Arduino Uno. This project is inspired from This instructable and is an enhanced version of it with an LCD display and a modified code. Instead of a slotted sensor ,..... Listed under: [Metering – Instrument Projects](#)
189.  [How to build an Arduino WiFi 4×4 with Android Controller](#) RC cars can be WiFi Cars...? RC cars are cool, but cheap RC cars have limited range and can only be controlled with the particular controller that was included with the car. I purchased a RC jeep, complete with 4 wheel drive, flexible suspension, and..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
190.  [Automatic Water Level Indication via SMS alert](#) Summary Students will learn how to construct a water Level Indicator/Controller that monitors the level of the overhead tank by constructing a circuit that will notify the user via SMS if the water supply to an area/home is initiated and indicate how high the water..... Listed under: [Projects](#)
191.  [Water Level Indicator](#) Summary In this project, we will create a water level indicator with three levels inside a tank using an Arduino and a water sensor, as well as three LEDs and a buzzer to indicate when the tank is full. Objectives To understand how a water..... Listed under: [Projects](#)
192.  [Nixie Clock Mood Barometer](#) An unremarked casualty of Progress is the aneroid home barometer. These days, you might still be able to find examples in the homes of people over ninety, but millions more are in the dump, or on ebay. In truth, the old-school barometer didn't help itself..... Listed under: [Clock – Timer Projects](#)
193.  [Autonomous Control of RC Car Using Arduino](#) This instructable shows how to modify an inexpensive RC car so it can be controlled by an on-board microcontroller. You can program the controller to make the car do any number of driving patterns and stunts. Once you have the car being controlled from the..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)
194.  [ESP-Now Rainstick](#) This fun little project will allow you the trivial joy of letting a electronic network announce that you have rain! The AI controlled, tear eliciting price'd Tesla has been rumored to have sensors that awaken the windshield wipers at the onset of rain. Being in..... Listed under: [Other Projects](#)
195.  [How to make a robotic dart shooting sentry](#) Tools: Hot Glue Gun Laptop with Arduino software 22 awg hookup wire (black, red, yellow) wire strippers usb cable drill 1/16th drillbit exacto knife Parts: 2 tongue depressors 1 clothespin 1 rubber-band 1 dart 1 cup (paper or plastic) 1 arduino 1 breadboard 1 led 1 momentary button..... Listed under: [Robotics – Automation Projects](#)
196.  [Controlling Hand Drill with Roboduino using Arduino](#) This will explain how we re-purposed a hand drill to re-spool solder using a roboduino (arduino compatible), two servos, and a DIY encoder. While one could use TRIACs to play with the AC power going into the drill, just using a servo to control the throttle..... Listed under: [Motor Projects](#), [Projects](#)
197.  [Adding CV inputs to the Auduino granular synth](#) When I first got into the Arduino I went looking for audio projects. One of the first things I built was TobaTobias' Auduino granular synth. I was so impressed I built a permanent unit in a heavy duty enclosure and incorporated it into my occasional..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
198.  [Measure Pressure With Your Micro:bit](#) The following instructable describes a easy to build and inexpensive device to perform pressure measurements and demonstrate Boyle's law, using the micro:bit in combination with the BMP280 pressure/temperature sensor. Whereas this syringe/pressure sensor combination has already been described in one of my previous instructables, the combination..... Listed under: [Other Projects](#)
199.  [GoFly – paragliding/hangliding/gliding altimeter-variometer from Your car navigation using Arduino](#) GoFly is a project based on PNA (car navigation devices with Windows CE), LK8000 tactical fligh computer software and variometer (altimeter) external input based on Arduino board and pressure sensor. Why? -You can build this for about 150\$, -Your ordinary PNA (Personal Navigation Assistant) changes..... Listed under: [Car Projects](#), [Metering – Instrument Projects](#), [Projects](#)
200.  [3-Axis Magnetic Field Sensor](#) Wireless power transfer systems are well on their way to replacing conventional wired charging. Ranging from tiny biomedical implants all the way to wirelessly recharging huge electric vehicles. An integral part of the research on wireless power is minimizing the magnetic field density. The International..... Listed under: [Sensor – Transducer – Detector Projects](#)
201.  [Quick and Easy Arduino Nightlight](#) Honestly, how many people have been in this scenario (leave a yes or no in the comments) : It is 2:30 in the morning and you wake up with a need to do something whatever that may be (bathroom, forgotten homework assignment, project due in..... Listed under: [LED Projects](#)
202.  [Using an Arduino to Control an Infrared Helicopter](#) In this Instructable we will explain how infrared signals are used by a remote to control a toy or device, then show how a simple circuit can be added to an Arduino to operate the same device through free, Open Source software. This document is part of..... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
203.  [WiFi Controlled Camera Slider](#) If you want to add interest to any video you are making, a good way to doing it is to add motion. There are an infinite number of motion effects you could use in your videos, but a classic, and very pleasing one, is a..... Listed under: [Wifi - Wlan Projects](#)
204.  [USA Flag made with diffused LED using Arduino](#) USA flag constructed using a total of 2,301 diffused red, white and blue LEDs completed with Arduino sketch animations, I hope this instructions helps anyone who wants to try this out. This flag can be displayed during the 4th of July,

memorial day or during..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [LCD Projects](#)

205.



[NeoPixel Reactive Table](#) Welcome to my version of the LED reactive table! I was inspired by previous work using discrete LEDs, such as this one, but I figured it would be easier and more fun to use NeoPixels -- programmable RGB LEDs that can be set to any color you want..... Listed under: [LED Projects](#)
206.



[Arduino Skateboard Speedometer](#) Using an Arduino, it is easy to make a speedometer/tachometer for virtually any man-powered vehicle. I made one for my skateboard that used a small magnet to count revolutions and utilized an LCD display screen. This Instructable will show you how you can do the..... Listed under: [Game – Entertainment Projects](#), [Metering – Instrument Projects](#), [Projects](#)
207.



[Fancy LED Hat](#) I've always wanted to do an Arduino project, but never had any great ideas for one until my family was invited to a fancy hat party. With two weeks lead time, I was curious if I could both plan and execute a motion sensitive LED..... Listed under: [LED Projects](#)
208.



[Automate Your Garage Opening Times](#) 1. Background My 1st project with Apduino Online was about to solve a simple problem, close the garage door after sunset, when it has been left open. We have a garage in the basement, which is used not only for car parking, but gardening tools..... Listed under: [Home Automation Projects](#)
209.



[How to control arduino board using an android phone and a bluetooth module](#) In this tutorial you'll learn how to use a bluetooth module and MIT's app inventor to create a wireless serial link between an android phone and an arduino board. Here is a short video showing an example app I created. I'll describe how to do..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
210.



[Quantifying Access to your Mind using Arduino](#) So, I manage a creative technology lab at California College of the Arts. It's essentially an educational hackerspace for art and design students. Pretty awesome, right? After graduating from the University of Minnesota with a degree in mechanical engineering, I was desperately trying to find..... Listed under: [How To – DIY – Projects](#)
211.



[Wireless Doorbell Receiver](#) This project describes the second part of the following two projects: A wireless doorbell transmitter as described in the Wireless Doorbell Transmitter Instructable. This Instructable also gives some introduction to these projects.A wireless doorbell receiver described in this Instructable. The wireless doorbell receiver will make a sound..... Listed under: [Wireless Projects](#)
212.



[Control Servo with Light using Arduino](#) Hello! In this Instructable i will teach you how to control a servo using a Photocell. This is very simple and good for beginners. Step 1: Materials 1 x Photocell 1 x 10k Resistor 1 x Arduino 1x Breadboard 1x Servo and some jumpers Step..... Listed under: [Motor Projects](#), [Projects](#)
213.



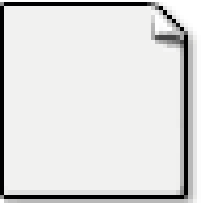
[Arduino Wireless Animatronic Hand](#) BTW!!!! This instructable is awsomeeeeeeeThis is a very simple but at the same time a very hard project depending on your skill level. Lets get to building! What this is, is a wireless animatronic hand that doesn't need a computer to operate. The user wears..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
214.



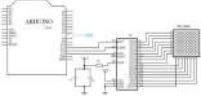
[Wireless Doorbell Transmitter](#) This project describes the first part of the following two projects: A wireless doorbell transmitter as described in this InstructableA wireless doorbell receiver to be described in the Wireless Doorbell Receiver Instructable When I am sitting in the backyard of my house I cannot hear it when..... Listed under: [Wireless Projects](#)
215.



[Binary/ Analog Clock](#) I was inspired by the digital/ analog clock to make my own special clock as my second instructable. I browsed the internet and found that servo clocks are rare and binary are common. So i decided to combine the two and this is what I..... Listed under: [Clock – Timer Projects](#)
216.



[Control anything remotely with Infrared signals using Arduino](#) Who would have thought that just about every Arduino attachment can be controlled in some way with a TV remote? Now its time to find out how. Arduino.skp141 KB Step 1: Setup and Materials The setup for this is quite basic. The real challenge is..... Listed under: [Projects](#), [Radio Projects](#)
217.



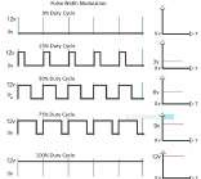
[Arduino 8x8 LED Matrix](#) In this project, we will learn about LED Matrix Displays and two different projects on Arduino 8x8 LED Matrix Interface. The first project will be a simple interface between Arduino and 8X8 LED Matrix to display information (even scrolling information and images can be displayed)..... Listed under: [LED Projects](#)
218.



[How to make an Arduino from scratch](#) Frugal Engineering is the best way forward for science. If you're interested in making some arduino's from scratch , you've come to the right place. You can see a video tutorial of this instructable : here It will supplement any loopholes or doubts you may..... Listed under: [How To – DIY – Projects](#)
219.



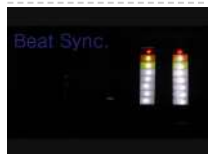
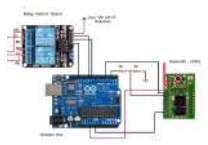
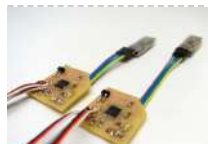
[Arduino Bluetooth Serial Connections](#) This is an introduction on how to setup, make a basic connection, and send data to and from an Arduino using Bluetooth! Bluetooth is great for transmitting data over medium distances and what's more, Arduino just treats it like a serial data connection. This means..... Listed under: [Other Projects](#), [Projects](#)
220.



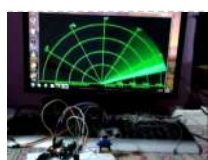
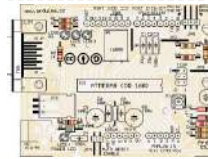
[Arduino DC Motor Control using L298N Motor Driver](#) In this project, we will see how to control a DC Motor using Arduino and L298N Motor Driver. There are different ways to control a DC Motor but the Arduino DC Motor Control using L298N Motor Driver is becoming quite popular for many reasons. Overview..... Listed under: [Motor Projects](#)

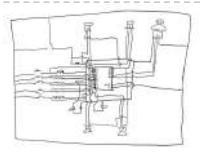
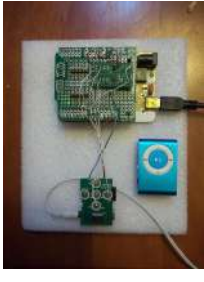
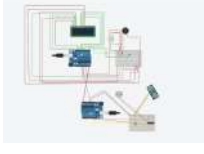
221.  [To blink LED from mobile phone or iPod or another computer via WiFi](#) Hello Everyone, I like this site too much, the site really played very important role in awakening my enthusiasm and creativity. This is my first project and its really for the first timers project. I got this project from Instructible site , modified to access..... Listed under: [LED Projects](#)
222.  [RGB LED Strip Circuit with Arduino](#) This Instructable covers the assembly of a circuit capable of PWM-ing (pulse width modulating) a high-power RGB LED strip and programming an Arduino to cycle through a range of colors. In this context, "high power" is 9-12 volts. I will discuss how to mount a..... Listed under: [LED Projects](#)
223.  [Arduino – Control LEDs with a Remote Control](#) Step 1: IR library First you need to go to this page and download the IR library. You just need to follow the read me file to install. I think that any IR remote control can do this, I'll be using a Philips Universal one..... Listed under: [LED Projects](#)
224.  [‘Knock Back’ – A Knock Echoing Arduino](#) This is a simple Arduino sketch that was originally designed to experiment with arrays and the built-in timing functionality. I based it on the tutorial sample code <http://www.arduino.cc/en/Tutorial/Knock> The system consists of a piezo sensor connected to an analog pin that listens for a knock from..... Listed under: [Sensor – Transducer – Detector Projects](#)
225.  [Week 8 : Embedded Programming & Networking and Communications](#) Part 1 - Embedded Programing A Morse Code Receiver and Transmitter This week's assignment was to program the board we made two weeks ago to do something, with as many different programming languages and programming environments as possible.I wanted to use all the features I have on..... Listed under: [Arduino Programmer Projects](#)
226.  [How to Build a Robotic Hand with Haptic Feedback using Arduino](#) For science fair this year, I felt like building something instead of doing an experiment. All I needed to do was look around Instructables for a project idea. I was inspired by njkl44's robotic hand since it reminds me so much of stuff out of..... Listed under: [Projects, Robotics – Automation Projects](#)
227.  [Arduino Tutorial: Capacitive Touch Sensors](#) Hello everyone! This instructable is a tutorial that will guide you on using the Capacitive touch sensors with Arduino. A Capacitive sensor is a kind of touch sensor, that requires little or no force to activate. In this Instructable about capacitive touch sensing, I'll show..... Listed under: [Sensor – Transducer – Detector Projects](#)
228.  [Make Wired Robotic Arm Edge to “Wireless” with DIY Arduino and XBee](#) UPDATE: Added Schematic, Top Layer PCB, Bottom Layer PCB, and both Top, Bottom PCB images When I finished the "RevIO" - an Arduino Clone that has the different way of exposing pins usage. I decided to go further to the next project. To test my..... Listed under: [Projects, Robotics – Automation Projects](#)
229.  [Arduino Nixie Clock & Weather Station](#) I wanted to build a Nixie clock driven by an Arduino and found a few places on the internet, but none were 100% complete to get it working from the beginning to end. I either found bad wiring diagrams, bad code in programs or bad..... Listed under: [Clock – Timer Projects](#)
230.  [7-Key Slider/Wheel Tutorial with Synthesizer](#) This is a tutorial for using the 7-Key Slider/Wheel Breakout from Rachel's Electronics. I'll show you how to solder up the header pins for maximum usability. Rachel's has the QT1106 datasheet on their site, and a great arduino library for this breakout. The kit from..... Listed under: [Sensor – Transducer – Detector Projects, Tutorials](#)
231.  [Arduino Watch with Nokia 3110 screen](#) My goal for this project is to make a watch with selectable dials, stopwatch and millidays. This idea started with an Aprils fools prank about metric-time. (<http://www.youtube.com/watch?v=K35xG1buyFA>) First I wanted to make a metric clock but soon this idea evolved from a metric watch into..... Listed under: [Clock – Timer Projects, Phone Projects, Projects](#)
232.  [Arduino As a Cheap Breadboard FPGA](#) Designing hardware logic circuits can be fun. The old school way to do this was with NAND gates, on a bread board, wired up with jumper wires. This is still possible, but it doesn't take much before the number of gates gets out of hand..... Listed under: [Development Board – Kits Projects](#)
233.  [Uber Home Automation w/ Arduino & Pi](#) A few years ago, I became a dog owner for the first time. I didn't like leaving Cody in the kennel alone all day. I had a webcam on him, but I couldn't watch it all day long. What if he was in some kind..... Listed under: [Home Automation Projects](#)
234.  [Come Home! Connecting Distant Spaces EASILY over Web using Arduino](#) Can you believe that we live in an age where you can touch an object (any object - if it has metal on it) and a light will turn on in your loved-one's space - even if they live in a different city, state, or..... Listed under: [Home Automation Projects, Internet – Ethernet – LAN Projects](#)
235.  [Wireless Doorbell Receiver](#) This project describes the second part of the following two projects: A wireless doorbell transmitter as described in the Wireless Doorbell Transmitter Instructable. This Instructable also gives some introduction to these projects.A wireless doorbell receiver described in this Instructable. The wireless doorbell receiver will make a sound..... Listed under: [Wireless Projects](#)
236.  [Simple 2-way motor control for the arduino](#) When I say simple, I don't mean use a speed control. But control the motor directly without any external circuitry. Here's how: How this came about: I recently was working on an instructable about charlieplexing with an arduino. And I was wondering if the same principle..... Listed under: [Motor Projects, Projects](#)
237. [Assembling the 8x8 LED Board Kit](#) These are step by step instructions for assembling the 8x8 LED Board kit from moderndevise.com. I had never played with LED displays before using this kit. I suggest reading through all the assembly steps BEFORE starting to solder because assembly order DOES matter with this..... Listed under: [LED Projects](#)



238.  [Updated Movie Box](#) A few months back, I posted an Instructable on my Raspberry Pi movie player tucked into a VHS cassette. Since then, I have built several for friends and family, and have simplified the process. Using a Raspberry Pi v3, we no longer need a USB hub and..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
239.  [CatGenie: A smart, resettable SaniSolution cartridge](#) The project This project follows on from the excellent work by ScotSEA and his Arduino reset program (see <http://www.instructables.com/id/CatGenie-Resetting-a-SaniSolution-Cartridge/>). I had never taken my Catgenie apart as Scott did, but had built a small contact board instead. I had previous updated Scott's program to..... Listed under: [Security – Safety Projects](#)
240.  [My Ninth Project: Robot Arm with Joystick Shield using Arduino](#) Although it is great controlling the robot arm with computer or mobile phone, I think using joystick is also cool, so I've bought a joystick shield and make a new project. This joystick shield is compatible with Arduino. It also support Nokia 5110 LCD module,..... Listed under: [Robotics – Automation Projects](#)
241.  [Beat Sync using an Arduino](#) Beat Sync is a single frequency audio spectrum volume meter. It can isolate around a certain frequency (I choose the bass) and display it on a creative 8 segment LED bar graph. This is meant to be quite simple, yet allowing room for..... Listed under: [Projects](#), [Sound – Audio Projects](#)
242.  [Arduino Air Bonsai Levitation](#) It's been a long time since my previous tutorial, my work is quite busy and I spend less time on Instructables. This time is a project that I like very much since my first saw it on Kickstarter: Air Bonsai. I was really surprised at how..... Listed under: [Other Projects](#)
243.  [Laser Tag Stuffed Animals](#) Ever feel like there aren't enough toys at the intersection of cuddly and terrifying? Wish your stuffed animals could double as weapons? Then I've got the toy for you. These Laser Tag Stuffed Animals easily transform from being a cuddly night light to the world's..... Listed under: [LED Projects](#)
244.  [Arduino Based Home Automation Project via Bluetooth](#) In this project, we will design a simple home automation project using simple components using which different electrical appliances can switched on or off. The project is based on Arduino and we have used Arduino UNO for the project. Description Introduction Listed under: [Bluetooth Projects](#)
245.  [Mini Billboard using Arduino](#) Designing a Mini Billboard using LED Lights(different colors) , Arduino and Bread Board. Thought of creating a mini billboard, that could display my name ("Josh") . This is for one of the build nights (required us to use LED lights). This billboard would blink in..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
246.  [Arduino Soap Sanitizer Dispenser](#) Basically, an overkill soap dispenser made from CNC linear rail Description watch the video first <https://youtu.be/Pi4bStBNVAo> So the goal here was to build a Soap/Sanitiser without using the "servo motor method" this is actually pretty straightforward built, first, you need to print these parts and..... Listed under: [Other Projects](#)
247.  [D-Led Shield v1.0 \(for monitoring\)](#) Good day fellow enthusiast! Here is one of my latest and simplest shield designs for an arduino board. The thing here is, sometimes we have a hard time checking out which I/O pins are LOW or HIGH, especially when we are dealing with LED, motors,..... Listed under: [LED Projects](#)
248.  [How to Make Musical Floppy Drives using an Arduino](#) My brother posted a video about this on facebook almost a year ago. Some old floppy drives playing Bach's masterpiece Toccata & Fugue and it got me really interested. So I read about it when the author posted a how-to on his blog and did a couple of tweaking..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Projects](#)
249.  [SMART PARKING SYSTEM](#) Recently from few years people have started focusing on modernization. So in this project "SMART PARKING SYSTEM" everything is based on modern idea, and through this project we also tried to short out space related problem which usually occurs in parking. https://youtu.be/wEUMw_Z8PnE What's all about..... Listed under: [Other Projects](#)
250.  [Pimp My Zoomobil using Arduino](#) I recently put together the Playmobil Zoomobil for my kids. As I was busy snapping all the pieces together, I became more and more convinced that this cart had been made to have lights. It's hard for me to believe the original product designers at..... Listed under: [Game – Entertainment Projects](#)
251.  [Bluetooth 4.0 HM-10 cc2541 Duplex](#) In this example, I'll show you how to use the cc2541 to communicate from one microcontroller to another in BOTH DIRECTIONS (BLE-HM-10). <https://youtu.be/6zXYH9arHMI> Introduction The HM-10 is a Bluetooth Low Energy (BLE) module for embedded systems that allows for wireless communication with BLE-capable devices (e.g..... Listed under: [Bluetooth Projects](#)
252.  [Using a Dot Matrix LED with an Arduino and Shift Register](#) The Siemens DLO7135 Dot matrix LED is one amazing piece of optoelectronics. It's billed as a 5x7 Dot Matrix Intelligent Display (r) with Memory/Decoder/Driver. Along with that memory, it's got a 96-character ASCII display set with upper and lower case characters, a built-in character generator..... Listed under: [LED Projects](#), [Projects](#)
253. [Queue Management Node\(QMN\)](#) Touch-free queue management service powered by Arduino MKR WiFi 1010 and Twilio. Description The COVID-19 pandemic has changed the way we interact with people, things, and the world around us. Social distance enablement is one and only effective method to prevent the spreading of COVID-19..... Listed under: [Wifi - WLAN Projects](#)

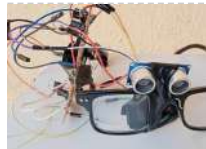


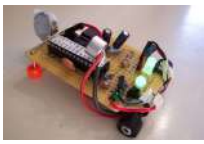
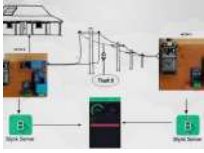
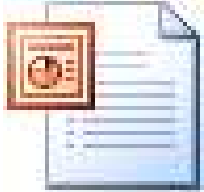
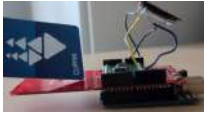
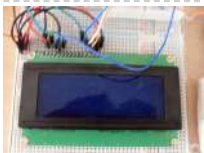
254.  [Arduino Controlled ATX Power Supply](#) Can a microcontroller control its own power? Well nearly! An ATX power supply, either new or from an old PC, is a great way to power Arduino and other microcontroller projects. That is covered in several 'ibles such as this one. However, because of some..... Listed under: [Other Projects](#), [Projects](#)
255.  [Reading Digital Callipers with an Arduino](#) How to use an Arduino to read the signal from a set of digital callipers and send the reading over USB. Why? This might be useful for accurate position sensing in home made / hacked computer aided manufacture systems. Adds USB functionality to your callipers..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
256.  [RADAR model using ARDUINO and ULTRASONIC SENSOR](#) It is a model of RADAR. It describes how a radar works in real time. Description <https://youtu.be/6zACsitIOS8> RADAR model is used to know how the real time radar works. It is constructed using ARDUINO UNO, ULTRASONIC SENSOR and SERVO MOTOR. We also used to show the output. That..... Listed under: [Sensor – Transducer – Detector Projects](#)
257.  [Personalised Word Clock using Arduino](#) Build a unique personalised gift that's cool and reflects the character of the recipient. What's different about this Word Clock is that it is small enough to sit on a bedside desk, displays the recipients name and has personalised messages that appear at different times..... Listed under: [Clock – Timer Projects](#)
258.  [How to make gas leak alert security alarm using arduino](#) In this tutorial I will show you how to make gas leak alert security alarm using arduino nano and mq 5 gas sensor Description Introduction A gas detector is a device that detects the presence of gases in an area, often as part of a..... Listed under: [Security – Safety Projects](#)
259.  [Arduino String Instrument](#) Sure you can use LDR's, potentiometers and buttons to generate sounds, but what about strings? When I began thinking about an Arduino string instrument, I realized what I wanted to create was a soft potentiometer. I found my inspiration from Hannah Perner-Wilson's Fabric Potentiometer <http://www.kobakant.at/DIY/?p=543>. Step..... Listed under: [Metering – Instrument Projects](#)
260.  [Autonomous Paintball Sentry Gun using Arduino](#) Make your own, custom AUTONOMOUS SENTRY GUN! A Microcontroller Contest Finalist and Runner Up Winner. This instructable is out-of-date. For the most recent version of the tutorial, see the website . Cheers! This sentry gun autonomously tracks, aims, and shoots at targets, using: -An airsoft or..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
261.  [DIY Arduino UNO](#) DIY your own Arduino UNO with the JLC PCB Description Schematic of ARDUINO S3v3 Details of ARDUINO S3v3 X1: DE-9 serial connector Used to connect a computer (or other devices) using RS-232 standard. Needs a serial cable, with at least 4 pins connected: 2, 3,..... Listed under: [Other Projects](#)
262.  [BUGBot – Light Follower Robot using Arduino](#) The figures above shows the basic idea of any robot, where we have some inputs and output devices connected to the brain and some outputs controlled by the brain. In our case we will have the Arduino like the brain. The central Brain, controls all..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
263.  [The “all in one box” aquarium feeder using Arduino](#) Step 1: Things you will need the images show you what you need. you will also need (but is not shown in picture soldering iron shrink tubes lighter 5 volt power supply usb cable (to program you're arduino) info on the foamed pvc sheet..... Listed under: [Home Automation Projects](#)
264.  [3D Printed Mini Air Cooler \(the OverEngineered Edition\)](#) Description Hey everyone What's up! Let me show you something COOL! <https://youtu.be/DLRq5FG2jNQ> A completely 3D Printed Mini Air Cooler that is powered by a Jet Turbine. So the goal here was to make a small but powerful Air Cooler that utilizes water to cool down air that..... Listed under: [Other Projects](#)
265.  [Dirt cheap Arduino LED light bar](#) This instructable was designed for beginners in mind, but advanced users can easily adapt it to fit their needs and wants. It only uses a few common components, so you shouldn't have much trouble putting this together. It's a good waste of 5 minutes with..... Listed under: [LED Projects](#), [Projects](#)
266.  [CONTROLLING MY THREE AUTOMATION PROJECTS USING SINGLE MOBILE APPLICATION](#) In this project I am controlling my three automation projects using single application made by me using MIT app inventor platform. Description As we all know that the world is slowly shifting towards automation, we require automation everywhere, like in industries, factories, houses, energy management..... Listed under: [Phone Projects](#)
267.  [Intelligent Solar Garden Light using an Arduino- Part 1](#) I bought a solar powered garden light. The solar panel charges the batteries and when it gets dark the lights (3x LEDs) turn on until it either gets lights again or the batteries run out. It has a small amount of intelligence (turns on when..... Listed under: [Battery Projects](#), [Home Automation Projects](#), [Projects](#)
268.  [Kickstarter Backer Alert with Stats Scroller, using Arduino Yun](#) The Arduino Yún is a curious addition to the Arduino family. There is a fairly widespread community surrounding the Arduino concept, platform and software. There's another popular community dedicated to hacking and improving inexpensive wireless routers, which often run Linux. The Yún combines the two...it's..... Listed under: [Car Projects](#)
269.  [Fire Prediction using Arduino nano BLE sense and Machine Learning](#) An Embedded Machine learning-based project was used to detect fire using the inbuilt colour sensor. Description It's an embedded machine learning-based project used to predict a fire in Arduino nano ble 33 sense with the help of the inbuilt color sensor attached to the board..... Listed under: [Sensor – Transducer – Detector Projects](#)

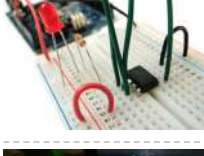
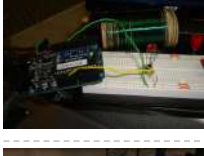
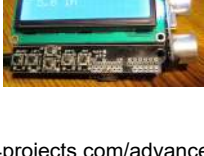
270.  [Interactive Stereoscopic Installations: visual rupture with the Diplopiascope](#) What is it? This is an ongoing project that i've been working on to see the potential of interactive stereoscopic installations in examining the perceptual process. I use a setup that i've called a Diplopiascope to investigate this. The Diplopiascope has gone through a few..... Listed under: [Video – Camera – Imaging Projects](#)
271.  [Make a 24X6 LED matrix using an Arduino](#) After making a 8X10 matrix a lot of people asked me about expanding the matrix to some thing bigger, and some wanted to write stuff to the matrix via a PC, so one day I looked at a pile of LEDs that I had leftover..... Listed under: [LED Projects, Projects](#)
272.  [8x8 LED Matrix Animations using an Arduino](#) For a party we were about to have I wanted a cool light display to use with my new Xmas present - an Arduino Uno. Having looked at the LED matrix's here I wanted a bigger one that I could hang on the balcony. I also wanted..... Listed under: [LED Projects, Projects](#)
273.  [How to connect two 16x2 LCD together with arduino](#) In this, I will tell you how to connect two 16*2 LCDs together with a single Arduino. This is a very unique project. you can't find this anywhere. Description Introduction In this project, I will tell you that how to connect two LCDs together with..... Listed under: [LCD Projects](#)
274.  [Arduino-Based Blue Box \(Phone Phreaking\)](#) History and Story In the 1950s, 1960s, 1970s, 1980s and even up into the 1990s phone phreaking was an amazingly cool way to explore an unknown world of phone switching networks. To "phreak" a telephone switch, can be done by using frequencies, or tones to..... Listed under: [Phone Projects](#)
275.  [Arduino Combination Door Lock: Lockduino](#) Ready to put a combination lock on your door to keep out intruders? You've come to the right place! In this i'ble I will show you step by step how to make a combination lock for your door! Watch this video of the finished product!..... Listed under: [Security – Safety Project Ideas](#)
276.  [Digital Clock using Arduino UNO Without RTC module](#) An interesting project of making a Digital Clock using Arduino UNO without the help of RTC Module. Description AIM To build a Digital Clock at Low Cost (Without using any External RTC Module) ject, I have used LCD 16X2 Display , an Arduino UNO ,..... Listed under: [Clock – Timer Projects](#)
277.  [Serial Servo Controller with Arduino](#) I'm going to show you how to use your Arduino to control up to 12 servos at once with minimal jitter. Using a simple serial interface you can control the position of up to 12 servo channels. Up to 10 snapshot positions can be saved..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Motor Projects, Projects](#)
278.  [LED Watch using an Arduino](#) This instructable will show you how to make your own arduino based watch that tells time using a matrix of LEDs. This is my first instructable, so if something is unclear leave me a comment or send a message! I was inspired by all the..... Listed under: [Clock – Timer Projects, LED Projects, Projects](#)
279.  [Arduino Sound Effect With Game Handle](#) This project is for the class ATLS 3300 at CU Boulder. Push buttons can make buzzers sound. Five buttons represented the tone C, D, E, F, G. There are two modes. The switch determines the mode and LEDs can indicate which mode we are in..... Listed under: [Sound – Audio Projects](#)
280.  [ARDUINO NANO BLE SENSE – TinyML FITNESS BAND USING EDGE IMPULSE](#) It is a disruptive fitness solution where we classified different physical motions and body positions using arduino nano ble sense. Description TinyML fitness band using "EDGE IMPULSE" is a disruptive fitness solution where I classified different physical motions and body positions using arduino nano ble..... Listed under: [Other Projects](#)
281.  [DIY a Spelling Game with an Interactive Robot using Arduino](#) Did you hear before about Social Robot? Did you you see the Pepper Robot or Jibo robot? These kinds of robots that can hear you, understand you and make a social contact with you via sound, facial expressions and body gestures. Social robots have various..... Listed under: [How To – DIY – Projects, Robotics – Automation Projects](#)
282.  [DinoCalc Version 1.0](#) (Arduino Pro Mini Protoboard Version) Latest Release: <http://code.google.com/p/dinocalc/> Development: <https://github.com/WeaselJones/DinoCalc> This is a calculator without a LCD that tells you if your math answer is right or wrong, without giving you the answer. This instructable will show you how to make this simple math checking..... Listed under: [Calculator Projects](#)
283.  [MP3 Interface for Arduino](#) I have added a follow-on to this Instructable: <http://www.instructables.com/id/Cheap-and-Easy-MP3-Shield-for-Arduino/> The follow-on shows you how to design, etch and build a PCB shield to connect the MP3 to the Arduino. Replaces the analog switches with a 74HC244. Single layer board with large surface mount component design. Only..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects, Sound – Audio Projects](#)
284.  [Programmed gas leakage regulator gadget](#) This model will help you for when of gas spillage. It just will not make you mindful of the signal however it will likewise save your home and different homes or industrial facilities from a horrendous fire. Introduction:- Imagine for a..... Listed under: [Arduino Programmer Projects](#)
285.  [Ethernet Switching – with Arduino](#) Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.06 Please read the below steps to Step 2 if you are viewing this article for the first time. Please go to step..... Listed under: [Internet – Ethernet – LAN Projects](#)
286. [Illumino: EEG hat with Arduino turns brain activity into light](#) Ever wanted to visualize your brain activity in real-time? Move an object on a screen with your mind? EEG devices are fantastic fun and allow you to do such things! This tutorial will show you how to make an illumino: a recreational EEG hat that..... Listed under: [Illumino Projects](#)



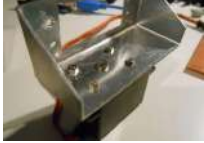
under: [Game – Entertainment Project Ideas](#)

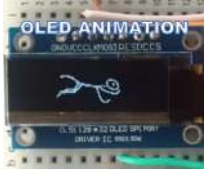
287.  [Virtual Etch A Sketch](#) The Etch A Sketch: famous, creative, and unique. Unfortunately I have no clue where the one from my childhood is, so I decided to make my own virtual one! Check it out (and my awful drawing skills) below. This Etch A Sketch is quite like..... Listed under: [Game – Entertainment Projects](#)
288.  [Intelligent-Vision Eye-glasses For Blind](#) An AI Automation glasses to solving problems for the legally blind, low vision, glaucoma and Cataract. Abstract After the successful prototype for the Blind Glass @Blind-targeted AI Glasses <https://youtu.be/W2mmXbYaRMA> Friends and colleagues reached out to me to further develop the project. I was highly motivated and..... Listed under: [Other Projects](#)
289.  [ATtiny programmer using Arduino ISP](#) Thanks to: <http://jeonlab.wordpress.com/> For relatively small (less number of pins than ATmega328) projects, ATtiny series, ATtiny45 or Attiny85 are good choice in terms of its physical size (8-DIP or 8-SOIC) and low power consumption. There are many ways to program it. One of the popular..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
290.  [TurtleDuino Object Avoidance Robot using Arduino](#) Hello, in this instructable I'll be showing you step by step how to build the TurtleDuino, an object avoidance robot, with an Arduino UNO microcontroller on board. I designed the TurtleDuino using material from the hardware store (Home Depot) and all the electronics from sparkfun.com..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
291.  [Avengers plant monitoring device with Arduino uno \(Tuya IoT platform\)](#) I made a lot-based plant monitoring device. From this device, you can measure the condition of your plant from anywhere in the world. The device is able to measure temperature, humidity, and soil moisture. Description <https://youtu.be/cHMHhqCfUgU> I hope you are doing well because a few..... Listed under: [Other Projects](#)
292.  [Home Automation: Drapes using Arduino](#) Hate having to manually open and close your drapes? Hate getting back from work/school and your room is dark and dreary? Do you want curtains that open and close themselves? Then you need Dr. Drape! Dr. Drape is an easy DIY project using an Arduino..... Listed under: [Home Automation Projects](#)
293.  [Convert a toy piano to work as a midi device and use it with Synthesia](#) Goal of this project: Convert a cheap toy piano to work as a midi device and use it with Synthesia (<http://www.synthesiagame.com/>) Other programs that use midi inputs can also be used. Approach: The pushbuttons of the piano are used to make a simple pull-down circuit..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Sound – Audio Projects](#)
294.  [Disposing IED using Non Newtonian Fluid](#) Thousands of lives are being lost every year due to IEDs (improvise explosive devices). IEDs were responsible for approximately 63% of coalition deaths in Iraq. ABSTRACT Mobile Explosive Containment Vessels (MECV) referred to as Total Containment Vessels (TCV) are fully enclosed vessels used to absorb..... Listed under: [Other Projects](#)
295.  [Tankbot – Internet Controlled Tank Robot using Arduino](#) Do you remember a game called Tank Wars? This is an attempt to make a physical version of that classic arcade game. You, the player drive an Arduino powered tank and fire a laser at a target. This project uses an Arduino to control a tank..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)
296.  [WorkSafe CV based multiparameter monitoring and diagnostics](#) Worksafe is an attempt to bring advanced healthcare diagnostics to residential and industrial markets at affordable costs. Description As we all are aware, it's been almost two years since the SARS-COV2 outbreak began in December, 2019. Initially, it put tremendous pressure on all countries to..... Listed under: [Other Projects](#)
297.  [Custom OBD II Gauge in With OEM Look using arduino](#) <https://github.com/stirobot/arduinoModularTFTgauges> I built a custom OBD II (on board diagnostics version 2 http://en.wikipedia.org/wiki/On-board_diagnostics) gauge in the clock of my Subaru BRZ (GT86, FRS) and a lot of people wanted me to build them one. Here is how you can build one of your own. My wife..... Listed under: [Arduino Car Project Ideas](#)
298.  [Garage Genie – Parking & Remote Control using Arduino](#) The Garage Genie Parking & Remote Control is a car automation Arduino gadget. Click on the two images above to see the animated explanation. It aims to do a few things: 1. The "traffic lights" tells you when you've inched your car up close enough..... Listed under: [Arduino Car Project Ideas](#)
299.  [HealBot Semi Auto Surgical Machine](#) Problems faced- Due to growing road traffic, lack of doctors in many places and sometimes non... Description Problems faced- Due to growing road traffic, lack of doctors in many places, and sometimes nonavailability of emergency wards, many people die because they do not get timely,..... Listed under: [Other Projects](#)
300.  [Guitar Tuner for the Blind \(using an Arduino\)](#) How to modify a guitar tuner so it can be used by a blind person This build uses an Arduino Pro mini microcontroller, (all code is provided). This project was undertaken for the charity Remap, which provides custom-made equipment for people with disabilities. Summary Begin with..... Listed under: [Sound – Audio Projects](#)
301.  [AC Arduino dimming circuit](#) THANKS TO CONCERNED VIEWERS, I HAVE LEARNED THAT THIS IS NOT SAFE AND SHOULD NOT BE REPLICATED. SO PLEASE DONT TRY THIS 😊 THANKS TO EVERYONE WHO COMMENTED, I LEARNED A LOT I am not an engineer, just an experimenter and hacker and prototyper etc,..... Listed under: [Home Automation Projects](#), [Projects](#)

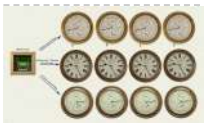
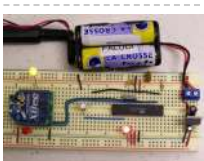
302.  [Tiny Altoid Tin Robot With Personality](#) I love robots. Normally the ones I build are quite large and wouldn't fit in your pocket, but for a change of pace I decided I would try something small and fun! This robot is exactly that, and in fact fits inside of an altoids..... Listed under: [Robotics – Automation Projects](#)
303.  [5x5 LED Cube using Arduino Uno](#) This is a step by step explanation of how to build a 5x5 LED cube using an arduino. I did this project for my undergraduate electronics class and it took me about 2 weeks to complete. Note: Apparently, some of the links for the supplies..... Listed under: [LED Projects, Projects](#)
304.  [IoT Robotic Arm](#) The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and... Description <https://youtu.be/zhQDoCBZn5E> Description:- The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and easy to use for automation and IoT projects for beginners. In..... Listed under: [Robotics – Automation Projects](#)
305.  [Self-Watering Plant using an Arduino](#) Plants live up any space by adding a sense of airiness and life. That is - of course - when you don't forget to water them, and they shrivel up and die. I am very bad at remembering to water plants. That is why I..... Listed under: [Home Automation Projects, Projects](#)
306.  [Froggy World 5 The Coffee Gripper](#) In Froggy World, the amusement park for adventurous plastic frogs, it became necessary to to move the frog from a train car back to the catapult. Because I couldn't know whether the frog would be upright or sideways--and in what orientation--the gripper was a challenge..... Listed under: [Home Automation Projects](#)
307.  [Smart Electricity Meter with Energy Monitoring and Feedback System for Theft Detection](#) The project is basically to detect the theft from the energy meter used in households as well as in... Description The project is basically to detect the theft from the energy meter used in households as well as in the commercial sector. There is two..... Listed under: [Metering – Instrument Projects](#)
308.  [Dual H-Bridge – Arduino L298 Breakout Board](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials This is the basic schematic. It works perfectly. A more advanced schematic and..... Listed under: [Arduino Android](#)
309.  [Interfacing a Digital Micrometer to a Microcontroller](#) We had a project that required connection to a digital micrometer with a data output jack. The idea was to connect a microcontroller to the micrometer, to read the measurements and make decisions based on the readings. The micrometers that we used are made by..... Listed under: [Metering – Instrument Projects](#)
310.  [Bubble Wall | Interactive, Inflatable Panel](#) Bubble Wall | Breathing Wall Panel System Interactive, Inflatable, Playable Wall Brief Project Description This was an artistic piece installed for a digital fabrication show at the University of South Florida School of Architecture and Community Design. While this brief is specific to this panel,..... Listed under: [Game – Entertainment Projects, LED Projects](#)
311.  [Big Spectrum Analyzer with Arduino](#) Let's put together a pixel strip with an HL1606, an Arduino UNO and the Spectrum Shield to build a seven bands "large" Spectrum Analyzer of simple construction. The Strip used uses the HL1606 controller to allow direct management of each of the LEDs. The chip..... Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects](#)
312.  [Wii Nunchuk Controlled Model Train using Arduino](#) Using an Arduino microcontroller, an Adafruit motor shield, and a Wii Nunchuk, you can create a intuitive, programmable, model train controller to run your layout. Amaze your friends. Entertain your kids. Not quite DC, not quite DCC. You're headed for the hacker lands of PWM..... Listed under: [Game – Entertainment Projects, Projects](#)
313.  [Satellite dish positioner with Diseqc and wifi](#) The satellite positioner stores the position of the satellites in memory and allows you to move the dish to the desired satellite when you change the satellite channel. The advantage of this device is the possibility of controlling and setting the positioner via Wi-Fi. Description..... Listed under: [Wifi - Wlan Projects](#)
314.  [A Facebook-Connected, Arduino-Powered Music Party](#) Music party is a new way to listen to music with others. By tapping an RFID/NFC device that is synced to a Facebook account on an Arduino RFID reader shield and sending that unique ID to Music Party server using the Arduino WiFly shield, we..... Listed under: [Internet – Ethernet – LAN Projects, Sound – Audio Projects](#)
315.  [DIY Arduino Board Water Meter](#) Working with the interaction design team, a bunch of us at Teague have been tinkering with measuring water, analyzing usage data in realtime to affect behaviors, and storing it to see patterns over time. At the heart of the exploration was a need to cheaply measure water..... Listed under: [How To – DIY – Projects, Metering – Instrument Projects, Projects](#)
316.  [Bluetooth Controlled RGB LED LAMP](#) I made an RGB pumpkin wall light, which can be controlled by a smartphone via Bluetooth, it has different modes and different colors so you can choose the color of the light according to your mode. Description https://youtu.be/_dnJCeFdBnw Halloween is about to come and already..... Listed under: [Bluetooth Projects](#)
317.  [Arduino LCD Metronome](#) Connecting the LCD The first step is to wire up the LCD. The HD44780 has 16 pins: Pin 1 - Vss Pin 2 - Vdd Pin 3 - Vo Pin 4 - RS Pin 5 - R/W Pin 6 - E Pin 7 - DB0..... Listed under: [LED Projects](#)
318.  [Touchless Covid Free Electronic Dice Using Arduino](#) Created a touchless Covid Free Electronic Dice using Arduino to play some board games with my son. My new project is an amazing way of giving our younger generation the taste of board games while staying COVID free. Description <https://youtu.be/a4CnaDDR2x0> Created a touchless Covid Free..... Listed under: [Other Projects](#)

319.  [Self Balancing Segway Instructabot](#) [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] Supplies: 1. Arduino: I used an Uno 2. 7.2v battery 3. Set of motors: Parallax's 7.2v motor set <http://www.robotshop.com/parallax-7-2v-motor-bracket-wheel-kit-pair.html> 4. Analog accelerometer <http://www.robotshop.com/sfe-3g-tripleaxis-accelerometer-breakout-board-adxl335-2.html> 5. Sabertooth 5X2 motor controller <http://www.robotshop.com/productinfo.aspx?pc=RB-Dim-19&lang=en-US> 6..... Listed under: [Game – Entertainment Project Ideas](#), [Robotics – Automation Project Ideas](#)
320.  [Garduino-Automated Gardening System using Arduino](#) This instructable is a guide for setting up an automated gardening system using an arduino and other cheap electronic parts. It allows sustainable gardening by using sensors to determine soil moisture, as well as a webscraper to determine future weather. It uses this information to save water by only..... Listed under: [Home Automation Projects](#), [Projects](#)
321.  [Self-Contained 7x7x7 LED Cube](#) LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered..... Listed under: [LED Projects](#)
322.  [How To Make A Board Game Using Arduino](#) In this Instructable, we'll teach you how to create your own "Would you rather..." board game using conductive paint, an Arduino microcontroller, and some electronics components. Players take turns moving along the game path as directed by an electronic dice roll. Along the way,..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
323.  [Scan QR Codes with Raspberry Pi Pico](#) To extract information from QR codes and use a Barcode & QR Code HAT and a Raspberry Pi Pico. Description To extract information from QR codes and (even create your own barcode & QR Code using Python), use a Barcode & QR Code HAT and a Raspberry Pi..... Listed under: [Other Projects](#)
324.  [FuzzBot](#) The FuzzBot is an awesome, fast, fully autonomous small Arduino robot that everyone loves!!! It uses the compact Pololu ZumoBot Chassis kit for a great drive system, and uses a Parallax Ping sensor to sense proximity, to make the FuzzBot fully autonomous. I like to..... Listed under: [Robotics – Automation Projects](#)
325.  [Arduino camera Lens Controller](#) My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
326.  [Capacitive touch Mood light using Arduino](#) This instructable is a quick write-up of my experience creating a multifunctional moodlight. Some basic knowledge of electronic circuits is expected. The project has not yet finished, some adding functionality and tweaking has to be done but it is already functional. If you guys are..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
327.  [Arduino-plex 2.0: Modular Plexiglas Arduino Work Surface](#) Last year I needed a board that I could stick my breadboards to, that would also securely hold my Arduino. I used some Plexiglas I picked up at Skycraft in Orlando and I glued everything together with Crazy Glue. This worked well, but it didn't..... Listed under: [Development Board – Kits Projects](#)
328.  [Pantomime – Gestures to actions for disability aid and more](#) Pantomime is a configurable gesture controller unit that can be used for reliable human-machine interaction. For the demo purpose, we have shown a use case of the Pantomime in a chassis of 4WD, which here can be easily altered with a smart wheelchair. The Pantomime..... Listed under: [Other Projects](#)
329.  [The morse code generator by a PS\2 keyboard using Arduino](#) Hi, all! Today I'm trying to explain you my last project: "The morse code generator by a PS\2 keyboard" I've used an PS/2 keyboard to send input to my Arduino board (like described in here) and transform it in morse code that activate..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
330.  [Nokia LCD & Sensors using an Arduino](#) Arduino: Nokia LCD & Sensors PROBLEM: Making my Arduino, a Temperature-Relative Humidity sensor and a Nokia3310LCD screen work together. Now, I'm a Lazy Old Geek, so what I wanted was an Arduino kit that would take shields. This Freeduino was the cheapest that I could..... Listed under: [LCD Projects](#), [Phone Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
331.  [Bluetooth Speaker Wifi IoT Clock With Spectrum Analyzer](#) I made a Bluetooth Speaker with Clock . It display Date , Time, Temperature & Humidity & gets updated from Internet at 15 minutes interval.It also has a 32 band Audio Music Spectrum Analyzer which displays different music patterns. Clock or spectrum Analyzer can display..... Listed under: [Bluetooth Projects](#)
332.  [Program an ATtiny with Arduino](#) Follows are directions for programming the ATtiny microcontrollers using the Arduino IDE. In plain English, this is how to program 8-pin Atmel chips as you would normally an Arduino. This is cool because the ATtiny is tiny, and - well - this allows you to..... Listed under: [Arduino Programmer Projects](#)
333.  [Stupid Simple Arduino LF RFID Tag Spoofer](#) RFID tags are all over the place. They're used in building access control systems, passports, inventory tracking . . . This instructable will show how you can use an Arduino and a few simple components (wire coil, transistor, capacitor, resistor) to make a device..... Listed under: [Projects](#), [RFID - NFC projects](#)
334.  [PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY](#) Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies. Introduction Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies..... Listed under: [Other Projects](#)
335.  [Ultrasonic Tape Measure using Arduino](#) Have you ever wanted an ultrasonic tape measure, like this Stanley? (See picture). Well, I have but then I am a Lazy Old Geek. I don't really need one but I thought I'd try to make one. And naturally, I thought of an Arduino. August..... Listed under: [Projects](#)

under: [Metering – Instrument Projects](#), [Projects](#)

336.  [Self-Watering Smart Pot Using NodeMCU](#) let's build a self-watering (also we can monitor the temperature, humidity, soil moisture)smart pot using nodemcu Description Self-Watering Smart Pot Using NodeMCU Hello there, Sometimes when we go out of our home for a few days. In this case, we cant give water to..... Listed under: [Temperature Measurement Project Ideas](#)
337.  [Interface Arduino to MySQL using Python](#) Here's a brief tutorial that should get you up and running interfacing your Aduino with a MySQL database. For the sake of this tutorial, I am assuming you know how to set up and use MySQL. This tutorial does not require much Python experience, but..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
338.  [LDR Robot using an Arduino](#) LDR Robot with IR and a Servo The LDR/IR Robot is designed to seek out light and avoid obstacles. The robot uses the Light Dependent Resistor to seek out light and the Infrared Sensor to detect and avoid objects in its path. The following are..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
339.  [An Alarm Clock \(but It Is Harder to Turn Off\)](#) The inspiration for this project was the dreadfully painful waking up process in the morning. And now that school is starting back up I had to get off of the summer schedule where you could get away with not waking up at the crack of..... Listed under: [Clock – Timer Project Ideas](#)
340.  [Jeopardy Ring-in Buttons with Built-in Rules using Arduino](#) There are several good Jeopardy/Game Show lockout buttons/buzzers, but none incorporate the timing rules of Jeopardy. I am learning about the Arduino and I thought that this would be a great project to practice with. The rules include a question reading period with no timeout..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
341.  [Dual-Task CoreXY DrawBot](#) When I saw a COREXY (or H-Bot) plotter, I thought I would make it someday. Since most of its components were made from 3D printers so I have postponed it. Fortunately, once again the PVC pipes gave me an idea to build it with a..... Listed under: [Other Projects](#)
342.  [Frankenstein Laser Engraver](#) This Frankenstein Laser Cutter was built out of an old scanner and printer. The whole thing evolved around the instructable of Groover and his 'Pocket Laser Engraver'. This is a Making-Of. Although a lot, if not everything, of the mechanical construction requires ingenuity I tried..... Listed under: [Metering – Instrument Projects](#)
343.  [Low cost Ethernet shield with ENC28J60 using Arduino](#) Economical alternative to original Arduino ethernet shields, allows data rates up to 10 Mbps and is achieved with a traditional assembly components. One of the most interesting shield that you can mount on the Arduino platform is certainly the ethernet shield, because enable numerous networking..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
344.  [Complete Arduino-based 3D-printed Battery-powered Mini Retro Arcade Machine](#) It's been a while since I've published my last Instructables. I'm back, and I'm 3D-printed-powered! Enjoy this mini retro arcade machine. It's literally my first complete end-to-end 3D-printed project: I made the design, printed it, assembled the electronics, programmed it, and now to the tutorial..... Listed under: [Battery Projects](#)
345.  [Pan & Tilt Servo bracket controlled by Arduino](#) Hi, in this instructable i am showing you how to build a very nice and very sturdy pan & tilt turret for your rc / arduino projects. (Please don't judge my english grammer etc. i'm from holland) The things that you need for this project..... Listed under: [Other Projects](#), [Projects](#)
346.  [Naruto Themed Night Lamp](#) Hey guys what's up. Here's something cool, a Naruto-themed Desk light that is made mainly from PCB. The heart of this project is an Attiy13A that drives some 0603 LEDs which are on the backside of the Face. <https://youtu.be/nN2Nk41puXc> The Head part is detachable or..... Listed under: [LED Projects](#)
347.  [The Octo-phonic Synthesizer](#) The Octo-phonic Synthesizer is a polyphonic synthesizer that is able to produce eight tones that in the end, creates a musical scale. Inspiration for this creation came from this project. I like to think of it as an electronic organ. I used the core foundation of blinkyblinky's idea,..... Listed under: [Sound – Audio Project Ideas](#)
348.  [Clock with Tics \(presentation prototype\) using Arduino](#) Clock with Tics is an Arduino-powered 24-hour digital clock that displays expletives at random intervals. A clock 'ticks'. A 'tic' (note the different spelling) can be a mental disorder and can manifest itself in a number of ways; most seriously, someone suffering from "Tourette's Syndrome"..... Listed under: [Clock – Timer Projects](#), [Projects](#)
349.  [Stubborn Alarm – Doesn't Stop Until You Brush Your Teeth](#) I have my online classes going on (still -_-) and the problem is I have a hard time waking up early. So I end up missing my first class every day. And yes, I do keep an alarm for 7 am but I always turn..... Listed under: [Clock – Timer Projects](#)
350.  [Gesture based Intelligent Appliance Control](#) With Artificial Intelligence, the science fiction is turning into reality and automation is taking... Description With Artificial Intelligence, the science fiction is turning into reality and automation is taking over the world. Inspired by the Iron man and Jarvis we decided to build something similar..... Listed under: [Other Projects](#)
351.  [Cheap lcd screen for the Arduino](#) We have used the pda with a desktop computer (robot) and with the Nslu2. Here we are going to use an old pda with serial port.to act as an lcd. Everyone either has one or knows someone who has an old pda that they do..... Listed under: [LCD Projects](#)

352.  [Starting with robotics \(Arduino\)](#) Starting with robotics can be hard, if you don't know where and how to start. Best way to start is to make mobile robot. In this step-by-step we will show you, how to make cheap robot with parts available in your local store and household..... Listed under: [Robotics – Automation Projects](#)
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353.  [Create Animation on OLED Display Controlled by Arduino](#) In this tutorial I will show you how to create animation on small OLED display connected to Arduino Nano. Step 1: Supplies We need following two components for this project Arduino NanoSSD1306 SPI 128x32 display You can also use SSD1306SPI 128x32 display but it will..... Listed under: [LED Projects](#)
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354.  [Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield](#) I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately \$29.43 and is more affordable compared to \$39.00 for a commercially available system..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
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355.  [Rainbow Word Clock using Arduino](#) At long last I have managed to finish the Rainbow Word Clock! Once again, this one was inspired by Doug and his creations <http://www.instructables.com/id/The-Wordclock-Grew-Up/> I have a fixation with RGB LED's at the moment and I wanted to do something a little different. So, while it..... Listed under: [Clock – Timer Projects](#), [Projects](#)
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356.  [Make a Pumpkin Into a Pacman-Playing Game Console!](#) This project is the perfect way to level-up your pumpkin carving and reach new high scores. Using an addressable LED strip and an Arduino, you'll be able to make a basic screen capable of playing Pacman, and a controller made of a smaller pumpkin. This..... Listed under: [Game – Entertainment Projects](#)
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357.  [Persistence of Vision Wand using Arduino](#) Persistence of Vision (POV) Wands are a fun way to create interesting long exposure photographs and light displays. The wand consists of a single row of LEDs controlled by an Arduino Uno. When the wand is turned on it appears to be flickering in a..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
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358.  [Retro Arduino Radio](#) I love the look of old 1920's radios. They are the embodiment of a decade. The radios that I like the most were vacuum tube cathedral radios made by Philco. When I think of old-timey radios those are the first thing that pops into my mind..... Listed under: [Radio Projects](#)
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359.  [Big Ball Maze Game using Arduino](#) This project was the result of an urge to contribute something to the Creative Games section of my kids' elementary school fair. The kids loved it for it's simple old-school game aesthetic mixed with Wii-style and Kinect-style video game control. It's a spin-off project of..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
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360.  [Dumbledore's Deluminator A.k.a the Put-Outer](#) Some might say that it belongs to Ron Weasley now, but to me & most of the Harry Potter fans, it'll always be Dumbledore's Deluminator. It was designed by Albus Dumbledore, and the first time we get to know about it is when he uses..... Listed under: [Wireless Projects](#)
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361.  [Batgirl Birkin Bag](#) What a girl wants. What a girl needs. What's more exclusive and has more cachet than scoring a Birkin bag? Pow!!! A Batgirl Birkin bag! Holey Haute Couture, Batman! Yes, you too can knock off a version of this famous bag. Okay, even mine started..... Listed under: [Home Automation Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)
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362.  [Internet Devices for Home Automation using Arduino](#) This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
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363.  [Custom Wireless Keyboard! \(Arduino\)](#) In this project we are going to be making something super useful! It is a wireless keyboard that you can connect to your PC and assign each button any shortcut or key sequence you want! I have made it in a way where you can..... Listed under: [Wireless Projects](#)
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364.  [Arduino powered Solar Battery Charger](#) The following design is for a Solar battery charger ran by an Arduino Nano. It can handle a standard lead acid 12V battery, like for a scooter or a car. Furthermore the design has been tested and runs with 90% efficiency under 70°C (158°F). It..... Listed under: [Battery Projects](#), [Solar energy projects](#)
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365.  [Code generator for custom Android or Arduino menus](#) Introduction This is the first of two instructables that make up a complete customizable Home Automation for Beginners example. See DIY Home Automation for Beginners for the second part. It is aimed at the absolute beginner. If you can handle a sharp knife without cutting..... Listed under: [Arduino Android](#)
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366.  [How to Make a Basic Computer Mouse Using the Joystick Module and Arduino Uno](#) This instructable will show you how to make a joystick controlled mouse using Arduino Uno and the joystick module. Supplies You will need- One Arduino Uno5 jumper wiresOne JoystickArduino IDEPython Step 2: Make the Circuit Make this circuit shown using your Arduino and Joystick. Step..... Listed under: [Development Board – Kits Projects](#)
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367.  [Programmable Temperature Controller + Hot Plate](#) Heating things up is one of the most performed tasks in a lab. Quite a lot of times it is not enough to simply hold something at a certain temperature, but the rate at which something is heated and for how long is just as..... Listed under: [Arduino Programmer Projects](#), [Metering – Instrument Projects](#), [Temperature Measurement Projects](#)
368.  [DCF77 master clock MK2](#) Features Arduino 328 Microprocessor is used to decode and display Time & date from the DCF77 "Atomic" Clock in Mainflingen near Frankfurt Germany The DCF77 signal is decoded using the fantastic new DCF77 library written by Udo Klein meaning the clock stays in sync and..... Listed under: [Clock – Timer Projects](#)
369.  [Ultimate Kids Musicbox ESP32 Based](#) There are already some NFC jukeboxes. Off the shelf like those "Toni" boxes. For do-it-yourself: lots of instructables. This device should cover as much as possible, which could come into question sometime and somehow. It should have as few weak points as possible, (in which..... Listed under: [Sound – Audio Projects](#)
370.  [Arduino-powered LED Clock](#) A fun, simple LED clock, that will give you the time to the nearest half hour using single-color LEDs. Parts needed are as follows: Arduino Nano 400 tie-point Breadboard Ribbon Cable DS1307 RTC IC 32.768 kHz Crystal (12) 10mm LEDs (12) 180 Ohm resistors (2)..... Listed under: [Clock – Timer Projects](#), [LED Projects](#)
371.  [Arduino Programmable Constant Current Power Resistance Dummy Load](#) Glad to see you have arrived on this page to learn how to build a programmable constant direct current dummy load. This load will allow you to draw a set current from any source. This load can also be set to a constant resistance or..... Listed under: [Arduino Programmer Projects](#)
372.  [Arduino Quiz Game With Led Strip for Score and Two Buttons](#) Two teams answer questions by pushing their button. They can score an amount of points equal to the random number of lights lit on their button. <https://youtu.be/pwq1BWS1oZ4> This requires some strategic choices and luck. When the teamscores meet on the large led strip, they can..... Listed under: [Game – Entertainment Projects](#)
373.  [Network Time Protocol \(NTP\) Client using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to query a Network Time Protocol (NTP) server. This way, your Arduino can get the time from the Internet. Circuit The Ethernet shield allows you to connect a WizNet Ethernet controller to the..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
374.  [How to Build a DIY WiFi Smart Oximeter Using MAX30102 and Arduino ESP32](#) This WiFi Smart Oximeter helps you scan Spo2 and BPM using MAX30102 and ESP32 and display the values on the Smartphone Step 1: In this tutorial, I will explain how to build your own WiFi Based Smart Oximeter using MAX30102 and ESP32 in detail. The..... Listed under: [Wifi - Wlan Projects](#)
375.  [Drive by wire go kart using Arduino](#) I just got a new go kart engine, i went from 6hp to 10hp. This new kohler engine I got I think was not built to put on a go kart, so I had some trouble finding a way to attach the gas petal. Well..... Listed under: [Car Projects](#), [Motor Projects](#)
376.  [Programming Arduino Wirelessly](#) The Arduino system offers an easy and open-source method for programming microcontrollers. Normally this means using a serial cable or USB cable attached directly to the microcontroller project. But what if your project is floating in a weather balloon, glued to the bottom of a swimming pool..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
377.  [Put a Cylon in it!](#) Last year the comedy sketch show 'Portlandia' made fun of an arts and craft trend, where craft artists would take ordinary items and 'put a bird on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and..... Listed under: [LED Projects](#)
378.  [IR Remote Control Arduino Based Electric Board](#) Arduino based electric board controlling system, Can be controlled using any universal IR remote. good IR receiving range and support 12 CH. Supplies 1) Soldering Iron 2) Solder wire 3) plier 4) multimeter 5) solder flux 6) wires 7) battery 8) connectors 10) wick for..... Listed under: [Development Board – Kits Projects](#)
379.  [SMOKING HALLOWEEN PUMPKIN USING ARDUINO AND IC 555](#) Lots of people celebrate Halloween by making pumpkin sculptures most of them only just carve a scary looking face from the pumpkin and place. in this tutorial, I am showing how to give a more awesome effect to your pumpkins. here I added human/obstacle detection,..... Listed under: [Other Projects](#)
380.  [Water Flow Gauge using Arduino](#) Measuring the consumption of a resource that has units by volume can be more tricky than it sounds. Use of resources such as water, gas, and even electricity is typically measured by gauges that determine either instantaneous flow rate or cumulative volume over time. Both..... Listed under: [Other Projects](#)
381.  [Aetherharp: Three Level, 24 Note, MIDI Air-harp](#) This project is loosely inspired by the laser harp of Jean-Michel Jarre. <https://www.youtube.com/watch?v=DnAfXK-hft8> Instead of lasers however, it uses eight SHARP infra-red distance sensors, the variants with the longest range of 35 to 40cm. These sensors are laid out in a row to provide rows..... Listed under: [Other Projects](#)
382.  [Modern RGB LED Clock using Arduino](#) As hard as it might be to believe, I had never built an electronic clock of any kind. I've always thought electronic clocks were passe and not worth the time to design and build one. In addition, I thought that all interesting electronic clocks designs..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)
383.  [Low resolution display done right](#) A resolution of 8x8 pixels may not sound like enough for anything interesting, but with the right setup, it is possible to create beautiful, complex animations and even add some interactivity. In the next pages I will detail the steps needed to build the low-res..... Listed under: [LCD Projects](#)
384. [Automating A Home Snowmaker Using An Avr Microcontroller](#) Before describing how the automated system functions, it is important to describe the science of snowmaking in general and to define a few key terminology that will appear often in the remaining sections of the text. Although the science of snowmaking is



complex, for the..... Listed under: [Home Automation Projects](#)



385. [Controlling Nixie Tube With Arduino Using K155ID1 Microchip](#) For those who don't know Nixie tubes are electronic devices used for displaying numbers and other character using glow discharge. They date back to 1950s not used commercially anymore. Currently they do experience second life though, as people do tons of cool projects. In this..... Listed under: [Other Projects](#)



386. [64 pixel RGB LED Display - Another Arduino Clone](#) This display is based on an 8x8 RGB LED Matrix. For testing purposes it was connected to a standard Arduino board (Diecimila) using 4 shift registers. After getting it to work I permatized it on a fabbed PCB. The shift registers are 8-bit wide and..... Listed under: [LED Projects](#), [Projects](#)



387. [RFID cat door using Arduino](#) Intro: RFID Cat Door This is a cat door /flap that can only be opened by the animal that wears the appropriate RFID tag. Arduino controls the process. It features a custom made antenna large enough to function as a gate, which makes it easy..... Listed under: [Projects](#), [RFID - NFC projects](#)



388. [Automatic Multi-Photo Taker \(Photobooth Style\)](#) This is a tutorial on how to program your DSLR camera to take photos photobooth-style. It's a simple Arduino setup that allows you to take continuous photos with 3-second delay intervals. This was built for a college electronics project. A motion sensor detects motion in..... Listed under: [Video - Camera - Imaging Projects](#)



389. [A Simple Arduino Touchless Candy Dispenser](#) This is a simple touchless candy dispenser using an ultrasonic sensor for activation, a stepper motor to dispense candy, and an Arduino for controlling everything. The candy dispenser can be powered using the USB port or using a 9v battery. Inside the cylindrical container, there..... Listed under: [Other Projects](#)



390. [How To Smell Pollutants using an Arduino](#) This Instructable explains how to use a gas sensor with your Arduino. This lets your Arduino smell (and hence you program responses to) overall gas levels for a variety of nasties, including ethanol, methane, formaldehyde, and a bunch of other volatile organic compounds. My cost..... Listed under: [Projects](#), [Sensor - Transducer - Detector Projects](#)



391. [Gas detector / indicator \(USB powered\) with arduino](#) ArduSniffer This Instructable shows how to build a gas detector / indicator using an arduino. The finished product is USB powered and displays the amount of detected gas on a led display. In this design the reset button on the arduino is also working. This..... Listed under: [Projects](#), [Sensor - Transducer - Detector Projects](#)



392. [HALLOWEEN DIY CANDY DISPENSER WITH RIDDLE, 7-SEGMENTS & PUSHBUTTON, ARDUINO & 3D PRINTED](#) | ELISAVA In this project we use an Arduino Uno along with some simple components to create an interactive, scary and playful decoration for Halloween to impress all your guests. Our idea is basically designing a candy dispenser that only provides the user with a few candy..... Listed under: [Other Projects](#)



393. [BoB the BiPed](#) Did you buy an arduino after seeing all the cool instructables and now you tired of just making LEDs blink? Are you envious of all the cool walking robots people are building but don't have the experience or cash for all of those servos and expensive brackets?..... Listed under: [Robotics - Automation Projects](#)



394. [Arduino Programming With Atmel Studio 6.0](#) How to import the compiled Arduino IDE libraries into Atmel Studio 6.0 using a program written by Omar Francisco. This will allow you to use the feature rich programming environment of Atmel Studio to program the Arduino Uno. Other Arduino boards such as the Mega..... Listed under: [Arduino Programmer Projects](#), [Projects](#)



395. [Mr.Skeleton](#) Are you prepared to experience the spookiest night of the year? Grab some candy from this basket if you're brave enough, but be careful: Mr. Skeleton doesn't like sharing too much. Happy Halloween! Halloween basket with built-in distance detector; when trying to reach for candy..... Listed under: [Other Projects](#)



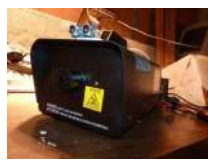
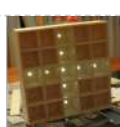
396. [How to Control arduino by bluetooth from PC](#) I wanted to make it possible to control an arduino board from my phone. So that I could control other devices. the easiest way seemed to be using bluetooth. but when I received the parts needed I found it want quite as simple as I..... Listed under: [Interfacing\(USB - RS232 - I2c -ISP\) Projects](#), [Projects](#), [RTOS - OS Projects](#)



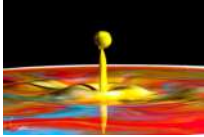
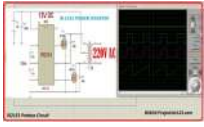
397. [DIY Motion Sensor Alarm System](#) Are you constantly being scared when people sneak up behind your back? Do you have bad hearing and can't hear people approaching you? Do you want to just build a super fun Arduino project? If you answered yes to any of those questions, then this..... Listed under: [How To - DIY - Projects](#), [Security - Safety Projects](#), [Sensor - Transducer - Detector Projects](#)

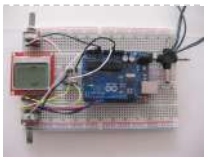
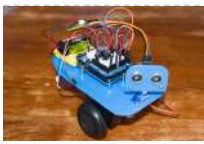
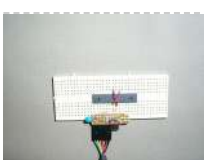
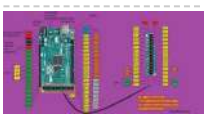
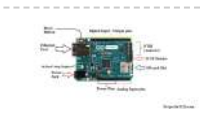
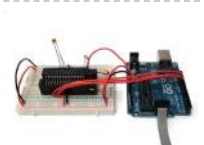
398. [HALLOWEEN PROJECT: the Candied Dead Baby](#) The Candied Dead Baby is an Arduino-controlled interactive halloween decoration. It has been designed, created and assembled by three industrial design engineering students from Elisava. Using servomotors and ultrasonic distance sensors as well as a buzzer, we've designed a product that when an ultrasonic sensor catches..... Listed under: [Sensor - Transducer - Detector Projects](#)



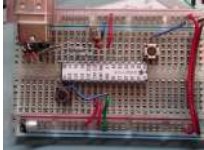
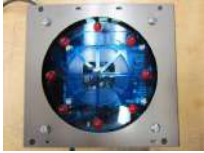
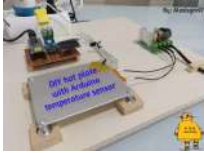
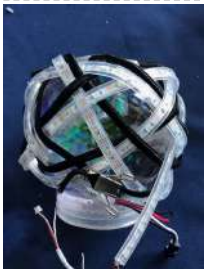
399.  [Android talks to Arduino board](#) This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
400.  [8 X 8 LED Pixel Art](#) Create a display of 8x8 square pixels that can work independently. And to easily reprogram it to display different animations. Also I don't have a 3D printer, so I needed to make it out of things around the house. <https://youtu.be/xfmsxwR4btA> Supplies LEDs 5mm APA106 x..... Listed under: [LED Projects](#)
401.  [Motion Triggered Fog Machine using an Arduino](#) Fog machines can be unruly beasts. Especially the non-professional models you buy for halloween. With low duty cycles, causing massive amounts of fog when you don't need it, and no fog when you do. Wouldn't it be nice to have fog only when people come..... Listed under: [Other Projects](#), [Projects](#)
402.  [The Boss Box Bot](#) Welcome to the Boss Box Bot instructable, or as we like to call it, the Bo-Bo Bot. The Bo-Bo Bot was designed to use extremely low cost materials to allow people to construct a robot without high-priced kits. Our Bo-Bo Bot will be made using..... Listed under: [Robotics – Automation Projects](#)
403.  [Cup Cooler using an Arduino](#) This is my first Instructable, so please judge harshly so that I can learn 😊 Its a simple project minimal skills needed. Drawings are made using: Fritzing Code Written using Codebender The cold plate got to -20c Watter in the cup measured @ 5.5c compared..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
404.  [Bicycle Journey Tracker With Arduino and GPS Module](#) This is a bicycle journey recording device utilizing Arduino and a GPS module. I'm riding an electrical bicycle from time to time during weekends. Several good bicycle riding routes which pass by the lakes and parks are located near to my house. Therefore, bicycle riding..... Listed under: [GPS Based Projects](#)
405.  [Smart Product Project – Intro to Sensors \(Lesson 3\)](#) If you haven't already, check out the Leader-Follower Robot project (<https://www.instructables.com/Leader-Follower-Robot-Legs/>). The Leader-Follower Robot project provides important background on the concepts covered in this tutorial. We will also be using the Leader-Follower Robot to showcase some cool sensors! This Instructable will be a deeper dive..... Listed under: [Sensor – Transducer – Detector Projects](#)
406.  [Daft Punk Coffee Table 5x5 LED Matrix using an Arduino](#) Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
407.  [Capacitive-Touch Arduino Keyboard Piano](#) Using only an Arduino, a few resistors, a buzzer, and some bits of aluminum foil, you can create your own touch-sensor piano keyboard in just a few minutes! Using an Arduino Uno, you can create a piano with up to 18 keys; or with an..... Listed under: [Development Board – Kits Projects](#), [Sound – Audio Projects](#)
408.  [Halloween Candy Dispenser](#) Have you ever felt like not wanting to celebrate Halloween? Or too lazy to open the door and hear "trick or treat" a thousand times? <https://youtu.be/1QDBQxl675E> Well, if that's you, we offer the perfect solution without losing the spirit! This project is an automatic machine..... Listed under: [Medical – Health based Projects](#)
409.  [Arduino MIDI-in shield](#) This instructable shows how to build a shield to connect devices that send MIDI signals (e.g. a masterkeyboard) to an Arduino. The basic schematic is derived from: <http://www.arduino.cc/cgi-bin/yabb2/YaBB.pl?num=1187962258/> Step 1: The schematic Basically the schematic is just an optocoupler with some resistors to decouple the..... Listed under: [Projects](#), [Radio Projects](#)
410.  [Arduino I2C and Processing](#) As promised, this week brings another communications tutorial! In this video, we'll use both the serial and processing knowledge that we gained last week, plus an I2C enabled temperature-sensing IC. [box type="note" color="#202020" bg="#ffbb00" font="verdana" fontsize="14" radius="20" border="#000" float="right" head="Attributes"]Thanks to..... Listed under: [Other Projects](#), [Projects](#)
411.  [Bicycle Backlight With Arduino](#) This is the first bicycle accessory gadget I made with Arduino. It's a pattern-based backlight attached to the back-bag mounted on the bicycle luggage compartment. I'm riding an electric bicycle which can speed up around 24km/h at maximum. But I had fallen already three times..... Listed under: [LED Projects](#)
412.  [Scratching with Arduino](#) MIT has developed a fantastic visual programming language called Scratch. It is also an amazing learning tool for children, because it is simple, cute, and by providing interaction with the real world by a board called "Scratch Sensor Board". This

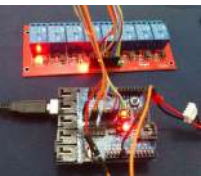
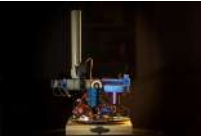
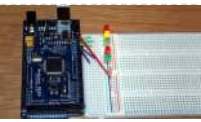
Instructable shows the development of a shield..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

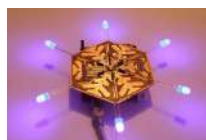
413.  [Arduino Morse Code Shield](#) Morse code was the breakthrough that made possible long-distance communication in the era of the telegraph. The code represents alphanumeric characters by short and long intervals of signal -- those familiar dots and dashes. For many years passing a Morse code test was a prerequisite..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
414.  [Halloween Scary Reactive Mask](#) This is year halloween project of me for my kid. This mask can react with scary sound and led when they wave their hands. <https://youtu.be/Hvwq23ibWhs> Step 1: Preparing Stuffs 1. Arduino Pro Mini 5V 2. Module Mp3 DY-SV5W with SD card 3. 5W 40hm Speaker..... Listed under: [Sound – Audio Project Ideas](#)
415.  [Build Your Own Arduino](#) Setting up an Arduino on a breadboard has become a process I have grown to love. Within a few minutes you can have a fully working Arduino platform to work with as you will see in this tutorial. There have been several occasions when I..... Listed under: [How To – DIY – Projects](#), [Projects](#)
416.  [High Speed Photography](#) With this device you'll be able to: take pictures from anything you can sense or detect: - movement - sound - ... You don't need to modify your camera or flash for this. It's compatible with the old High Voltage flashes and the new TTL..... Listed under: [Sensor – Transducer – Detector Projects](#), [Video – Camera – Imaging Projects](#)
417.  [Easy Arduino PIANO \(Including a Preset Song.\)](#) So first off , I am a student and wanted to pick an instrument , but the problem was that I was not sure that "would I be able to do it ?". So, I thought to clear my base first and got an Idea..... Listed under: [Sound – Audio Projects](#)
418.  [3 wires interface for LCD display using Arduino](#) This post is based on the work made previously by tomek in wiring LCD displays using 4 bits. The basic idea is to group the 7 pins that are needed to drive the LCD in only 3 using a shift register. This is a cheap..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
419.  [Arduino Witch Cauldron](#) This project consists of an interactive Arduino-based Halloween decoration referring to a witch cauldron. As you position your face in front of the cauldron and you get close, the eyes start moving around. At the same time, when there is very low light in the..... Listed under: [Other Projects](#)
420.  [How to Input Text Into Arduino Project Using OLED Display and 5 Key Keyboard Module or Potentiometer](#) Every now and then you might be interested to input text to your arduino project. You can do it using Serial input but this would require Arduino to be always connected to a computer. In this tutorial I would show you how to implement text..... Listed under: [LED Projects](#)
421.  [Cheap working homemade arduino joystick](#) Hello everyone! Today I present you : Arduino Joystick! One day I was checking the inside of old joystick. System wasn't that hard to understand, so I thought of making my of system. The whole build is made only by me. I didn't check the..... Listed under: [How To – DIY – Projects](#), [Projects](#)
422.  [How to Make a Basic Ultrasensor Keyboard Prototype With Arduino](#) For this Instructable, I have made a primitive musical soundboard using an ultra sensor as a keyboard. Here I will show you the basic steps on how to create such a device yourself. Later on, in December, I will demonstrate to you how to make..... Listed under: [Sensor – Transducer – Detector Projects](#)
423.  [ARTOO \[R2\] \(ATtiny2313 Wall Avoiding Robot\)](#) Since I had a lot of ATtiny2313s lying around I wanted to do something cool with them, I thought for a while and then decided to make a simple wall avoiding robot with the ATtiny2313, an ultrasonic sensor and 2 motors. Its an easy to..... Listed under: [Robotics – Automation Projects](#)
424.  [Pet Curfew: An Arduino Controlled Pet Door](#) The Problem: You want to restrict the time when your pet is allowed to go outside. This could be because the neighborhood is not safe for your cat or small dog at night (marauding coyotes comes to mind). But you would like your pet to..... Listed under: [Home Automation Projects](#), [Projects](#)
425.  [ir2110 circuit in proteus](#) ir2110 circuit in proteus ir2110 proteus library ir2110 arduino code ir2110 h bridge circuit here is the simple motor control circuit using H Bridge and ir2110 ic Components Required Simulation of three phase cascaded H-Bridge Multilevel Inverter <https://youtu.be/5j-u99DN9xM> Source: ir2110 circuit in proteus... Listed under: [Development Board – Kits Projects](#)
426.  [Garage Door Opener with iPhone using Arduino](#) What do I need to start? The hardware requirements to start is: *Note: where can I purchase the material with all the components to build myself the system: http://iwup.altervista.org/shop/reference_list.pdf 1.-) Arduino UNO with USB cable 2.-) Ethernet Shield Arduino 3.-) Relay (for arduino 5 V)..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#), [Projects](#)
427.  [Boost Converter Circuit in Proteus Using uc1845](#) This article is all about boost converter circuit, what is boost converter circuit and how it is useful in boost converter circuit .and its ic number. Keep reading if you want to know about boost converter circuit in proteus using uc1845 Boost Converter Circuit in..... Listed under: [Other Projects](#)
428.  [R/C LEGO® Car Redux](#) After I built R/C Lego Car, that used hacked motors and motor housings from the toy Car and toy R/C cars. I realized most of the parts from that toy R/C car that I took the motor out of became wasted. This way was not very..... Listed under: [Game – Entertainment Projects](#)
429.  [Hercules: The Motion Controlled Android Robot using Arduino](#) When I was in the 8th grade, I was intrigued while playing the motion games on Nokia 5800. I was thrilled, how I could control the racing car by only tilting the phone. I used to dream of making this same car in the real..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)

430.  [How to Simulate Arduino in Proteus](#) Hey, fellas I hope you are doing well and getting smarter every day. This post is about How to Simulate Arduino in Proteus, here we will see how we can simulate Arduino codes in Proteus. Arduino UNO is a popular development board based on ATMEGA 328P which is..... Listed under: [Other Project Ideas](#)
431.  [2-Player Pong Game with Arduino Uno](#) Classical Pong game implemented on an Arduino Uno using a PCD8544 LCD screen which is better known as the Nokia 5110 screen. Player bars are controlled by a potentiometer for each player. If you want the bar to go left, just turn the potentiometer left..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
432.  [what is proteus example circuits librarproteus software](#) In this tutorial, we have to learn about how to Circuit with a switch using DC Voltmeter using Proteus. Proteus and Simulation Software – Introduction What is Proteus? Proteus is a simulation and design software use for lab centre Electronic for Electrical and Electronic design circuits.. Proteus is the best..... Listed under: [Other Projects](#)
433.  [James – Your first Arduino Robot](#) Edit: Thank you so much everyone for voting for James in the Toy Contest! He got first place and I won a \$500 Shapeways voucher! Expect to see more robot instructables from me in the future! 😊 So you want to make a robot? Don't..... Listed under: [Robotics – Automation Projects](#)
434.  [Build a transistor circuit board for controlling Air Conditioner remote control with Arduino](#) I was supporting a group of student on their graduation project. One of the difficulties they faced was on controlling an A/C unit with Arduino microcontroller. The first experiment we tried to work it out was by record the A/C remote control beam signal for..... Listed under: [Home Automation Projects](#), [Projects](#)
435.  [100 Watt INVERTER circuit IC 4047 pinout proteus simulation](#) [otw_is sidebar=otw-sidebar-1] Hi Guys! Hope you are fine. In this topic I will tell you how to IC Inverter using Proteus(INVERTER circuit in proteus). Let's start. 100 Watt INVERTER USING IC 4047 First of all we have to select the components from the library. The..... Listed under: [Other Projects](#)
436.  [uDuino: Very Low Cost Arduino Compatible Development Board](#) Arduino boards are great for prototyping. However they get rather expensive when you have multiple concurrent projects or need lots of controller boards for a larger project. There are some great, cheaper alternatives (Boarduino, Freeduino) but the costs still add up when you need many..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
437.  [Nokia Library For Proteus](#) In this lesson(Nokia Library For Proteus), I will show you how to build a simple Graphical User Interface with the help of the Nokia 3310 LCD. I will design a Nokia 3310 Menu interface with the used of Arduino. Nokia Library For Proteus Nokia 3310..... Listed under: [Phone Projects](#)
438.  [Mini Arduino environment monitor ** UPDATE – Added RTC ***](#) This is an Example of how you can use the Arduino to monitor various environmental parameters And display them on a LCD screen. Note: I Added a Real Time Clock!! To see the steps, added parts and Sketch I added new steps.. Step 1: Parts List..... Listed under: [LCD Projects](#)
439.  [ARDUINO MEGA FOR BEGINNERS](#) In this post I will discuss about the detailed ARDUINO MEGA FOR BEGINNERS. In the previous post I have discussed about brief introduction of the Arduino MEGA there I have discussed about the Arduino MEGA board, specifications of the Arduino UNO, microcontroller IC on which Arduino UNO is..... Listed under: [Other Projects](#)
440.  [Micro LASER Show with a CD Lens Mechanism using Arduino](#) Hello! This is the cheapest and easiest way to make a two-dimensional laser show projector. It uses just one pivoting mirror, powered by the focusing mechanism from a CD or other optical drive. They said it couldn't be done, but Ljudmila's skunkworks GRL research facility..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
441.  [Introduction to Arduino Ethernet](#) In this post I will discuss about the Introduction to Arduino Ethernet. In the previous articles I have discussed different Arduino microcontroller development boards such as Arduino UNO, MEGA, NANO, PRO MINI, MICRO, Lilypad etcetera. All these Arduino boards resemble to each other in some..... Listed under: [Internet – Ethernet – LAN Project Ideas](#)
442.  [Stargate LED Lighted Necklace](#) Ever need to have a Stargate handy? You can wear one around your neck and have it at the ready. Ears starting to bleed from the volume of the music at the club or that Euro-chic clothing retailer outlet? Activate the Stargate to jump to..... Listed under: [LED Projects](#)
443.  [Arduino Duemilanove for Beginners](#) In this post I will discuss about the Arduino Duemilanove which is one of the microcontroller development boards among other Arduino Boards. In the previous posts I have discussed the Arduino UNO, MICRO, PRO MINI, MEGA and other popular Arduino microcontroller development boards. This article..... Listed under: [Development Board – Kits Projects](#)
444.  [Twitter Mood Light using an Arduino](#) How's the world feeling right now? This box tells you. Powered by: an Arduino, a WiFly wireless module, an RGB LED, Twitter.com and a 9v battery. I'm a news junkie. I want to know everything that is going on in the world as soon as it happens. I want to wake up and..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
445.  [Bootload an Arduino with a ZIF Socket](#) Bootloading an Arduino with a ZIF socket allows you to easily program a lot of chips at once without worrying about mangling the pins. The reason for this is that ZIF stands for "zero insertion force," and as the name implies, ZIF sockets don't require..... Listed under: [Projects](#), [RTOS – OS Projects](#)
446.  [Top 10 Best Simulators for Arduino](#) In this post I will discuss about Top 10 Best Simulators for Arduino. The most popular software for simulating the circuits and embedded systems based on the Arduino microcontroller development board. In my previous posts I have discussed and involved the simulation of the Arduino..... Listed under: [Development Board – Kits Projects](#)
447.  [Designing and building an synthesizer with Meeblip and Arduino, added videos!](#) For my internship at Create Digital Music/Meeblip I've created quite a fun little synthesizer. This thing is meant to be more flexible than other synthesizer by making it completely independent; it is

battery powered, has its own amplifier/speaker and is controlled by a manually operated sequencer. Inspiration..... Listed under: [Sound – Audio Projects](#)

448.  [Arduino V-USB / HID 14 channel data logger](#) UPDATE: Please see Addendum 2 at the end of this article for an Excel automatic logging implementation. There are several good articles on Instructables about building your own Arduino. Depending on your horde of electrical parts, you may be able to build an Arduino clone..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
449.  [Smart Home Control System With Touch Screen](#) In this project, I have shown how to make a Smart Home Control with Arduino Uno and Nextion touch screen to control door lock system, temperature and daytime monitoring. During the article, I have shown all the steps to make this smart home system. This..... Listed under: [Other Projects](#)
450.  [Resistor Color Code Calculator with Arduino](#) This is a 4 band Mechanical Color Code Resistor Calculator, The idea of making this Mechanical Resistor came when I accidentally dropped my box of resistors and all resistors (1300 of them) got mixed up. ooops! . Thank god there's an APP for that, So..... Listed under: [Calculator Project Ideas](#)
451.  [The Arduino Internet Gizmo](#) The Arduino Internet Gizmo is a USB, Arduino, and RFID device for web surfing. The gizmo works by placing an RFID tag on the top of the gizmo. The gizmo reads the RFID tag and sends the tag number via USB to a program running..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
452.  [3D Printed Holo Clock With Arduino](#) Hello everyone! This is my first instructable. This project is a 3D printed clock powered by a stepper motor and is controlled by an Arduino Uno. It was designed in OnShape over the course of a month. It keeps time very precisely and only needs..... Listed under: [Clock – Timer Projects](#)
453.  [Arduino Motors and Transistors](#) This week, we'll finally be using the Arduino to control some motors! First up, we'll control a standard DC motor running off a 9V battery with the help of an NPN transistor and a PWM (Pulse Width Modulated) signal from the Arduino. [box type="note" color="..... Listed under: [Motor Projects](#), [Projects](#)
454.  [Oscilloscope / Logic Analyzer using Arduino](#) One of the frustrating things about developing and debugging electronic circuits is that you can't look inside the circuit to see what is happening. Even with a circuit laid out before you on a workbench and powered up it may seem like you're in the..... Listed under: [Other Projects](#)
455.  [CliSensio – Climate Sensing and Insect Infestation Control](#) Climate Change, a highly debated high school topic, but do we really care about it? We see politicians, scientists, researchers, philanthropists, conservationists and almost everyone blaming each other for every climate catastrophe occurring today. The real question is what climate change or change are we..... Listed under: [Solar energy project Ideas](#)
456.  [Arduino Memory Game](#) Background This is a project that was started 2 years ago which I recently decided to pick up again and finish. The purpose of the product is to test a person's ability to memorize patterns. It does this on a 2x2 button layout where the user must replicate the LED pattern that..... Listed under: [Game – Entertainment Project Ideas](#)
457.  [Digital Book Cricket Game with ATtiny 85 using Arduino](#) The project described here is a digital implementation of “book cricket game” which Indian students normally use to play in their childhood time. The heart of the project is 8 bit MCU from AVR family called ATtiny85. ATtiny85 are small and cheap microcontrollers which are..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
458.  [Arduino Weather Station Part2](#) So my last project was a Arduino wind chill machine. <http://www.instructables.com/id/Arduino-Wind-Chill-Machine/> Naturally, this Lazy Old Geek wanted to add a weather vane (wind direction) to my weather station. Who cares, you may ask? Well, I am a Geek. Actually, wind direction has some importance. Here..... Listed under: [Arduino Programmer Projects](#), [Projects](#), [Security – Safety Project Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
459.  [DIY Hot Plate With Arduino Temperature Sensor](#) Hello, everyone, in this instructable I will show you how to make the most useful a DIY enthusiast must-have in their workshop; a hot plate for SMD reflow soldering using a Thermocouple sensor controlled by an Arduino nano to monitor the temperature! Keep reading to..... Listed under: [Temperature Measurement Project Ideas](#)
460.  [Interactive Arduino Powered Coffee Table](#) One quick fore note: this is my first Instructable and my first large Arduino project, so if you see any stupid errors or have an idea of how things could be done better, then please let me know. Now that that's out of the way I'll begin, I..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LCD Projects](#), [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
461.  [Rainbow Knotted LED Snow Globe](#) My purpose for this project was to take a knot and "show" its construction by tracing its path. It was only through happenstance that I discovered my chosen medium (2 metres of NeoPixel LED lights) fit so well with Adafruit's snow globe. You might choose..... Listed under: [LED Projects](#)
462.  [Light Palette–Selective Lighting for Your Next Feast](#) The permutations that fine food has gone through in the last 20 years has been quite amazing. Every nuance has been tweaked and romanced over. Growing up in the midwest where food was taken in merely to prevent bodily collapse until that one day when..... Listed under: [Other Project Ideas](#)

463.  [Larson Scanner with Relay Module using Arduino](#) This time I'll show how I used an Arduino to control a relay module with eight channels. Arduino in offers several advantages such as: - Open source; - Easy programming; - You can assemble your own board; - Is supported on various forums on the..... Listed under: [Other Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
464.  [Evil Macropad](#) I don't have to introduce your colleague, Richard. He is The Backbone of the society. Hard worker, everyone knows he is busy all day. He gets all the praise. But you know the truth. And only you. He is hardly working. All he does is..... Listed under: [Other Project Ideas](#)
465.  [Arduino Quadraped Robot: Walks, Skims & Grips](#) I made an Arduino quadraped robot "by-hand," meaning without a kit or a 3D printer. It walks using a "long step" gait, which can be very smooth and natural looking. It didn't quite come out the way I wanted though. However, to make my robot..... Listed under: [Robotics – Automation Projects](#)
466.  [Ultrasonic Combination Switch using an Arduino](#) Time for a follow-up to the Single Button Combination Lock by creating another oddball type of switch/lock. To activate this switch we make use of a Parallax Ping))) Ultrasonic sensor, an Arduino-style board and some other hardware – to make a device that receives a four-number code..... Listed under: [Medical – Health based Projects](#), [Projects](#)
467.  [Arduino NERF Ball Wireless FPV Sentry Turret](#) This project will guide you through the steps to make an Arduino based 360 degree rotating foam ball turret with full joystick wireless control, and first person view camera and headset. This is a moderately complex project for hobbyists looking to try something a little..... Listed under: [Wireless Projects](#)
468.  [Arduino Street Traffic Light – Breadboard Edition](#) Build a simple Arduino powered Traffic Light with us! This instructable is meant to walk you through almost every step, but there are a few assumptions. Read over the intro and the first step to make sure you are fully prepared! This is the breadboard..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
469.  [Arduino SD Cards and Datalogging](#) This is my first in a series of more advanced Arduino tutorials. [box type="note" color=" #202020 " bg=" #ffbb00 " font="verdana" fontsize="14" radius="20 " border=" #000" float="right" head="Attributes"]Thanks to Jeremy , for this articles[/box] Now that we've covered the basics in tutorials 1-10 (you have watched them..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
470.  [How to Control Any Drone From Your Arduino Microcontroller Using Bluetooth](#) Hello Everyone!!! In this Instructable I am going to show you how I converted my (Commercial) RC drone that uses an RC radio system into a drone that is controlled by your Arduino using Bluetooth Why would I want to control my drone from an..... Listed under: [Bluetooth Projects](#)
471.  [Introduction to Packet Radio and Arduino Controlled LED Strips](#) This time on the show we continue coverage of Toorcamp 2012 - the American Hacker Camp. This time Darren speaks with Rob Eby about packet radio as an extension of the Internet. Plus what could be better than flexible individually addressable RGB LED strips? %1..... Listed under: [LED Projects](#), [Projects](#), [Radio Projects](#)
472.  [Tele Vaidya – Remote Health Monitor](#) Every human being requires health care as one of their basic needs. However, many poor countries are unable to achieve the requirements due to a lack of medical health experts or doctors, as well as sanitary facilities such as hospitals. These are the most pressing..... Listed under: [Other Project Ideas](#)
473.  [Cyborg Hand : Robotic-cum-Prosthetic Servo Powered Hand](#) <https://youtu.be/gO7L46sZTY4> Supplies Hey there ! For this Instructable you will need: 1- 3d Printer 2- CAD software(TinkerCad / Fusion360) 3- PLA and TPU filament 4- Servos [MG995] 5- Arduino 6- Wires and Breadboard 7- Rubber bands 8- Thread / String (..... Listed under: [Robotics – Automation Project Ideas](#)
474.  [Arduino Controlled Digital Window Sticker](#) A bumper-sticker sized L.E.D. matrix that displays images in sequence from an SD card, to produce an animated sign or "window sticker." Arduino controlled! Also includes Windows, Mac, and Linux code for converting .xbm image files into Digital Window Sticker files. Perfect for a shop..... Listed under: [LED Projects](#), [Projects](#)
475.  [Smart Thermometer Using Esp-01F and Web Socket \[Arduino IDE\]](#) In one of the previous instructable, we saw how to make a simple thermometer with ATTINY 85 which can last for 140days with a single battery and it still works great after 40+ days with the same battery I showed in the video. But it was..... Listed under: [Other Project Ideas](#)
476.  [Arduino Powered Micro Quadraped](#) From the previous projects on this page, you can probably see that I have a deep interest in robotic projects. In one of my previous Instructables, I built a quadraped robot using large heavy-duty servo motors, and this time I decided to try and make..... Listed under: [Robotics – Automation Project Ideas](#)
477.  [Robopod the Arduino Powered Robot](#) Robopod is a simple arduino robot that uses antennas to detect obstacles. Robopod's motors are controlled by an H bridge and powered by a nine volt battery. Robopods circuit is based on a breadboard for easy modification. Step 1: Tools and Materials Material Arduino..... Listed under: [Robotics – Automation Projects](#)
478.  [LED Mask \(with Arduino\)](#) Hi everyone! In this Instructable I will show you how to make a LED Mask. This Mask has an incorporated microphone that will make your mouth move as you speak. What you are going to learn from this Instructable: Select the right components for this..... Listed under: [LED Projects](#)
479. [Turn your Arduino into the best gift of all](#) Please vote for me in the Holiday Gift contest and the Make it Glow contest! First, this started out as a gift, and not an instructable. So please excuse some hand waving here and there as I do not have any pictures of the etching and drilling portions. Second,..... Listed under:



[Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)

480.



[Shift Register Keyboard for Arduino](#) A common problem that often comes up when working with micro controllers, is running out of IO for all the input the projects requires. So I came up with this solution that allows a user to have up to 4096 button inputs using only 4..... Listed under: [Other Project Ideas](#)

481.



[TSA Zombie Scanner Security Wand](#) Not even Zombies are exempt from a good pat-down. Scanner security wands are used at the most exclusive nightclubs and venues. Does not detect metal to indicate a presence of weapons but will indicate the lack of a soul which means a more rigorous body..... Listed under: [Security – Safety Projects](#)

482.



[Automated Bioactive Tropical Reptile Vivarium \(using Arduino\)](#) I have multiple bioactive tropical vivariums for my crested geckos, and I always need to spray them morning and night, as well as when the humidity is too low (which happens multiple times per day), and I have to turn on and off the lights..... Listed under: [Other Project Ideas](#)

483.



[Android-Controlled Pneumatic Cannon Powered By Arduino](#) Every summer, Qualcomm hosts a Battle of the Schools competition, which gives employees the opportunity to represent their home universities. This year, entries were to be homemade contraptions, and they were judged according to how cool they were perceived to be. Virginia Tech's cannon project..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

484.



[IR Remote Agent using Arduino](#) Remote control is almost a standard accessory for most home applications, like TV, Hi-Fi, air conditioner and so on. Though remote control brings us leisure, when you really need it but have completely no clue where it is, or which one it is, you have..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

485.



[Sliderpusher for Digital Painters](#) No it's not a name for some obscure industrial goth band... though that would be sick af! Anyway, If you ever used a graphics tablet to draw, paint or sculpt, you know how awkward it can be to click and drag something precisely with a..... Listed under: [Other Projects](#)

486.



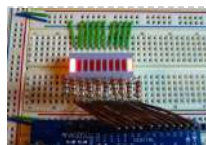
[Making Music with Makeblock](#) Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only..... Listed under: [Sound – Audio Projects](#)

487.



[First Ever Bluetooth Home Automation Shield for Arduino](#) This is my first instructable post, and it is about the Home Automation shield for Arduino that I have created. A little about myself my name is Krrish. I am 16 years old and currently in my senior year of high school. I love making..... Listed under: [Home Automation Project Ideas](#)

488.



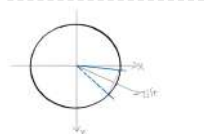
[How to use an array with Arduino](#) This variation on the For Loop example shows how to use an array. An array is a variable with multiple parts. If you think of a variable as a cup that holds values, you might think of an array as an ice cube tray. It's like a series..... Listed under: [How To – DIY – Projects](#), [Projects](#)

489.



[Reading RFID Tags with an Arduino](#) In this project, you'll learn to read an RFID tag using the Innovations ID-12 reader and an Arduino Duemilanove. Step 1: Let's Get Started! We'll be using the ID Innovations ID-12 to perform the task of reading an RFID tag. At a minimum, it requires..... Listed under: [Arduino RFID Project Ideas](#), [Ideas](#)

490.



[Arduino MKR IoT Carrier As a Game Console](#) In this instructable I'm exploring the capabilities of the MKR IoT Carrier as a game console. The Carrier has everything and a bit more you need for a proper game console. https://youtu.be/_t40IsB9nrk A really cool circular colour display, width 256 pixels.Five touch buttons. Five RGB..... Listed under: [Game – Entertainment Project Ideas](#)

491.



[Driving two Nixie tubes with an Arduino via a shift register and two SN74141s](#) Nixie tubes are really cool looking and are becoming quite popular for their 'retro' look. Although there are a number of tutorials out there on using nixie tubes and some nice pre-packaged units (see these nice ones from ogi lumenand ArduiNIX) I hadn't seen a simple tutorial..... Listed under: [Development Board – Kits Project Ideas](#)

492.



[Arduino Based LED City Model \(with Temperature Sensor\)](#) everything is boring without LEDs, so lets make a city out of it! Basic Idea: so we build a City mode out of cardboard, then illuminate it with a LOT of RGB LEDs and let the temperature of color change according to room temperature using..... Listed under: [LED Projects](#)

493.



[Play a Melody using the tone\(\) function with Arduino](#) This example shows how to use the tone() command to generate notes. It plays a little melody you may have heard before. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 8 through..... Listed under: [Projects](#), [Sound – Audio Projects](#)

494.



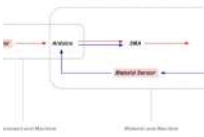
[Color Smoke Bubble Machine \(For Kids Safe Incense Smoke\)](#) Bubbles are always like by all ages. Its fun to see smoke filled bubbles. But color smoke using potassium nitrate are not advice to inhale. Also color from smoke fireworks also not safe for kids so if use smoke fire works dont allow the kids..... Listed under: [Other Projects](#)

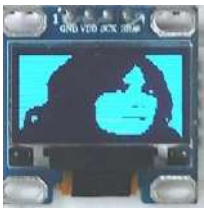
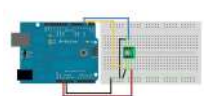
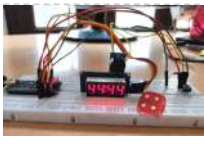
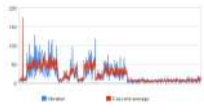
495.



[Arduino Web Enabled RGB Lighting](#) I just happened to see some large strips of LED lighting when I was picking up some parts at Maplin which were on sale (if I remember correct they were around £12 per approx. 2m strip) however the controller/driver was still around £40, so

I..... Listed under: [LED Projects](#)

496.  [Programming a ATtiny2313 with Aceduino](#) What is an ACEDUINO? It is the Philippine Arduino clone. See pic 2 and 3. Quote from Fall Electronics: If you have already tried you have found out you can't use the ATtiny chips in Arduino. This is because it doesn't have the cores for..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
497.  [PC Palette – a Macro Keypad With Limitless Possibilities](#). Do you edit? Do you design? Do you Game? Do you use a computer? Well the PC Palette perfectly fits your needs, be it editing, be it designing, be it gaming or even just using a computer this accessory can help you do your work..... Listed under: [Game – Entertainment Projects](#)
498.  [Make a Mini LED Siren powered by Arduino](#) This is one of the first projects I have made with Arduino. It's a little siren with a LED that fades and blinks on and off. It demonstrates basic use of LEDs and speakers. Also check out this article: 8-Pin Programming Shield Constructive criticism is..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
499.  [Simple 18dof Hexapod, Arduino nano \(optionally with pololu maestro\)](#) Hello, Here is a simple hexapod that can be built by hand very quickly. The mechanical design is not great, but it is very much in the KISS (keep it stupidly simple) style and should be doable in a weekend for builders of novice to..... Listed under: [Other Projects](#)
500.  [Table Tennis Bat With Machine Learning AI \(Arduino Nano 33 BLE Sense + TensorFlow Micro\)](#) Since the pandemic started, me and my housemates bought a Table Tennis table and started playing a lot of Table Tennis. I made this project so that I could monitor and test how well I perform my shots based on what the device is telling..... Listed under: [Game – Entertainment Project Ideas](#)
501.  [A watering controller that can be home networked using an Arduino](#) A couple of weeks ago, I published a great little controller module that provided 6 relays able to be controlled from a computer via a network. After I published it, I got to thinking that the same basic design, with a couple of changes could..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
502.  [DIY ESP32 Wifi Self Balancing Robot – B-Robot ESP32 Arduino Programing](#) <https://youtu.be/tZynlj1StpM> This article is proudly sponsored by PCBWAY. PCBWAY make high quality prototyping PCBs for people all over the world. Try it for your self and get 10 PCBs for just \$5 at PCBWAY with very great quality, Thanks PCBWAY. The ESP32 Balancing Robot Shield..... Listed under: [Robotics – Automation Projects](#)
503.  [Hourglass Using Arduino](#) In ancient times people used Hourglass to measure the passage of time. Hourglass is a simple device that consists of two glass bulbs that are connected vertically with a narrow neg and that allows the flow of sand or fluid from top to bottom. most..... Listed under: [How To – DIY – Projects](#)
504.  [3D Printed Arduino Controlled Eggbot/Spherepot](#) First off this project was a combination of of two great online resources. I had been looking into building an eggbot for a while and since I had a lot of ping pong balls on hand after one of my other videos the time was right for..... Listed under: [Robotics – Automation Projects](#)
505.  [TDS Measuring in Aquarium](#) I have an idea to build a smart aquarium by improving my fish tank. It sounds very difficult for it: monitoring the water, automatic water changing, automatic feeding and so on. these are the functions that the smart aquarium required. Now I plan to do..... Listed under: [Temperature Measurement Projects](#)
506.  [Arduino – Simple Simon Says Game](#) In this instructable, I will show you how to make a simple Simon Says Game using an Arduino. it's not just simple but we can get a psychological benefit. I have a bad memory to remember something fast or a new things. So this project..... Listed under: [Game – Entertainment Projects](#)
507.  [Climate | Material | Machine](#) <https://youtu.be/TQm3vCLWM7Y> This project was completed by Alexandra Pittiglio, Christelle El Feghali and Christian Steixner for our Computational Design and Digital Fabrication 'Material Manipulation Machine' Project, Semester 2, ITECH M.Sc Programme Step 1: Concept How can the material and machine be one entity We wanted to..... Listed under: [CNC Machines Projects](#)
508.  [The LED Blinky ball using Arduino](#) Update: I'll add some clarifications after reading comments on various forums. It doesn't need a 70Mhz ARM CPU, all it does is shift bits into a shift register, that'd be a total waste. There aren't 16 CPU's. the slices are designed to be either slave..... Listed under: [LED Projects](#), [Projects](#)
509.  [Drive a webpage in real-time using Arduino, SensorMonkey and Processing.js](#) Remote visualization of real-time sensor data. This tutorial describes in detail how to use the free SensorMonkey service to push real-time sensor data from an Arduino to a webpage for visualization using Processing.js. No server-side coding or Ethernet shield is required. A standard, run of the mill..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
510.  [P-CNC Plotter Disguised As a Quadruped Robot](#) This is my P-CNC plotter which is laid out and disguised as a quadruped robot. Today, I'd like to share how I made it. It was quite simple, no 3D printer required, just need my meticulousness, care and a little patience. Please check the brief..... Listed under: [Robotics – Automation Projects](#)
511.  [Google Play Music Internet Radio \(Raspberry Pi and Arduino\)](#) I was looking for a project to do with my Raspberry Pi and found thisInstructable and thought I would have a go at something similar which worked with Google Play Music. I had a rough idea of what I wanted the final item to end up like and was..... Listed under: [Radio Projects](#), [Sound – Audio Projects](#)

512.  [Display Your Photo on OLED Display](#) The tiny 0.96 inches OLED display is the most popular among the Arduino fraternity for displaying data like room temperature, humidity, and text messages. Have you ever thought of displaying your own photo on the display! Yes, it's possible. In this Arduino-based project, we learn..... Listed under: [LED Projects](#)
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513.  [Memsic 2125 Accelerometer using Arduino](#) The Memsic 2125 (datasheet) is a two-axis accelerometer capable of measuring acceleration up to plus or minus 2g. It has a simple digital interface: two pins (one for each axis) emit pulses whose duration corresponds to the acceleration of that axis. By measuring the length..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
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514.  [FOOT PEDAL ACTIVATED WATER TAP](#) Greetings everyone! We hope you are in good health. We live in a world where any form of physical contact between two human beings is starting to pose serious health issues. Keeping this in mind, a while ago, we had worked on an automatic water..... Listed under: [Sensor – Transducer – Detector Projects](#)
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515.  [R/C LEGO® "The Bull" Buggy](#) There are more than 20 models of LEGO®'s Dune Buggy type car, even more than the models in LEGO® Race Car category. Dune Buggy is usually four wheels drive off road vehicle, which would not be used on the road. Now that I got excited on..... Listed under: [Game – Entertainment Projects](#)
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516.  [Arduino Esplora Microphone \(Sound Sensor\)](#) This sketch shows you how to read the microphone sensor. The microphone will range from 0 (total silence) to 1023 (really loud). It uses the sound level to set a brightness level for the green LED. When you're using the sensor's reading (for example, to..... Listed under: [Projects](#), [Sound – Audio Projects](#)
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517.  [Pinewood Derby Car Scale With Center-of-Gravity \(CG\) Calculation](#) A key factor when building a pinewood derby car is its weight. The Boy Scouts of America and other organizations specify a weight of no more than 5 ounces. To improve performance many builders will add as much weight (mass) as possible up to that..... Listed under: [Calculator Projects](#)
-
518.  [Beach Buddy: 3-in-1 Solar Phone Charger, Boombox, and Sunburn Timer Calculator](#) Imagine the ideal beach trip. The sun is shining, the skies are blue, the water is warm, and the humidity is low. You and your friends have everything you need to soak up the sun, sand and surf: a cooler filled with drinks and snacks,..... Listed under: [Battery Projects](#), [Solar energy projects](#)
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519.  [Electronic Dice With Arduino Nano](#) The electronic dice presented here, built around a tiny Arduino Nano board, mimics the dice we play in different games like snake and ladders the most popular. Plastic and wooden dice are subject to wear and tear with time and might show biasing toward a specific number..... Listed under: [Game – Entertainment Projects](#)
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520.  [Add Linux, WiFi, Ethernet and USB to Arduino](#) Web site: <http://www.dragino.com/products/yunshield/item/86-yun-shield.html> Project Summary: The model of this shield named Yun Shield, the feature of this shield is as its name. User can add this shield into Arduino (Leonardo, UNO, MEGA2560 etc) and "turn" the Arduino into device which has similar features as Arduino..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
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521.  [Bike Turn Signal & Brake Light Handlebars](#) This project was inspired by a very cool kickstarter called Helios Bars. Essentially what this project does, is put an arduino, LEDs, and buttons into your bike handlebars. The LEDs can be used as turn signals, brake lights, or display ambient colors while riding. It's..... Listed under: [Car Projects](#), [LED Projects](#)
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522.  [Blood Oxygen Heart Rate Meter](#) This instructables show how to use MAX30102, XIAO and a tiny display to build a blood oxygen and heart rate meter. Step 1: Sensor & Algorithm This project use Maxim Integrated MAX30102 Biosensor to detect pulse oximeter and heart rate. However, the official sample is..... Listed under: [Metering – Instrument Projects](#)
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523.  [A Robotic lawn mower powered by Solar Energy with an Arduino heart](#) This robot will mow the grass of your garden, staying within a defined area, avoiding all obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with solar energy and able to..... Listed under: [Robotics – Automation Project Ideas](#), [Solar energy projects](#)
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524.  [Paddle for People With Limb Differences and Agenesis to Play Flute](#) In France and some other countries playing the flute is included in music lessons at school. This project is to share a possible solution for children or music lovers with limb differences and agenesis to play flute. Basic Idea: Use an Arduino board to make..... Listed under: [Sound – Audio Projects](#)
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525.  [Arduino Control via a Web Service with Teleduino](#) Convert your Arduino into a sophisticated web control platform using Teleduino. Teleduino is both a product and a service. Once the Teleduino sketch has been loaded on your Arduino (the 'product'), it then connects to the Teleduino server awaiting your instruction from anywhere in the..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
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526.  [Arduino based Graph](#) This example shows you how to send a byte of data from the Arduino to a personal computer and graph the result. This is called serial communication because the connection appears to both the Arduino and the computer as a serial port, even though it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
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527.  [How to Make Powerfull Laser Engraver](#) Hello Guys Whats up, In this instructable, I am making an Awesome mini laser engraver from old DVD writers. It's very interesting project for any electronics hobbyist & Engineers. You can use this laser engraver machine to make any kind of design, logo, art on..... Listed under: [CNC Machines Projects](#)
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528.  [Hexapoduino: tiny hexapod 3D printed, Arduino controlled](#) A few time ago, i found out a 3d printed Micro-Hexapod on Thingiverse. I started to work on it in the following ways: - create new accessories/components 3D printable - explore the possible ways to drive this hexapod. Here the results: - a parametric battery holder that fits..... Listed under: [Arduino Programmer Projects](#)
529.  [Arduino Based Counting Tree for Children](#) Counting can be a fun task for young children. Children as young as two may start saying numbers in no particular order. A lot of parents start teaching their kids numbers by counting objects around their home. For example, snacks could be counted as the..... Listed under: [Other Projects](#)
530.  [DIY Binary Clock with Arduino](#) Yesterday I was going to start watching a movie, when me and my friend pedro decided to give up on the movie and build a binary clock. After sometime thinking on how to program it, we made it. It works beautifully, so I decided to show here..... Listed under: [Clock – Timer Projects](#), [How To – DIY – Projects](#), [Projects](#)
531.  [Arduino stepper motor and servos shield](#) This instructable will show you show to build an Arduino shield which can be used to control 3 servos and 1 stepper motor using 4 potentiometers. You will need: access to a laser printer/cnc router/etching chemicals 7 x 3 pin 3.5mm terminal blocks 2 x..... Listed under: [Motor Projects](#), [Projects](#)
532.  [How to Drive 4-Digits Seven Segment With Arduino Using Just 3 Pins](#) Hello every body, Welcome to this tutorial. In this tutorial we gonna talk about How to drive a 4-digits 7segment with Arduino using minimum pins. To do this we are going to use very popular IC called 74HC595. It's a 8-bits shift register that has..... Listed under: [Other Projects](#)
533.  [Track-and-explode wolf collar...](#) Don't worry! First, this is a rebuild out of a movie so it won't explode for real and it won't be worn by a real wolf. However there is fursuiting for which I am a big fan of and my own character (fursona) is a..... Listed under: [Game – Entertainment Projects](#)
534.  [Aquarium Light V1](#) Version 0 My first attempt at an LED Aquarium light started as an excuse to buy some of those LED light strips off of eBay. I gutted the old 18" fluorescent fixtures and soldered together row after row of 18" RGB LED strips. They mounted..... Listed under: [Home Automation Projects](#)
535.  [Basic Arduino MIDI Arppegiator](#) In this instructable I will show you how to make a basic MIDI instrument using an Arduino Uno. This instrument plays three notes (a triad) in a row. Using the different potentiometers, you can move up and down the notes as well as up and down..... Listed under: [Other Projects](#)
536.  [Super Brite LED Sneakers 1.0 using an Arduino](#) Create your own Super Bright LED-lined sneakers that blink with multiple patterns. 1.0 FEATURES: - 1 color LEDs - 6 patterns - reed sensors + magnets that give you control to step through patterns - detachable velcro design - small, wearable microcontroller + power Step..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
537.  [Control Android mobile by an Apple Remote using Arduino](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊) Also this is my entry to the..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
538.  [DIY ESP32 Security CAM](#) Hey guys and welcome back, <https://youtu.be/cb393Lbfjx4> This is my DIY Security Cam which is made from an ESP32 connected with a 5V Charger circuit that converts 240V AC into 5V DC for ESP32 to run. The goal for making this project was to make a..... Listed under: [Security – Safety Projects](#)
539.  [Psychic Fortune Teller – An automaton that reads the mind of Twitter](#) Creepy fairground attraction and Twitter App! The Psychic Hive-Mind Fortune Teller is a fairground arcade-type attraction which can tell your fortune. Even better than that though - it's also a web-connected Twitter application that can harvest tweets and regurgitate them as fortune readings! The Fortune..... Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
540.  [Bike Dashboard](#) In this Instructable I'll show you how to make a electronic dashboard for a bicycle. We'll be using an Arduino and a few off-the-shelf parts to create a system with light control and an LED speedometer. Step 1: Materials Arduino Micro (RadioShack #: 276-258) 12V..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
541.  [Miter Saw Measuring Device](#) Some of my favorite projects are making tools that I can use with other hobbies. I am not a master woodworker by any stretch, but I do enjoy it and have created several jigs with my 3D printer that have been useful. If you use..... Listed under: [Temperature Measurement Projects](#)
542.  [Game maker Rover using an Arduino](#) In this Instructable I will be giving you step-by-step instructions on how to interface The Arduino, A Motor Controller (L293D), and a laptop to make a Wifi controlled rover you can drive around your house or work from anywhere in the world. I started and..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
543.  [Medicine Safe](#) <https://youtu.be/Xhga17lytQ4> We created this project for MSReva as an assignment from school. Supplies Laser or print all parts (see github): printed parts: 1x: 14 lock pin sleeve large 1x: 15 lock pin sleeve smal 1x: 17 lock counter pin 1x: 18 pin shooter 14x: 19 tray..... Listed under: [Security – Safety Projects](#)

- 2/18/23, 8:48 AM

Advanced View Arduino Projects List - Use Arduino for Projects
544.



[Star Wars Adafruit Flora Theremin LED Bra](#) Use the force, Luke. Close your eyes, hold on tight to your light saber and..... Don't touch that dial. No tweaking the knobs. Just wave your hands in front of the two sensitive sensors embedded in this bespoke piece of wearable tech. The garment has..... Listed under: [Game – Entertainment Project Ideas](#)
545.



[IoT Demo](#) The following model was created as a teaching aid for a demonstration of IoT concepts. The associated PowerPoint is attached to the end of this Instructable. This Instructable will cover: Creating the Telegram chat group and associated bot.Programming the ESP32.Building the model and electronic circuit..... Listed under: [Other Projects](#)
546.



[Bluetooth Controlled Message Droid using Arduino](#) This is an instructable for a bluetooth controlled Message Droid. I call it R2Blue2. It moves around and displays messages that you type using your phone or computer. Atleast it was supposed to. Due to many problems such as underpowered batteries and bad cable management..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
547.



[Flora- an interactive flower](#) Hello everyone.....Today I have taken something out of my flower garden....We all know,plants have their own lives,they can feel just as we feel..but they can't express it...But what happens if a flower gains the ability to interact with you? Imagine a flower sitting at your..... Listed under: [Home Automation Project Ideas](#)
548.



[Wall-E Robot Arduino EasyVR3 \(Updated\) New Video With Voice Commands..Funny!\)](#) Whilst looking through videos on Youtube one day(Like you do) I came across a video with a Diy Arduino based Wall e, I thought wow! what a brilliant idea, I didn't at that time even know what Arduino was so I began looking into it..... Listed under: [Robotics – Automation Projects](#)
549.



[Build your own Arduino – Bare Bone System](#) I've read through a lot of tutorials online to make an Arduino Clone on a breadboard, and some of them are great, but none of them really seem to have it all, so I'm going to attempt to bring it all together here and provide..... Listed under: [Development Board – Kits Projects](#), [How To – DIY – Projects](#), [Projects](#)
550.



[Control an LED With Button Using Swift Language](#) In the two previous projects, the LED turns on and off automatically. Now, you will control the LED manually using a pushbutton. Step 1: What You Will Need The parts you will need are all included in this Maker kit. SwiftIO boardShieldButton module4-pin cable Step 2:..... Listed under: [LED Projects](#)
551.



[YABBAS – Yet Another Bare Bones Arduino \(on Stripboard\)](#) This Instructable will demonstrate the building of a bare bones (and really inexpensive... less than \$5) Arduino compatible module that can be put together on a small piece of stripboard and can be used either on a breadboard or independently. The following links / similar..... Listed under: [Development Board – Kits Project Ideas](#)
552.



[Simple Arduino Pot Plant Soil Moisture Sensor](#) Arduino Pot Plant Soil Moisture Sensor I have been struggling with over watering of my indoor pot plants, especially succulents. To this end I decided to make a simple Soil Moisture sensor that can tell me when the moisture level of my pot is too..... Listed under: [Sensor – Transducer – Detector Projects](#)
553.



[Artificial Candle Ignited by Real Flame](#) Hello again, everyone. In this Instructable, you will see something really cool and exciting and you might not have seen such a thing yet on the internet. We will design and make a 3D printed artificial candle. But the interesting part of our project is that..... Listed under: [Other Projects](#)
554.



[Twittering Laser Tripwire with Webcam Capture using Arduino](#) This instructable will show you how to construct a laser tripwire that can twitter and grab an image from a webcam, as well as execute any command you can put in a bash script. This instructable is actually quite simple and is even suitable as a beginner..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
555.



[DIY 360 Degree SODAR Device](#) First off, why did we decide to call this thing SODAR? SOnic Detection and Ranging, or SODAR, is a lot like SONAR and RADAR. However, we don't feel comfortable calling it SONAR because we have no desire to use it for navigation and we aren't..... Listed under: [Sensor – Transducer – Detector Projects](#)
556.



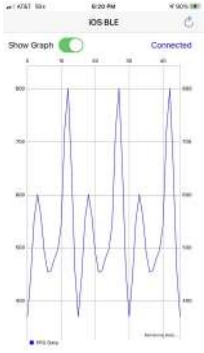
[Automatic Food Dispenser From Arduino](#) Howdy Readers, Dispensers for pets are expensive and this fact is known to all of pet owners But as there is a saying there is always one or other solution to each of problems! In this instructables we will go through detailed step by step..... Listed under: [Other Projects](#)
557.



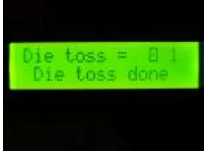
[The Next-Gen Deck](#) By Marcel's Workshop I spend a lot of time on Genealogy with subscriptions to many services.To make it efficient I copy, paste and refresh pages often from one database to another.I use 3 monitors so I can go from screen to screen to compare data,..... Listed under: [Other Projects](#)
558.



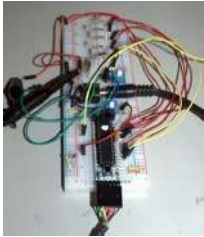
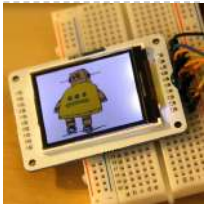
[RGB's with Arduino and Processing](#) Here is an easy(enough) project to introduce you to the Arduino microcontroller, as well as Processing. This is my first Arduino and Processing project and I didn't have too much bother getting it working. This is my entry to the Sparkfun Microcontroller contest so if..... Listed under: [LED Projects](#), [Projects](#)

559.  [iOS App for Adafruit Feather NRF52832](#) The Adafruit Feather NRF52832 has a BLE (Bluetooth Low Energy) functionality that has a lot of potential to be used in many different projects. In this Instructable, I will be stepping through a project where I created an iOS application that would receive data sent..... Listed under: [Other Projects](#)
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560.  [PixelBrite](#) I originally started this project because I wanted to recreate the scene in the movie the Close Encounters of the Third Kind where the humans are communicating with the Mothership via a huge color organ. So I glued various bits of software together and made..... Listed under: [LED Projects](#)
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561.  [Analog Read Serial using Arduino](#) This example shows you how to read analog input from the physical world using a potentiometer. A potentiometer is a simple mechanical device that provides a varying amount of resistance when its shaft is turned. By passing voltage through a potentiometer and into an analog input on..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
-
562.  [Arduino Cable Tracer](#) Instantly diagnose the type and integrity of USB cables with this Arduino Cable Tracer. Suitable to trace USB A, Mini, Mico, and USB-C cables this is very useful to identify the exact wiring configuration and also diagnose broken connections. Step 1: Gather the Materials and..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
-
563.  [Hack a voice changer to add an Arduino input](#) Another quick hack. I purchased a voice changer because I was looking for something cheap that could be hacked into an voice input device. Basically I wanted to animate a skull when I spoke. Added bonus, now the skull puppet would also have a scary..... Listed under: [Projects](#), [Sound – Audio Projects](#)
-
564.  [DIY Arduino Remote Control and Lego RC Vehicle!!](#) UPDATE (8/29/13): Thank you readers for your enthusiasm and kind remarks regarding this project! It has been a tremendous journey since I started this project back in March, but I am very glad with the resulting product and the excitement with which it has been received..... Listed under: [How To – DIY – Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
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565.  [Cyborg Crafts: Sense Like a Cat With Whiskers – Sensory Extension Puppet](#) I adopted a cat a couple of weeks ago (Figure 2&3). To celebrate, I wanted to make a cat whisker sensory extension puppet that looks like my cat! This project will show you how to create a computationally enriched puppet that has whiskers. The Puppet..... Listed under: [Sensor – Transducer – Detector Projects](#)
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566.  [3-dimensional Star Cluster using an Arduino](#) This instructable will guide you through the process of making your very own star-cluster from LEDs and acrylic. I made this piece for my electronics final project at college and had access to a machine shop. This instructable assumes that you have access to similar..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
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567.  [Gliderscore Timing Board](#) Gliderscore is a program developed by Gerry Carter that not only scores a model plane flying competition, but provides timing for the various flying tasks One feature of Gliderscore Timer is that it outputs a Serial ASCII string that contains the countdown time, the group..... Listed under: [Clock – Timer Projects](#)
-
568.  [Matrix sound machine: Generative music with a particle system using Arduino](#) This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Creating emergent patterns that can be converted into sounds fascinates me. So this is my first experiment in building an arduino platform for..... Listed under: [Projects](#), [Sound – Audio Projects](#)
-
569.  [Arduboino \(an Arduboy Compatible Clone\)](#) Arduboy is an open source credit card size gaming console that has an active community not only on its software where alot of people develop their own game for the platform but also on its hardware where there are also alot of people came up with their own..... Listed under: [Game – Entertainment Projects](#)
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570.  [Lite Brite LED clock using an Arduino](#) Lite Brite pegs look like LED's don't they? That's what I though the other day after working on an LED cube for a few hours. I happened to see my daughter's Lite Brite sitting there, and I looked at the pile of LED's on my..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)
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571.  [Cheapest Plug & Play Room Automation Setup](#) Their are many people who are struggling to make projects that are needed for their daily needs. One of the major example is none other than room automation. Even though many of the room automation setup cost a little bit higher can't we make it..... Listed under: [Other Projects](#)
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572.  [The tweiger counter](#) The following steps will enable you to build your own tweiger-counter! It searches in current twitter messages sent around the globe for the words like nuclear, calculates a sliding window average and pushes it to the arduino that will click for every incoming tweet like..... Listed under: [Calculator Project Ideas](#)
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573.  [Sensors in Phone and Arduino Serial Communication](#) Sensors are one of the crucial things when it comes to building projects/robots. Many a times the sensor might be not available locally or it might take too long to ship. Smart phone have most of the basic sensors like proximity, accelerometer, light, magnetometer, gyroscope,..... Listed under: [Sensor – Transducer – Detector Projects](#)
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574.  [DIY 3D Controller using an Arduino](#) Make a 3D interface using an six resistors, aluminum foil, and an Arduino. Take that, Wii. Update: a much more thorough explanation of this project is available from Make Magazine. It might be easier to follow their instructions, and I think their

code is more..... Listed under: [How To – DIY – Projects](#), [Projects](#)

575.  [Analog Fabric Joypad using an Arduino](#) How to make an "analog" input device from fabric and a few other necessary materials. "Analog" in parenthesis because, although it is made up of 4 analog inputs, the only analog transition between the directions (up, right, down and left) comes from the buffering material..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
576.  [Arduino Game Controller for Both PC and Android](#) In this instructables session we are going to see . How to make your joystick . Which is compatible for PC, Laptop , Smart Phone . By Using UnoJoy Library. With this library we can convert a arduino uno into USB game Controller . People..... Listed under: [Game – Entertainment Projects](#)
577.  ["12 Thumbs" R/C LEGO Dragster](#) Impressed by these two LEGO® Dragster sets, a 250 pieces LEGO® TECHNIC Dragster 8847 (released in 1983) and a 391 pieces Top Fuel Racing 5533 (released in 1999). These two Dragsters inspired me to build my own LEGO® dragster, the "12 Thumbs". The name "12 Thumbs" came after I..... Listed under: [Other Projects](#)
578.  [Perimeter Wire Using Matched Filter](#) Do you want to build a robot that is in an invisible enclosure? Or have you wondered how the robotic lawn mowers stay in their garden?In this Instructable I will show you how you can easily build a perimeter loop yourself.This perimeter loop uses a..... Listed under: [Robotics – Automation Projects](#)
579.  [An Arduino Powered \(Scale\) Speed Trap](#) After a break of around two decades I've recently started building a model railway. One of the issues I've faced is trying to work out how fast I should be running the trains so that their speed reflects reality given the scale at which they..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
580.  [Low Cost, Easy to Build and Use: Arduino Die Toss Simulator](#) In addition to gambling, dice (die - singular) are used in many board games, e.g., Backgammon, Monopoly, Yahtzee, Liar's Dice, Dungeons & Dragons, Trouble, etc. Common dice are usually white with black "pips". They are sometime known as d6 or D6. In this Instructable, the..... Listed under: [Other Projects](#)
581.  [Strandbot – a solar & arduino powered R/C motorized Strandbeest](#) The Strandbot is a DIY upgrade for the Strandbeest originally designed by Theo Jansen. Strandbeests are amazing mechanical creatures that are able to move on their own using just a little bit of wind power. Unfortunately my tiny apartment is short on wind, so I..... Listed under: [Motor Projects](#), [Robotics – Automation Projects](#)
582.  [Custom I2C Slave Sensor/device With Arduino](#) <https://youtu.be/7uRn6D0kInY> In this Instructable, I'll show you how I managed to create my own I2C controlled device that I can then connect to any microcontroller and interact with it over I2C. In my case, I'm using it to control an AC dimmer module from a..... Listed under: [Sensor – Transducer – Detector Projects](#)
583.  [Make your own programmable thermostat for \\$66 with Arduino](#) This project will show you how you can create your own programmable thermostat with temperature probe, an LED readout and ability to remote control outlets. The core of this project is actually a driver for a 4 digit seven segment display. There are lots uses for..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
584.  [Online Thermometer using Arduino](#) One of the projects in Practical Arduino is the "Online Thermometer", which combines an Ethernet shield with a number of DS18B20 1-wire temperature sensors to allow you to read multiple temperatures and make the values accessible using a web browser. In that project I chose..... Listed under: [Temperature Measurement Projects](#)
585.  [Arduino IoT Cloud ESP32 Alexa Voice Control Smart Home | IoT 2021](#) In this IoT project, I have shown how to make an IoT-based Home Automation with Arduino IoT Cloud & Alexa using ESP32 to control 4 home appliances with voice commands. If the internet is not available, then you can control the home appliances manually with..... Listed under: [Sound – Audio Projects](#)
586.  [Self-balancing skateboard/segway project Arduino Shield](#) General purpose Arduino shield for self-balancing machines. Why did I make it? I previously made an Instructable in 2010 on how to build a self-balancing skateboard. <http://www.instructables.com/id/Easy-build-self-balancing-skateboardrobotsegway-/> There are >500 comments on this and many express confusion setting up the balance sensors, software and electronics..... Listed under: [Development Board – Kits Projects](#)
587.  [DIY Arduino Wireless Motion Alarm System](#) Hello everybody hope you're doing well, in this instructable I'm going to show you how to make a wireless motion alarm system, this device consists of a transmitter and a receiver. So essentially it is a pretty simple and basic wireless motion alarm system with..... Listed under: [Wireless Projects](#)
588.  [How to control LED's with Processing and Arduino](#) The other day I was confronted with an interesting problem, I needed to control a series of lights from an interaction on a computer screen and it had to be as inexpensive as possible. I instantly thought of an Arduino. It had everything that I needed,..... Listed under: [LED Projects](#), [Projects](#)
589.  [PECS Communication Board](#) The Picture Exchange Communication System, or PECS, allows people with little or no communication abilities to communicate using pictures. People using PECS are taught to approach another person and give them a picture of a desired item in exchange for that item. By doing so,..... Listed under: [Phone Projects](#)
590.  [Arduino Waveform Generator Shield](#) Waveform generators (also called function generators) are useful for testing and debugging circuits. They can be used to test the frequency response of electronic components like op amps and sensors or to characterize and troubleshoot audio effects boxes and pedals. This waveform generator shield is..... Listed under: [Projects](#), [Radio Projects](#)
591.  [DIY Flex sensor using Sugru and graphite powder \(Resistencia flexible usando Sugru y polvo de grafito\)](#) Este es el primero de 5 instructables que surgieron del Instructables & Sugru build night (and day en nuestro caso) que hicimos en el Laboratorio de Juguete, el 20 de julio del

2013: una Resistencia Flexible o Flex Sensor hecha con Sugru y polvo de grafito:..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

592.  [Remote Control Arduino Car](#) A great introductory project for those diving into the IoT and Arduino platform. Working with motors and an IR sensor helps newbies understand various components and sensors compatible with the Arduino. Using the remote control, you will be able to control the robot's movement allowing..... Listed under: [Car Projects](#)
593.  [7-segment Display Using Swift Language](#) You could always see 7-segment displays around you used to display digits, like in timer, clock, etc. In this mission, you are going to learn how it works and display numbers on it. Let's start. Step 1: What You Will Need The parts you will..... Listed under: [Clock – Timer Projects](#)
594.  [Arduino Audio DAC Options](#) DAC is short for Digital to Analog Converter. In this article we play around the code Michael Smith created for a PWM based DAC. I modified his code so that other DAC options could be tried. I compare the 8-Bit PWM DAC with the R2R..... Listed under: [Projects](#), [Sound – Audio Projects](#)
595.  [Laser Shooting Game](#) This laser game is a simple project that utilizes an Arduino mini. All target boards have an Arduino, sensors, and servo control ports. Shooting the target center triggers the servo and the board falls flat. Step 1:What you need [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 "..... Listed under: [Game – Entertainment Projects](#)
596.  [Laser Tag "Free for All" Circuit Playground Express and ESP8266](#) This is an easy way to make your boards into a fun laser tag game to play with friends. we combined both boards as described in the pictures. Supplies For this project you will need IR remotes, shoe laces, circuit playground express, ESP8266, battery case..... Listed under: [Game – Entertainment Projects](#)
597.  [Clock Two – Single digit clock using Arduino](#) Time for another instalment in my irregular series of clock projects. (Or should that be "Time for another instalment in the series of irregular clock projects"? In contrast with the extreme "blinkiness" of Clock One, in this article we describe how to build this single-digit..... Listed under: [Clock – Timer Projects](#), [Projects](#)
598.  [GRBL Based Coil Winder From Water Pipe](#) When I was working on the Toy Magnetic Levitation project with a solenoid coil, I thought to myself, why didn't I make a coil winder. So I took my times to build a simple coil winder based on GRBL firmware and it was made from PVC pipes..... Listed under: [Other Projects](#)
599.  [Your Image on an Arduino! – TFT LCD Screen Guide](#) Have you ever heard of TFT LCD screens? They are great ways to display information from your Arduino, or display pictures. The Arduino team just released an official TFT LCD screen with their new Robot at Maker Faire 2013. It's very easy to get started..... Listed under: [Video – Camera – Imaging Projects](#)
600.  [Electronic Arrow Spine Tester](#) This Instructable describes the construction of an electronic archery arrow spine tester. An arrow spine tester measures the stiffness of arrows. This helps an archer to construct arrows of uniform specifications which will shoot consistently. Traditional arrow spine testers measure arrow stiffness, or spine, by..... Listed under: [Other Project Ideas](#)
601.  [3D Printed Kitchen Scale Using an ESP8266](#) Hello everyone ! Today I'm going to show you how I built this little kitchen scale during this lockdown ! It can measure weights up to several kilograms, has an included battery, a nice display and can even be turned into a connected scale thanks..... Listed under: [Temperature Measurement Projects](#)
602.  [EDISON Radio](#) This project is bases on the internet radio by Ed Smullenburg. He did an awesome job in creating a working internet-based radio. He shared his coding and hardware on the world wide web so that people like you and me can learn from it. He..... Listed under: [Radio Projects](#)
603.  [Multiplexing 7 Segment displays with Arduino and Shift Registers](#) In this instructable, I will be teaching the basics of multiplexing 7 segment displays using an Arduino and a couple of shift registers. This project is well suited for displaying numerical information or if you want to control a bunch of LEDs. For beginners, like me,..... Listed under: [Calculator Projects](#), [LCD Projects](#)
604.  [Halloween Pop-Up Prop](#) https://youtu.be/nJx_GmmiR7A This was my first animated Halloween prop. I found this witch at the local hardware store. It was meant to hang up by a cord and if someone came close to it, an infrared sensor would trigger the prop. The prop has LED eyes..... Listed under: [Other Projects](#)
605.  [DIY 3D Laser Scanner Using Arduino](#) Maker Alessandro Grossi sent us this great DIY build for a 3D scanner built using a laser, a DSLR, and an Arduino controller. Allesandro is a Mechanical Engineer, holding a Ph.D. in product design. His day job involves helping designers and manufacturing firms develop and..... Listed under: [How To – DIY – Projects](#), [Projects](#)
606. [Halloween Animated Knights](#) About a week or so after Halloween last year (pre-COVID), I happened to be in Home Depot and back in a far corner bin were several Halloween items very heavily discounted. They were just trying to get rid of them as fast as they could..... Listed under: [Other Projects](#)



607.



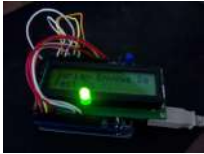
[iPod Information Screen Rev. 2](#) I'm not usually one to revisit a project after I've finished it, but I made an exception because the problems with the original design were making this device unpleasant to use. For those of you just now viewing this project, it is the second iteration.....
Listed under: [LCD Projects](#)
608.



[Tank Level Alert for Pellet Stove](#) If, like me, you have a pellet stove which does not indicate the low level of the tank, I suggest this little module which will beep when the reserve is almost empty. This gap is problematic because when there are no more pellets, the stove.....
Listed under: [Sensor – Transducer – Detector Projects](#)
609.



[The Digital Drone Synth](#) Making a hardware synthesizer is a really fun and rewarding experience. But usually with a lead synth you would want to implement ADSR envelopes, multiple adjustable oscillators, multiple types of filters for each, polyphony et cetera et cetera. Those aren't conducive to a beginner project,..... Listed under: [Sound – Audio Projects](#)
610.



[An Arduino RSS Feed Display](#) This Arduino project will display RSS feed headlines on an LCD via an Arduino and a USB cable. It works quite well, and lets you keep up with the world news while you're sitting at your desk. Many of the values in the code can..... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#), [Projects](#)
611.



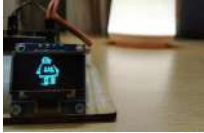
[CO2 Monitoring As an Anti-Covid19 Measure](#) pierre.carles@sorbonne-universite.fr, January 2021 Here, we propose an open-source, portable, autonomous, cheap and easy-to-use device to monitor and record the concentration of CO2 in ambient air in real-time. Using CO2 as a proxy for respiratory aerosols, the device can help define best practices regarding the ventilation..... Listed under: [Temperature Measurement Projects](#)
612.



[Arduino Power, RGB + White LED, Bluetooth controllable, Floor lamp](#) A couple of mounts ago i order a 1M long WS2801 RGB led strip, just for fun. I took me a while to get the strip working with my Arduino. The next step was to figure out what to do with the strip. after some.....
Listed under: [LED Projects](#)
613.



[Automatic Weight Scale and Timer for Machine La Marzocco Linea Mini](#) in the Coffee's era, the current era is called the third wave coffee era. In previous eras, coffee quality was not as much attention as it is today by connoisseurs. Specialty coffee offers quality preserved from farm to coffee in the cup. One of the..... Listed under: [CNC Machines Projects](#)
614.



[Display Images on OLED Display | Ft. Instructables Robot](#) Hi guys, in this instructable I will be teaching you how to display any image on an OLED display using an Arduino board. I know that this topic is quite addressed on the internet but still when I tried it myself, I found it very.....
Listed under: [Robotics – Automation Projects](#)
615.



[Rainbow Jar – RGB Pixel Strip Controlled via Arduino](#) Our most popular item on our display at Maker Faires is always the Rainbow Jar. One customer has already replicated it so we thought we'd share how we made it so you can make your own!
<https://vine.co/v/hqxpVgdFQ9z> (tried embedding this vine but it breaks instructables!) Step..... Listed under: [LED Projects](#)
616.



[Customizable Keypad Matrix \(Use It As Shortcuts for PC\)](#) <https://youtu.be/oyFXOmdzXOM> The of the shelf Keypad Matrix is great but they only come in numeric or alphanumeric types. If you want to make a Keypad Matrix whose keys are designed for your needs then this is the Instructable for you. In this Instructables, I will..... Listed under: [Other Projects](#)
617.

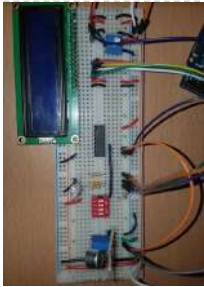
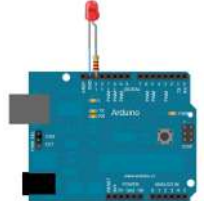
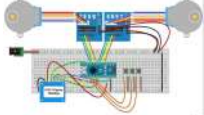


[A Modern Take on the Phenakistoscope](#) The Phenakistoscope is an early optical illusion device that uses static images to create the illusion of motion through the principle of persistence of vision. It is regarded as one of the first forms of moving media entertainment that paved the way for the motion..... Listed under: [LED Projects](#)
618.

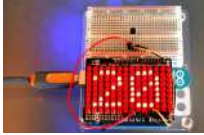
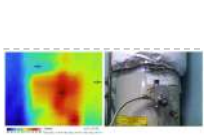
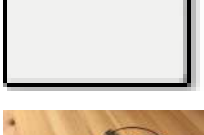


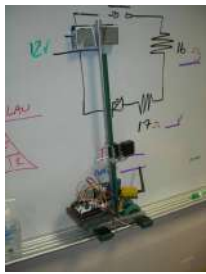
[ARDUINO with XBEE- WIRELESS SETUP DEMO](#) This video describes how to configure two Series 1 XBEEs using Arduino UNO board.The ways of making 2 way communication is also tested on Wireless mode. Overview The Xbee shield allows an Arduino board to communicate

wirelessly using Zigbee. It is based on the Xbee module..... Listed under: [Development Board – Kits Projects](#), [Projects](#)

619.  [Magic Dome](#) Francisca Molero Luque, Dolores Martín Cabrera and Laura Mejía Ospina, students of 'Creative Electronics', a Beng Electronics Engineering module at the University of Málaga, School of Telecommunications. We decide to make as final project a derivation of Interactive Geodesic LED Dome. Supplies - NeoPixel Digital RGB LED..... Listed under: [LED Projects](#)
620.  [Super Simple Arduino Powered Roomba Scheduler](#) Like most people I was skeptical about getting a robotic vacuum cleaner, so as a trial run I thought I would buy the now obsolete iRobot Roomba 530 which was heavily discounted (they're still available in Australia, showing how behind the times we are). Of..... Listed under: [Robotics – Automation Projects](#)
621.  [LED Chaser Game](#) Hello, my name is Vigas Balachandran and on this instructable, I will be presenting my final project. For this project, I have created a LED chaser game. In this game, the LEDs will be flashing in consecutive order. On the serial monitor on the arduino,..... Listed under: [LED Projects](#)
622.  [Arduino String Case Change Functions Code](#) The String case change functions allow you to change the case of a String. They work just as their names imply. toUpperCase() changes the whole string to upper case characters, and toLowerCase() changes the whole String to lower case characters. Only the characters A to..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
623.  [DIY: ARDUINO SOUND SENSOR SYSTEM](#) I have a major problem when it comes to talking on the phone or playing video games with my friends - I often get loud (that's quite an understatement). Since I live with my parents, this often triggers my mother and she usually ends up..... Listed under: [Sensor – Transducer – Detector Projects](#)
624.  [Blink LED using Arduino](#) This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Circuit To build the circuit, attach a 220-ohm resistor to pin 13. Then attach the long leg of an LED (the positive leg, called the..... Listed under: [LED Projects](#), [Projects](#)
625.  [Yogy – The Arduino Powered Robot Made For Kids](#) In this Instructable I will show you how to make a cute and kid friendly Obstacle Avoiding Robot I like to call Yogy. Yogy gets his name from the Yoghurt tub body he is made from. I am a sucker for seeing the best in..... Listed under: [Robotics – Automation Projects](#)
626.  [Arduino Safe With Multivibrator Changeable 4-digit Combination](#) This instructable will explain how to wire, code, and build a functioning DIY arduino safe with multivibrator changeable 4-digit combination. Well what does that mean? A arduino safe with multivibrator changeable 4-digit combination is a functioning safe with a changeable password/combination, it features a series..... Listed under: [Security – Safety Project Ideas](#)
627.  [NeoPixel Ancient Oil Lamp](#) In this Instructable, we will describe how to turn a "retro" oil lamp into a NeoPixels based rechargeable lamp with colorful light effects. Supplies Arduino nano12 bits NeoPixel ringMicro USB 5V 1A TP4056 Lithium battery charger module3.7V 9800mAh Lipo Li-polymer BatteryRotary encoder Ec11 or KY-040..... Listed under: [Other Projects](#)
628.  [Analog Write with 12 LEDs on an Arduino Mega](#) This example fades 12 LEDs up and the down, one by one, on an Arduino Mega board. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the longer, positive legs of (anodes) 12 LEDs to digital pins 2-13 through 220 ohm current limiting resistors. Connect..... Listed under: [LED Projects](#), [Projects](#)
629.  [Arduino: Portable Two-Axis Stepper Control](#) https://youtu.be/r_2DXRIM29s In a previous tutorial we have seen how to run two stepper motors synchronously from a given start position to a defined destination using an Arduino and a very simple "user interface". That user interface was restricted to some microswitches and LEDs, both installed on a..... Listed under: [Motor Projects](#)
630.  [Digital/Analog Clock – Arduino + PaperCraft](#) In this instructable we will be recreating a clock inspired by Alvin Aronson's original design. When I first saw this clock I was very impressed by how clean an elegant the design was I immediately wanted to recreate this effect. I hope some of you feel..... Listed under: [Clock – Timer Projects](#)
631.  [Wordclock – No Special Tools Required! Easy to Build](#) Hi makers, do you want to own a wordclock?There are a lot of nice instructions all over the web, but You've no access to a 3D printer and cnc machines to cut, laser or millYou don't want to waste time and nerves fiddling with itsy-bitsy partsYou..... Listed under: [Clock – Timer Projects](#)
632.  [Arduino Hello World Blink Code](#) This is a basic example how arduino works. In this arduino projects you'll see how arduino control LED on for 1 second and off for 1 second repeatedly. Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED..... Listed under: [LED Projects](#), [Projects](#)
633.  [Autonomous Autonavigation Robot using Arduino](#) This is a step by step guide to build an autonomous navigation robot. We use the Arduino microcontroller to control this robot. We have two different programs for this robot. The first enables the robot to drive around and avoid

anything that gets in its..... Listed under: [Projects](#), [Robotics – Automation Projects](#)

634.  [2 Bit Adder Binary and Decimal Calculator](#) By: Sonya Singh Computer Engineering Step 1: Project Overview Have you ever dreamed of building a 2-bit adder calculator, which can display the results in both binary and decimal? Well, look no further - Through this guide, your dreams have finally come true! Not only..... Listed under: [Calculator Projects](#)
635.  [AAA Robot \(Autonomous Analog Arduino\)](#) The AAA Robot is a perfect robot for beginners. It is versatile, easy to build, and discusses many of the topics roboticists need to learn, including but no limited to transistor switches, motor driving nad analog sensors. This Instructable includes step-by-step instructions on how to..... Listed under: [Robotics – Automation Projects](#)
636.  [How to Motorize a Camera Slider \(Battery Powered\)](#) When making videos with a tripod fluid head, there aren't that many movements you can do. You've got tilt and pan - so basically either a vertical movement or a horizontal movement. Both of these have one common characteristic: the camera stays in pretty much..... Listed under: [Video – Camera – Imaging Projects](#)
637.  [An Arduino Thermometer with Digital Display](#) This is a project for Arduino to make a Thermometer with Digital Display, aimed at beginners. Arduino measures the voltage on a TMP36 Temperature sensor, converts the Voltage to Degrees Celcius and Displays the value on an LOL shield display. Objectives: * Learn how to..... Listed under: [LED Projects](#), [Temperature Measurement Projects](#)
638.  [Arduino Activated Light Catcher Arcade Game](#) This pandemic time has been rough for us all, as it confined us in our homes thus not enabling the opportunity to go outside and meet with family and friends to engage in fun activities of all sorts, such as going to your nearby arcade..... Listed under: [Game – Entertainment Projects](#)
639.  [Cell phone text using an Arduino](#) Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but..... Listed under: [Phone Projects](#), [Projects](#)
640.  [PAD HERO \(Guitar Hero Using Arduino\)](#) A group of three students present you PAD HERO, our Arduino based Guitar Hero game. This project was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications (<https://www.uma.es/etsi-de-telecomunicacion/>). The aim of this Project was to replicate the popular..... Listed under: [Game – Entertainment Projects](#)
641.  [Thermal Camera](#) Have you ever had the desire to see what can not be seen? I never had the ability to see in thermal infrared, and it is rather cool to be able to see in the thermal infrared part of the electromagnetic spectrum. Unfortunately, most thermal..... Listed under: [Temperature Measurement Projects](#), [Video – Camera – Imaging Projects](#)
642.  [Location Tracking "Weasley Clock"](#) As with so many other people, I've always been a massive Harry Potter fan. One of the coolest magical items in the series was almost certainly the Weasley family clock that had a hand for each family member, and moved to reflect their location. I..... Listed under: [Clock – Timer Projects](#)
643.  [Arduino FM radio receiver shield](#) This Instructable will show you how to build your own FM radio receiver shield to be used with an Arduino board. The radio chip we are going to be using is the AR1010 on a breakoutboard found at Sparkfun or Electrokit and there will be code to get..... Listed under: [Projects](#), [Radio Projects](#)
644.  [Arduino/ESP32 Capacitive Touch Sensor](#) Adding touch interfaces to your projects might seem difficult at first, but it really isn't. In this Instructable I'll show you how to do it using an Arduino or ESP32 development board. What you will need: an Arudino* or ESP32 development boarda wiresome tinfoilsome sticky..... Listed under: [Sensor – Transducer – Detector Projects](#)
645.  [Classroom Pencil Protection Machine](#) HEY KID, GIVE ME BACK MY PENCIL! As a teacher, one problem I face every day is losing my pencils. Now pencils don't just disappear, they walk away in the hands of my middle school students. I know this may not seem like a big..... Listed under: [CNC Machines Projects](#)
646.  [ArrDrownHo! – Easily convert AVR to Arduino](#) Cap'n ArrDrownHo! is the lovechild of Ardweeny and Boarduino and he's here to commandeer your AVR ships. ArrDrownHo! inherits pros of both and cons of neither. Pick up an AVR chip and start prototyping instantly on a breadboard! Want to replace that costly Arduino in your project with a..... Listed under: [Development Board – Kits Projects](#)
647.  [Kaosduino: Create your own kaosillitaor using Arduino](#) This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Inspired by Korgs Kaossilator I took it upon myself to build an opensource version of it. This way people can design new ways..... Listed under: [Projects](#), [Sound – Audio Projects](#)
648.  [Splash! Water Droplet Photography](#) I have been shooting water drops for a while now.... since 2017. I still remember how excited I was when I got water drops bounce from the surface with my first setup I made with Littlebits... With these setups (Mark I and Mark II) I..... Listed under: [Video – Camera – Imaging Projects](#)
649. [Whiteboard Erasing Robot using Arduino](#) My entry for the Microcontroller contest is a whiteboard cleaning robot. The goal of this project was to create a robot which could erase written text on a whiteboard completely autonomously, i.e. no human interface. The processes involved in this project included devising a method..... Listed under: [Robotics – Automation Project Ideas](#)



650.  [The Point Shooter Cyborg Mouse](#) Control cyborg technology and revolutionize your PowerPoint presentations - build a wearable mouse! So you converted some video glasses to a heads-up display glass. You built a wearable Raspberry Pi, pcDuino, or BeagleBone Black. Now, how do you control your cybernetic augmentations? You make a..... Listed under: [Robotics – Automation Projects](#)



651. [Smart Glasses\(Under \\$10!!!\)](#) Hi There! We all are familiar with Smart Glasses like the one named E.D.I.T.H. made by our beloved character Tony Stark which was later passed on to Peter Parker. Today I am going to built one such smart glass that too under \$10! They're not..... Listed under: [Bluetooth Projects](#)



652. [Arduino Esplora Pong](#) Want to play Pong on your computer with your Esplora? This example shows you how. This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The Esplora reads the slider and buttons and sends data to the..... Listed under: [Game – Entertainment Projects](#), [Projects](#)



653. [Single button combination lock using Arduino](#) Time for something different - a single button combination lock. Allow me to explain... Updated 18/03/2013 Normally a combination lock would require the entry of a series of unique numbers in order to unlock something or start an action. For example: A more contemporary type..... Listed under: [Projects](#), [Security – Safety Projects](#)



654. [3D Printed Spirometer](#) Spirometers are the classical instrument to perform the parsing of air as it is blown out of your mouth. They consist of a tube that you blow into that records the volume and speed of one breath which are then compared to a set of..... Listed under: [Metering – Instrument Projects](#)



655. [How I Made My Own Boxing Machine?](#) <https://youtu.be/xl0zlpLf4oA> There is no amazing story behind this project - I just always liked the boxing machines, which were located in various popular places. I decided to build mine! Step 1: Designing In the beginning, I designed a 3d model of my device. Boxing pear,..... Listed under: [CNC Machines Projects](#)



656. [The Knock Box: Build a Knock-Sensitive Power Strip](#) The Knock Box is a power strip with superpowers - it turns on your lamp whenever you knock on your nightstand. You get two outlets, individually controlled by knock-knock-knocking on a nearby hard surface. It's great for hitting the lights when it's pitch dark, but if an..... Listed under: [Development Board – Kits Projects](#)



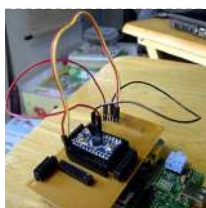
657. [Quasi real-time oscilloscope using Arduino](#) Recently I was reviewing one of my oldest project, and decided to “refresh” previous design by taking full advantage of the new arduino Leonardo board. Based on AtMega32U4, which include PGA (programmable gain amplifier), oscilloscope’s analog front end doesn’t require external OPA this time, end..... Listed under: [Metering – Instrument Projects](#), [Projects](#)



658. [Flame the Candle by Snapping Your Finger](#) Hi guys, we will make an interesting project in this project. We will try to make a flame by snapping our finger. Let's get started on the project. Step 1: Video Tutorial <https://youtu.be/Cg31TzChpbw> You can see the project step by step with this video tutorial. For..... Listed under: [Sensor – Transducer – Detector Projects](#)



659. [14band Graphical Equalizer](#) Here comes a simple Graphic Equalizer showing 14 audio bands from 60Hz up to 16kHz. It consist of a PCB based on MSGEQ7 and ESP dev board. Since a MSGEQ7 chip recognizes 7 bands only and an ESP dev board gives us a chance to..... Listed under: [Other Projects](#)



660. [The Raspberry Pi – Arduino Connection](#) The Pi is a fine little computer board, though not nearly as good as the Arduino when it comes to I/O capabilities. The beautifully-engineered Gertboard is a plug-in add-on that neatly overcomes this deficiency by giving the Pi access to an ATmega328, but it's a very..... Listed under: [Development Board – Kits Projects](#)



661. [High Heel Massage using an Arduino](#) My project is to make a heel (shoe) that senses when your foot is tired and then eases the pain. I will have a force sensor measure how much pressure is on your foot for 3 minutes. If the pressure is at a certain measure..... Listed under: [Home Automation Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)



662. [Automated Arduino Tap](#) This project was designed for my dog, who refuses to drink from a water bowl. She often sits by the tap for hours waiting for someone to pass and open it for her. So I built her this automatic tap that opens when it senses..... Listed under: [Sensor – Transducer – Detector Projects](#)

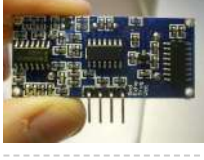


663. [How to use a Piezo element to detect vibration using Arduino](#) This tutorial shows you how to use a Piezo element to detect vibration, in this case, a knock on a door, table, or other solid surface. A piezo is an electronic device that generates a voltage when it's physically deformed by a vibration, sound wave,..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)



664. [Paper Man: a machine created by Arduino and NFC](#) Paper Man is a machine comprised of Arduino, NFC Shield, thermal printer and a papercraft shell—Iron Man. Thanks to the NFC Shield, you can directly sent messages from your mobile to the paper man, and the paper man will spit it out by printing with..... Listed under: [CNC Machines Projects](#), [Home Automation Projects](#)

665.  [Living Pixels – Imagine Technology Has Life](#) Seeing smart home products being more common in our lives, I've started to think about the relationship between people and these products. If one day, smart home products become an indispensable part of everyone's life, what attitudes should we take to coexist with them? How..... Listed under: [Other Projects](#)
666.  [DIY Arduino Bluetooth Controlled Car](#) Hello friends! My name is Nikolas, I am 15 years old and I live in Athens, Greece. Today I will show you how to make a 2-Wheel Bluetooth Controlled Car using an Arduino Nano, a 3D printer and some simple electronic components! Make sure to watch..... Listed under: [Bluetooth Projects](#)
667.  [Sending and Receiving String via UDP using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to send and receive text strings via the UDP protocol (Universal Datagram Packet). You'll need another device to send to and from. The Processing sketch included at the end of the code will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
668.  [Mr. Indecision – a small felt version of yourself that turns its head and looks at you using Arduino](#) This is a tutorial on how to use 123D Catch to get a 3D scan of your whole body. Once you have the scan or "catch" the tutorial will take you through a technique to clean it up and manipulate it ready for 123D Make..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
669.  [Water Surface Lamp](#) This Instructable will show you how to make an atmosphere lamp that lights up just like making little waves on the water surface. It can be placed on your table, shelf, or bedside to create a harmonious atmosphere, bringing an absorbing experience to the user..... Listed under: [Other Projects](#)
670.  [Arduino Beginner and Basic Electronics Kit Primer](#) I learned that one of my nieces had an interest in programming. She was working with robotics at high school and has a summer internship where they had Arduinos. I think she was able to borrow an Arduino to experiment with at home but every..... Listed under: [Development Board – Kits Projects](#)
671.  [Gyroscope Platform/ Camera Gimbal](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) tep 1: Materials List In order to begin the project, you first have to know what you'll be working with! Here are the materials you..... Listed under: [Video – Camera – Imaging Projects](#)
672.  [Automatic Hand Sanitizer for Your Car](#) <https://youtu.be/IYw2ApjvN8I> The United States of America currently holds 20% of the infected individuals with the COVID-19 virus. Considering the ongoing pandemic, an automatic hand sanitizer would result in a decrease of viral spread when placed in the center dash, whenever travel is necessary using a..... Listed under: [Car Projects](#)
673.  [Scintillino – an Arduino-based quick&dirty scintillation counter](#) Have you ever wondered about the radiation levels around you? Well today you can build your very own detector that measures ionizing radiation and displays data in real-time on an LCD (and also your computer if you want). The visual design, as seen below, is..... Listed under: [Calculator Projects](#)
674.  [Simple Inexpensive Wireless With Any IR Remote, Including No Longer Used Ones](#) I hope you will find this Instructable interesting and useful. It is only three (3) steps long, plus an introduction. If you do find this article helpful, even if it is relative to when you see it some months or years old, please be kind..... Listed under: [Wireless Projects](#)
675.  [Arduino Quadraped Robot Stalker](#) Arduino Quadraped Robot - Stalker I am going to build an Arduino Quadraped Robot. As usual, I will share my source code and show as many pictures as possible, to help those of you who are also building Quadraped robots. The way I do things might not..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
676.  [Inverter Aurora ABB \(Power One\) Web Monitor \(WIM\) With Esp8266](#) Autonomous centraline with an esp8266 that grab and store data from inverter and show charts and various data of production and can send notification email if there are some problems. It is a quite user-friendly browser based monitoring solution, It's allows to track energy produced on a solar power plant in a simple and intuitive fashion..... Listed under: [Other Projects](#)
677.  [Dimmer using an Arduino](#) This example shows how to send data from a personal computer to an Arduino board to control the brightness of an LED. The data is sent in individual bytes, each of which ranges in value from 0 to 255. Arduino reads these bytes and uses..... Listed under: [LED Projects](#), [Projects](#)
678.  [Mystery Beeping Prank](#) The Mystery Beeping Prank is a device hidden in a hollowed out book that beeps intermittently at different frequencies. I made this because I am surrounded by a lot of incredibly creative people who have a penchant for pranking one another, and this seemed like..... Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)
679.  [3D Printed Mini CNC Machine](#) Introduction! <https://youtu.be/VwgZXWHkp14> Hi Friends Welcome to the DiY Projects Lab insctructable , I hope you all are well, so today we are going to learn how to make your own 3D Printed CNC machine. It is a prototype module, but once you build it you..... Listed under: [CNC Machines Projects](#)
680.  [Brainwaves Bend a Fork](#) In the 1970's, a psychic named Uri Geller introduced spoon-bending using his mental powers and became famous for it. Well, I don't claim to be a psychic, but I thought it would be fun to be able to bend a spoon or fork using my..... Listed under: [Motor Projects](#)
681.  [Arduino Controlled Catapult](#) I recently had the idea to create a catapult, But not just any kind of catapult, an electronic catapult! I wanted something I could just sit it down hit some buttons and watch it do its thing without being to big. This is what I..... Listed under: [Other Projects](#), [Projects](#)

682.  [Emoticon Helmet using Arduino](#) The Internet has become a pretty good mask to portray yourself as anything you want. This includes hiding your true emotions when posting facebook statuses, IMing someone, or sending emails (like telling you're boss they are awesome when they are really a jerk). But what..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
683.  [Arduino Eye Strain Alarm](#) With the COVID quarantine moving life online, I now spend many hours looking at my computer screen. Whether I'm doing school virtually, connecting with friends and family, or working on projects, all of these things keep me looking at my screen, as I am doing..... Listed under: [Other Projects](#)
684.  [How to Make a Tactile Feedback Compass Belt](#) Have you ever wondered how migratory birds manage to have such an amazing sense of direction despite being so generally clueless? They can sense the Earth's magnetic field with what is basically a compass built into their body. Wouldn't it be cool to feel what..... Listed under: [Metering – Instrument Projects](#), [Sensor – Transducer – Detector Projects](#)
685.  [Arduino Liquid Crystal Displays](#) I had initially planned to do an LCD tutorial a little further down the line, but there was very high demand for it, and I already had a circuit assembled for testing the new LCD that element14 sent me to evaluate. So, this seemed like..... Listed under: [LCD Projects](#), [Projects](#)
686.  [GameBoy 5110 – Arduino Handheld Game Console by 3D Printing](#) During the COVID-19 crisis, how to spend a lot of quarantine time at home? In addition to improving cooking skills and doing sports, game lovers can also make their own unique GameBoy game console! The blue backlit LCD screen of the Nokia 5110 is used..... Listed under: [Game – Entertainment Projects](#)
687.  [Interfacing Electronic Circuits to Arduinos](#) Interfacing Electronic Circuits to Arduino In this instructable I use an example of interfacing an Arduino to an ARINC 429 transceiver in order to demonstrate the general process of interfacing an Arduino to electronic circuits so you can use these techniques on your own designs..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
688.  [Gandalf's Magic Staff](#) Who wouldn't want Gandalf's Magic Wizard Staff? Turns out Gandalf had various staffs and either lost, broke or upgraded them frequently! This provides us with multiple staff designs and there are plenty of methods of constructing your own Magic Gandalf Staff depending upon your resources..... Listed under: [Other Projects](#)
689.  [Analog Clock And Temperature sensor On An Oscilloscope using Arduino](#) Scopeclock is an easy to use hardware to make your X-Y capable analog oscilloscope more useful .Using this simple to use hardware you can convert your analog oscilloscope into a scope clock.This project was me and my friend kshitij gupta at CEDT nsit under the..... Listed under: [Clock – Timer Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
690.  [How to make A light-up distance sensor](#) In this instructable, I will show you how to make a sensor that will light up more lights the closer you are to it. Step 1: Placing The Electronics This step will show you where and how to place the electronics on the breadboard Materials:..... Listed under: [Sensor – Transducer – Detector Projects](#)
691.  [Arduino Based Self Balancing Bot](#) Hey everyone what's up! https://youtu.be/0KDyb7F0C_8 So here's my 3D Printed Self-balancing robot which is powered by an Arduino nano board and has an MPU6050 to get the accelerometer and gyro readings to balance itself using the PID function. This robot setup itself is almost 3D..... Listed under: [Robotics – Automation Projects](#)
692.  [Home Automation \(or Robot Butler called Geoffrey\) – iPhone controlled, arduino based](#) Being able to control everything from your pocket has long been a dream shared by many. Previously we've had universal remotes that can both control our TVs and radios, then we had wireless wall sockets. Both great things, but how likely is it that you're..... Listed under: [Home Automation Projects](#), [Phone Projects](#), [Robotics – Automation Projects](#)
693.  [Save data of temperature and humidity on MySQL with Arduino Uno and Wifly](#) Hello guys, i make this instructable for the people that liked the electronics and the botanic, with this you have the data about the temperatura and the humidity of your orchard and register this in a data base MySQL. For this project you need some..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Temperature Measurement Projects](#)
694.  [Make a Digital Photo Album by ESP32](#) Last week I made an electronic photo album that I could place on my work desk to show some photos. I can take a look at relaxing when I'm tired at work. Previously I have implemented the display of pictures in which the format is..... Listed under: [Other Projects](#)
695.  [ESP32 TTGO WiFi Signal Strength](#) In this tutorial we will learn how to display a WiFi network signal strength using ESP32 TTGO board. Watch the video! <https://youtu.be/dHsG1XZqR9E> Step 1: What You Will Need TTGO ESP32WiFi connectionVisuino program: Download Visuino Step 2: Start Visuino, and Select the Arduino TTGO T-Display ESP32 Board..... Listed under: [Wifi - Wlan Projects](#)
696.  [Arduino String Addition Operator Code](#) You can add Strings together in a variety of ways. This is called concatenation and it results in the original String being longer by the length of the String or character array with which you concatenate it. The + operator allows you to combine a..... Listed under: [How To – DIY – Projects](#), [Projects](#)
697.  [DIY Programming Cable Using Arduino Uno – Baofeng UV-9R Plus](#) Hey Everyone, this is a simple guide on how to convert your Baofeng UV-9R (or plus) Headphone / ear piece cable into a programming cable using an Arduinio UNO as a USB Serial Converter. [DISCLAIMER] I do not take any responsibility in any damage caused..... Listed under: [How To – DIY – Projects](#)
698. [Gut Check a Tweeting and Facebooking Fridge using Arduino](#) I have a problem, I'm trying to lose weight but I love snacking late at night. And no one knows that I even do it. That being one of my biggest hurdles, I figured why not include all my social media friends and followers in..... Listed under: [Home Automation](#)



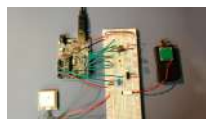
[Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

699.  [Baby Eats, Alternative Video Game Controller](#) This Instructables will teach you how to make the alternative controller to play my short game, Groggu Eats, on itch.io! This Instructables will be very basic up until the soldering. If you want to make this project, I recommend looking at soldering tutorials when you get..... Listed under: [Game – Entertainment Projects](#)
700.  [Personal Space Defender](#) A simple and elegant way to help keep your personal space bubble from being invaded by close talkers and overly huggie people. This is a stolen or borrowed idea from Phillip Torrone of Adafruit, who mused about something like this on an episode of..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
701.  [How to Display Images on OLED Using Arduino](#) Hello there fellow learners, in one of our previous blog on OLED, we learnt how to wire and code OLED. We also learnt to display simple text using Arduino code. So today in this blog, we will learn how we can use images and custom bitmaps to..... Listed under: [LED Projects](#)
702.  [Arduino led pendulum](#) Step 2: Putting up the wires Strip both ends of wires -insert one end of each wire into sockets numbered -Gnd(black wire in my case)-this will be the common ground connection - 13 (green wire in my case) - 12 (yellow wire in my case) -..... Listed under: [LED Projects](#), [Projects](#)
703.  [Arduino Text I/O for Real World Applications](#) Quick Start This tutorial will take you through the steps you can use to successfully process Real World text I/O You should avoid using any Serial methods in your loop() code and any code it calls. (see below) Install the SafeString library (V3+) from the Arduino Library Manager..... Listed under: [Other Projects](#)
704.  [Photoresistor Arduino Midi Theremin](#) I call it the C041D-2020 I made this during the second COVID lockdown in UK, from ideas borrowed from about 5 other projects I found here on Instructables and also on Youtube. As you can see from the video it makes acidic noises by covering the..... Listed under: [Security – Safety Projects](#)
705.  [Adafruit Flora NeoPixel LED Ring Headphone mod](#) Wearable Arduino mod for your headphones. Non-invasive procedure for headphones that don't have room inside the drivers or you don't want to hack apart your high end cans. Adafruit just put out a tutorial for adding pattern blinking LED lights to headphones. This instructable takes it..... Listed under: [Sound – Audio Projects](#)
706.  [How to Create an Animatronic Dragon Model](#) ROOAAARR!! Before you learn how to train your dragon, you need to first obtain a dragon, and there's no better way than to make it yourself! This guide will explain the steps I took to create a scale model animatronic dragon, and in doing so..... Listed under: [Other Projects](#)
707.  [Candy Tossin Coffin using an Arduino](#) When you flip a switch, the coffin lid opens and a smiling red eyed ghost arises. The ghost flings some candy, pushes the switch back and returns to rest. Then, the coffin lid closes. Step 1: Major parts include: 4.5 rpm motor #155821 Jameco.com 1.8..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)
708.  [The BookMinder: a Bookend Meeting Countdown Device](#) Since more and more of us are working from home, we are all increasing our engagement with our screens (looking at you, Zoom meetings). For myself, when I am taking a break from my computer screen I end up doing other things in my apartment..... Listed under: [Other Projects](#)
709.  [Arduino Controlled Solar Fountain](#) A fountain can make a nice decorative fixture for your garden. But it isn't always easy to run a power cord out to where you want it. So I decided to run it on solar power. The system is controlled by an Arduino. This allows..... Listed under: [Solar energy projects](#)
710.  [DIY RGB Tube Lights](#) DIY RGB Tube light is a multi functional tube light which can be used in photography, light painting photography, film making, gaming, as a VU meter and more. The tube light can be controlled by Prismatic software or by a push button. These tube lights..... Listed under: [How To – DIY – Projects](#)
711.  [Arduino HVAC Servo Thermostat or Controller](#) Welcome to my 'green' instructable! I am going to show you how to use an Arduino, two servo motors a temperature sensor and some metal (or wood) to make a digital thermostat for a through-wall HVAC unit. According to CB Richard Ellis (a major real..... Listed under: [Arduino Motor Project Ideas](#), [Ideas](#)
712.  [Arduino Photocell Theremin Synth \(glitchamin\)](#) You know theremins, right? Those cool-looking boxes with antennae that produce noise without being touched? They are played by the likes of Jimmy Page of Led Zeppelin, and present in the soundtracks of countless films. Well, with this instructable, I will show you how to..... Listed under: [Solar energy projects](#)
713.  [The Youtube Subscriber Counter](#) Hey! Today i'm gonna share with you one of my latest quarantine projects, i'm talking about this awesome NodeMCU based Youtube Subscriber and View counter! It's a pretty simple project that can be done in an hour or less so let's get started! Supplies NodeMCULCD 16x2 with..... Listed under: [Other Projects](#)
714.  [Teclado MIDI Super Simple – Super Simple MIDI Keyboard](#) Este tutorial te lleva paso a paso por la construcción de un teclado MIDI de una octava, programable via arduino gracias a su conector de 6 pines. Vas a necesitar: Componentes: 1 Atmega328p con el bootloader de Arduino 1 Zócalo de 28 patas 1 Cristal..... Listed under: [Sound – Audio Projects](#)
715. [Arduino Music and Game Box](#) <https://youtu.be/HSzkWiln1L0> This project was a special gift to my son Eyal, for the birth of his younger brother Itamar. It basically lets you play four games: Simon game Reaction time game Free play (baby-mode) Music mode - plays the Super Mario brothers, by Reyboz (Thanks!) The



hardware was heavily influenced..... Listed under: [Game – Entertainment Projects](#)

716.



[AIR Project using an Arduino](#) CODE: download final project code: Arduino Code download additional wiring_analog.c code: Wiring Code download processing code: Processing Code download C code: C CODE FILE EXPLANATION: The final project code is the final arduino code for the project. The wiring_analog.c code should ONLY be used for..... Listed under: [GPS Based Projects](#), [Projects](#)

717.



[Gimbal Stabilizer Project](#) How to Make a Gimbal Learn how to make a 2-axis gimbal for your action camera In today's culture we all love recording video and capturing the moments, especially when you are a content creator like me, you sure have faced the issue of such..... Listed under: [Video – Camera – Imaging Projects](#)

718.



[Arduino-Pneumatic Flight Simulator](#) Hello, my name is Dominick Lee. I am a senior in high school who is also a programmer and inventor. I created the "LifeBeam Flight Simulator" (name of my project) because I wanted to challenge myself and utilize my software and hardware skills. I was..... Listed under: [Game – Entertainment Projects](#), [Robotics – Automation Projects](#)

719.



[Arduino PIR motion water gun](#) first what youll notice my grammer isnt the best 😊 ok what youll need: 1 transistor/mosfet that can handle the current for the water gun motor, this is the one i used - <http://www.sparkfun.com/products/10213> - then a diode, i used this one - <http://www.sparkfun.com/products/8589> - then a 10k ohm resistor,..... Listed under: [Game – Entertainment Projects](#), [Projects](#)

720.



[3d Maze Game Using Arduino](#) Hello friends , so today we are going to make a maze game using ARDUINO UNO. As Arduino Uno is the mostly used board it is very cool to make games with it. In this Instructable lets make the maze game which is controlled using..... Listed under: [Game – Entertainment Projects](#)

721.



[Pee to Check-In to Foursquare – Mark Your Territory using Arduino](#) In case you are unfamiliar with the most amazing new way to physically "check in" to foursquare here is a video that will explain it all: Mark Your Territory is a fully open-source system but because it interacts with the physical world as well as..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

722.



[Mini invisible MIDI Harp](#) English: This is a simple and easy to make MIDI harp, it runs on an Arduino UNO and uses infrared sensors as strings. It communicates with every recording software that has MIDI. Its really fun to play with and also very cheap, so enjoy!! Español:..... Listed under: [Sound – Audio Projects](#)

723.



[CO2 Display](#) As its name suggests, the CO2 Display project is a small CO2 gas sensor to be plugged into USB to easily track indoor and outdoor pollution.The CO2 level is displayed live, but it is possible with the small application provided in the documentation to generate..... Listed under: [Sensor – Transducer – Detector Projects](#)

724.



[How to Make a Balancing Board System for Hip's Muscles Exercise \(BalanX\)](#) After many happy years as a runner, two years ago I had a problem with my right hip. Unfortunately I had to undergo to total hip replacement surgery. After the operation I made a period of rehabilitation in the use of the leg muscles, through..... Listed under: [Development Board – Kits Projects](#)

725.



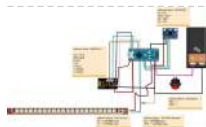
[Arduino Electromagnetic Field Detector](#) A while back I saw an EMF (Electromagnetic Field) Detector at makezine.com that used a led bargraph. I decided to modify it to use a 7-Segment LED Display! Here's my project. Sorry I don't have any pictures of it in use. Hopefully I can post..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)

726.



[Arduino Time-Lapse Controller](#) This project originally started out with a few simple parts thrown together to create a very simple time-lapse controller for a DSLR camera. After I was happy with the initial prototype, I wanted to make a final version which the programming of the "lapse time"..... Listed under: [Video – Camera – Imaging Projects](#)

727.



[Using Ninjutsu Hand Signs \(Naruto\) to Unlock a Safe](#) <https://youtu.be/z772hGGNcqq> Naruto is a Japanese manga series written and illustrated by Masashi Kishimoto.It tells the story of Naruto Uzumaki, a young ninja who seeks recognition from his peers and dreams of becoming the Hokage, the leader of his village. One of the most important parts..... Listed under: [Security – Safety Projects](#)

728.

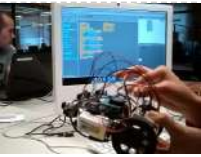
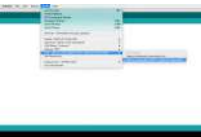
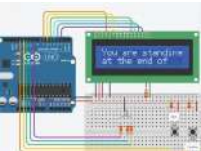
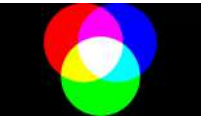


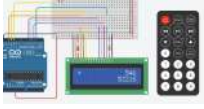
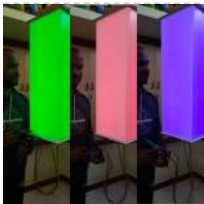
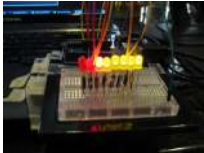
[Arduino Controlled LEGO RC Tank and Transmitter](#) I recently got my childhood Lego out and wanted to find a project that I could combine with Arduino and mechatronics. I started off building a digger but then realised a tank would be better because, well tanks are cool!! originally built it to be..... Listed under: [Other Projects](#)

729.



[Think-a-Tron Mini](#) This Instructable is a standalone follow on to my recent Think-a-Tron 2020 project. You can see a picture of my Think-a-Tron "family" including the original, 2020, and Mini versions above. For the background on what Think-a-Tron is and what I tried to accomplish with Think-a-Tron..... Listed under: [Other Projects](#)

730.  [Self Balancing Unicycle](#) Following the popularity of our self balancing scooter and the SciChair we decided to try something a little edgier, the Self Balancing Unicycle. This project reuses a lot of stuff from our previous projects, using an arduino as the brains behind the scenes. Step 1:..... Listed under: [Game – Entertainment Projects](#), [Motor Projects](#)
731.  [Make a Motorised Pan and Rotate Camera Slider](#) Supplies The parts list for this build is quite lengthy, but a lot of these components you may have lying around if you do have an old 3D printer. The 3D printer I've used to print some of the plastic components and housings is a Creality..... Listed under: [Video – Camera – Imaging Projects](#)
732.  [My Arduino Ping Display Robot](#) Goals Hello all. I hope to please share a little robot that I have just finished building. There are many Ping Boat, perhaps with a tutorials and display less so without pretension, will illustrate what I could do. I gave myself the goal of realizing..... Listed under: [LCD Projects](#), [Projects](#), [Robotics – Automation Projects](#)
733.  [A Gentle Introduction to Arduino for Scratch Users](#) There are lots of people who are very comfortable with the Scratch programming environment but want to try something with Arduino to Blink Lights, Sense Buttons, Run Servos or whatever. They may find the C programming environment in Arduino IDE - Sketch, a bit too..... Listed under: [Other Projects](#)
734.  [Easy Zoom Quit Button](#) This Zoom emergency quit button lets you exit out of your meeting in an instant. It is simple to make and requires very little electronics experience. I built this because I was always searching around for the quit button on the bottom of the screen..... Listed under: [Other Projects](#)
735.  [Arduino-controlled RGB LED Infinity Mirror](#) Update 11/22/2013: Thanks to everyone who voted for this project in theMicrocontroller Contest! It was one of three first-prize winners. Update 9/17/2013: Thanks to everyone who voted for this project in the Arduino contest (I was one of ten "second prize" winners)! If you want to try..... Listed under: [LED Projects](#)
736.  [How to Build Your Own DigiDice | Electronic LED Dice](#) <https://youtu.be/urZDkpSwVQo> Here is an Instructable on how to build a digital dice that uses LEDs as well as an Arduino Nano to generate random numbers and display them in vibrant colours. The housing is fully 3D printed and some circuits have to be custom made..... Listed under: [LED Projects](#)
737.  [Visual Network Threat Level Indicator v2 using Arduino](#) By popular request this is a new wireless version of the Visual Network Threat Level Indicator. This uses a Roving Networks WiFly RN-XV Module to do 802.11 WiFi along with an Arduino to display the threat level on your network. Network monitoring is very important in todays..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
738.  [Create a Choice-based Text Adventure Game With Tinkercad Circuits](#) One of my fondest childhood memories is visiting my grandparent's house and reading my uncle's old collection of "Choose Your Own Adventure" books. While I always got stuck playing text-based computer adventure games with finicky commands, I was hooked to the simplicity and variety of..... Listed under: [Game – Entertainment Projects](#)
739.  [A cardboard televisior \(with arduino and LEDs\)](#) Recently I saw a documentary about the history of the television. And to my surprise they showed that there existed a mechanical television before the well known CRT televisions. Those mechanical televisions or televisors were pretty smart and simple. A CRT is simply an electron beam that..... Listed under: [LED Projects](#)
740.  [Disney Magic Band Scanner](#) This is a Magic Band Scanner. It is inspired by the Magic Band Scanners that can be found at Walt Disney World. It is used at the entrances to all the parks and rides with the FastPass system. I designed and built this as a..... Listed under: [Other Projects](#)
741.  [Arduino Target Practice](#) A quick demo video for your pleasure. This is an instructable for a target practice system for airsoft and nerf weapons. The system has been designed to test a shooter's reaction times and accuracy. Sam and I have been meaning to do this project for a..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
742.  [Laziness Monitor](#) Build an affordable monitoring setup!This project will help you easily get indications on how much time your are sitting in the couch watching TV. This project will have time intervals in which you will get light indications from the board after X time has passed,..... Listed under: [LCD Projects](#)
743.  [Make your own Custom Electronic Widgets, like my Arduino LED Day/Night Widget](#) This is just a brief run down on how easy it has become to make your own circuits complete with your own PCB's. Have you ever wanted to make something custom that suits your needs? Of course you have!! For me it really started when..... Listed under: [LED Projects](#)
744.  [Virtual Color Mixer using Arduino](#) This example demonstrates how to send multiple values from the Arduino board to the computer. The readings from three potentiometers are used to set the red, green, and blue components of the background color of a Processing sketch or Max/MSP patch. Software Required Processing or Max/MSP..... Listed under: [How To – DIY – Projects](#), [Projects](#)
745.  [Daft Punk LIVES ON! My Guy Manuel Helmet](#) WHAAAAT??? DAFT PUNK CALLED IT QUITTS ??? Daft Punk may have retired but that doesn't have to mean that you have to stop having fun with their inspiration! Here is my second dedicated project to that musical duo. This project was pretty tough to pull..... Listed under: [Other Projects](#)

746.  [Happy Birthday Song Using Arduino Uno](#) Hello friends welcome back to "Techno-E-solution" in todays article I'll show "How to play Happy Birthday Song Using Arduino & Buzzer" in few steps. Most of the peoples are from technical background so I decide to wish that peoples means my besties in techy style..... Listed under: [Other Projects](#)
747.  [Led Slot Machine Costume using Arduino](#) This Instructable will walk you through my process of making a Slot Machine costume with addressable leds controlled with an arduino! Step 2: Lets Get started Picture set up: I found my slot picture online that the best graphic that when enlarged would stay..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
748.  [Arduino Keyboard Message Code](#) When the button is pressed in this example, a text string is sent to the computer as keyboard input. The string reports the number of times the button has been pressed. Once you have the Leonardo programmed and wired up, open up your favourite text..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
749.  [IR Calculator](#) Hey, welcome to my first instructable where I will be helping you create a calculator. It's basically made up of a 16x2 LCD, with an Arduino UNO that you can use in order to make quick calculations from far distances. I know, it doesn't make..... Listed under: [Calculator Projects](#)
750.  [Color Injection Lamp – Jumbo Size](#) I love this concept very much because kids like it very much. Now a days kids are always in mobile for study then for play and then for entertainment. Already i develop few projects with lights with arduino and Android. When i see through net..... Listed under: [Other Projects](#)
751.  [Visual Computer Stress Meter using an Arduino](#) Have you ever wanted to, without going out of your way to clock your processor, see how much stress your computer is under? With this project you will have a simple bar graph that constantly shows how much stress your computer is under. If the..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [RTOS – OS Projects](#)
752.  [F1 – Rider](#) F1(Formula One) Rider is a low-budget car. Aspiring people with inspiring speeds. The Rush of excitement is pressing accelerate. A fast Requires a sharp mind. Some cars are meant to fuel our passion. Better Ride is an outcome of a better ride. No hour feels..... Listed under: [Car Projects](#)
753.  [Bluetooth Weather Lamp](#) This was a 2 hour project I whipped up in order to learn how to use a new Bluetooth LE 4.0 module I picked up at redbearlab.com, called a BLE Mini. I've since thought of several much simpler ways (and more dependable) to accomplish the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#), [LED Projects](#)
754.  [LED Fader – With or Without Arduino](#) Have an awesome project in mind using some LEDs. In that project I will be using some LED Fading Effect and few LED Chaser Circuits. But before jumping onto that, I thought I should create a short tutorial and show you guys how to fade..... Listed under: [LED Projects](#)
755.  [Necomimi Arduino Cat Ears](#) They are so dang cute. If you have ever seen the cool promo for the Necomimi Neurowear wearable set of cat ears that respond to brainwaves, you would want a set too. But it seems they may be vaporware since it hasn't materialized on the..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
756.  [Measuring Refrigerant Gases Sound Speed Using Arduino and App Inventor 2](#) The purpose of this Instructable is to build a portable device that can measure the speed of sound in refrigerant gases and use this data to identify them. The speed of sound in an ideal gas is related to two characteristics of the gaseous substance, its molecular..... Listed under: [Sound – Audio Projects](#)
757.  [DIY Arduino Unit Converter: How to use LCD](#) Step 1: Ingredients: Electronics Arduino Breadboard LCD* 2x 50k pots 150 ohm resistor Jumper wires, and tons of them! If you do not want to use a LCD then you will have to use serial monitor. Wherever you see lcd.print just change it to Serial.print..... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)
758.  [CHR's 8X8X8 LED Cube – Revisited with improvements!](#) SEE STEP 11 for uploadable code for this cube. This instructable has mutated over the past few months, and you'll see a bunch of end results before we get into how to make the cube, and the improvements that have been made over the original..... Listed under: [LED Projects](#)
759.  [Parking Assistant Arduino Project](#) Do you ever get frustrated trying to park in just the right spot? Have you gotten tired of using a tennis ball as a guide? Is it time for something a little smarter? Now you can upgrade your garage with an Ultrasonic smart parking assistant..... Listed under: [Arduino LED Project Ideas](#)
760.  [Eggbot](#) <https://youtu.be/hdoy4-F4xgl> Rafael Fuentes, Carmen María Fuentes and Carmen Pérez decided to create this project that was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications. The project consists of making an eggbot using an Arduino Uno development board. This..... Listed under: [CNC Machines Projects](#), [Motor Projects](#)
761. [Arduino 4 led madness](#) In this instructables you will learn how to wire 4 LED'S and make them flash 10 times. This is a great Starter project!! what you will need... 1: arduino (I am using an Duemilanove) 1: breadboard 4: LED's 10-15: jumper wires 3: resistors Step 1:..... Listed under: [LED Projects](#)



762.  [Fading using an Arduino](#) Demonstrates the use of analog output (Pulse Width Modulation (PWM)) to fade an LED. PWM is a technique for getting an analog-like behavior from a digital output by switching it off and on very fast. Circuit An LED connected to digital output pin 9 through..... Listed under: [LED Projects](#), [Projects](#), [PWM Projects](#)



763. [Creative Noise Semaphore](#) This project was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications (<https://www.uma.es/etsi-de-telecomunicacion/>). It's a modification based on sound level meters that are already marketed for use in classes to measure ambient noise. The project is developed in..... Listed under: [Sound – Audio Projects](#)



764. [Pressure Activated Light-Up Umbrella using an Arduino](#) Once upon a time, 2 girls greatly enjoyed walking in the rain with umbrellas. They decided the enjoyment of this experience could be maximized by building their own pressure-activated web of LEDs to install under their umbrella. Thus, with the help of an Arduino, some..... Listed under: [Home Automation Projects](#), [Projects](#)



765. [TankWars: A Physical Video Game using Arduino](#) This instructable will show the game TankWars, a web based game played on an iPad that drives a real robot tank to fire lasers at a robot. When you hit the robot target, the game is updated. The tank and the target are Arduino's equipped..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)



766. [Arduino Voice Controlled Robot](#) Over the years as technology advanced and grew at a tremendous pace, so did the horizon of ideas and creation in our mind. If we look a few years back, a teenager like me would dare think about creating a robot that would operate listening..... Listed under: [Robotics – Automation Projects](#)



767. [Mario 64 Cake Timing Light Game](#) <https://youtu.be/nFIqSWAj8E> Welcome to my Mario 64 Cake Carnival Timing Game! The cake is modeled after the end screen in Mario 64. The active light moves around the cake in a circle. The goal of the game is to stop the light on the star by..... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#)



768. [ATtiny programming with Arduino](#) After this Instructable you should be able to program an A Ttiny85/45 with an arduino. It may sound complex but it really isn't. After doing some research I could not find to much info on how this could be done. I however did find <http://www.instructables.com/id/Program-an-ATtiny-with-Arduino/>. This Instructable..... Listed under: [Arduino Programmer Projects](#)



769. [Arduino Fixed-point Vehicle Proximity Detector](#) This is the high-tech version of hanging a tennis ball from the ceiling from a piece of string. Of course, if you have two different types of vehicles, that tennis ball isn't going to land in the same place on both of them. This project..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)



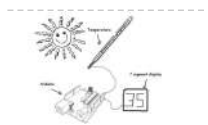
770. [Real VO2Max–Measure Your Athletic Potential](#) VO2Max is an interesting concept that proposes that there is a natural limited ability to extract Oxygen nutrient out of the air and consume it. It is like the IQ of sports activities--some algorithm that tells you how gifted you are in doing a variety..... Listed under: [Temperature Measurement Projects](#)



771. [Electronic Dartboard or How I Learned to Stop Worrying and Love ECE 476](#) Introduction Ever dream of having a darts game scored automatically without using those annoying plastic darts? We decided it was a dream most of us has had at some point, and so decided to implement an automatic scoring system for a "real" cork dartboard. As..... Listed under: [Game – Entertainment Projects](#)



772. [88888: the Electronic Smile Counter](#) This project originated from a request of a friend. He asked me to build a so-called smile counter for their college dorm - a segmented display which can show a number. This number must increment every time someone pushed a button and should be memorized..... Listed under: [Other Projects](#)



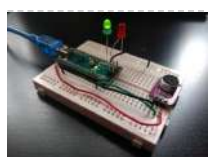
773. [Arduino 7-Segment Thermometer](#) Using a dual 7-segment display, a DS18B20 temperature sensor and a couple of shift registers I figured that I could build a digital thermometer. Step 1: Temperature Sensor The sensor I'm using is the DS18B20, it's a 3pin sensor that just requires a single input..... Listed under: [Projects](#), [Temperature Measurement Projects](#)



774. [PlayPlace Lighting Using NeoPixels](#) With 2020 being the year of COVID, having a toddler that was stuck at home (especially during the winter) presented the need for, well, stuff to do. So, my wife and I decided to turn our basement into a play place for our little girl..... Listed under: [Other Projects](#)



775. [Arduino String Comparison Operators Code](#) The String comparison operators, ==, !=, >, <, >=, <=, and the function equals() and equalsIgnoreCase() allow you to make alphabetic comparisons between Strings. They're useful for sorting and alphabetizing, among other things. The operator == and the function equals() perform identically. It's just a matter..... Listed under: [How To – DIY – Projects](#), [Projects](#)



776. [Voice Loudness Monitor \(Arduino\)](#) In this pandemic it is important to take reasonable measures to reduce spreading viruses. A paper from 2019 found that louder voices spread more viruses (<https://www.nature.com/articles/s41598-019-38808-z>) [Asadi et al. 2019]. This simple project aims to remind people to not shout unnecessarily. This can be used..... Listed under: [Sound – Audio Projects](#)

777. [USB Freeform using an Arduino](#) This is a project in attempting to improve it predecessor "Freeform Arduino" by putting it in an enclosure and having it serve the similar purposes as "Palm Arduino Kit" and "Palm Arduino II" which I can carry it in my pocket and be available to..... Listed under: [Interfacing\(USB – RS232 –](#)



[I2c -ISP\) Projects](#), [Projects](#)



778. [Smart Desk LED Light | Smart Lighting W/ Arduino | Neopixels Workspace](#) Now a days we are spending a lot of time at home, studying and working virtually, so why not to make our workspace greater with a custom and smart lighting system Arduino and Ws2812b LEDs based. Here I show you how build your Smart Desk..... Listed under: [Other Projects](#)



779. [Mechanical 7 Segment Display V2](#) Hello and welcome back to another Instructable. In the previous two Instructables, I have shown you how I created PCB coils in Kicad using a Python script, covered the basics of an H bridge, and showed you how I will be using them to control..... Listed under: [Other Projects](#)



780. [Extending GPIOs of ESP8266-01 and IoT.|| Exploring ESP8266:Part 3](#) Hello all! This instructable happens to be part 3 of my ESP series where I continue to experiment and explore the various features of the ESP 8266-01 board. In the first and second part of the series I have mentioned the wonderful capability of this..... Listed under: [Other Projects](#)



781. [Floating and Spinning Earth Globe](#) The objectives of this project were (1) to make an object float, by means of magnetic levitation and controlled by an Arduino Nano and (2) documenting the whole process allowing other people to build one on their own. There were some requirements, too. First, I..... Listed under: [Other Projects](#)



782. [soundie: a musical touch-sensitive light-up hoodie using Arduino](#) This tutorial will show you how to create a garment that changes its behavior depending on how conductive you are. It detects conductivity through iron-on conductive fabric that we will use, and it will light up and sing different notes depending on how you touch..... Listed under: [Game – Entertainment Project Ideas](#), [How To – DIY – Project Ideas](#), [Ideas](#)



783. [Arduino Board Sound Alarm](#) I've just completed my second Arduino project, a sound level detector which sets off an "alarm" when there's the sound level is to high for too long. I built it for use in a school that wants to provide visual feedback to students when they..... Listed under: [Projects](#), [Security – Safety Projects](#)



784. [Teamaker 2.0](#) What's better in the morning than a hot cup of tea?You should keep to the brewing time so that the tea tastes the way you want it to. Unfortunately, there's always a lot to do and the timer beeps when you're somewhere else. So we..... Listed under: [Other Projects](#)



785. [Visual Network Threat Level Indicator using Arduino](#) Network monitoring is very important in todays world. The internet is a scary place. People have taken steps to raise their awareness by installing Intrusion Detection Systems(IDS) such as SNORT. The problem with most of these systems is that upon first installing them they are..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)



786. [Wilson – the IoT Hat](#) Hi There, Recently, I finished up on my DIY project Wilson: the IoT hat. Because of the big fun I had creating and using this IoT hat, and given the wonderful feedback it provided to the wearer, I really want to share this project with..... Listed under: [Other Projects](#)



787. [Flicker up to 6 LEDs with Arduino](#) Hi there. Christmas is coming closer, and I was wondering if I could put some candles in my room to get in the "christmas mood". But after a friends house burned down of christmas tree candles, I don't want to burn real candles into my..... Listed under: [LED Projects](#), [Projects](#)



788. [Displaying Images on 4D OLEDS using Arduino](#) 4D Systems makes some really nice serial OLEDS. They aren't hard to use, but the documentation for them is very scattered. This tutorial pulls together the various pieces i've found so that you can get up and running very quickly. Start by skimming through the..... Listed under: [Video – Camera – Imaging Projects](#)



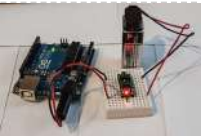
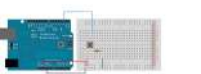
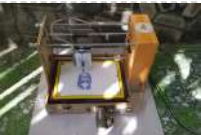
789. [ARDUINO AIRGUN CHRONOGRAPH](#) This is a chrono for measuring the speed and energy of an air rifle pellet. It's pretty fast and could probably be used for other types of gun, (airsoft , full bore etc) but I have not tested it on them. I initially made this..... Listed under: [Temperature Measurement Projects](#)

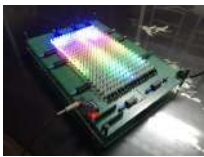
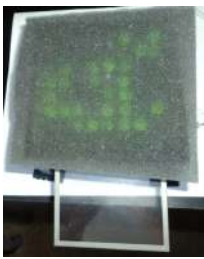


790. [Program your Arduino with an Android device](#) Hi, in this Instructable I want to show you, how you can program your Arduino with your Android device. It is very simple and cheap. Also it allows us to program our Arduino where ever we want, this is usefull for permanently installed Arduino boards,..... Listed under: [Arduino Android](#), [Electronics News Updates](#)



791. [Deej – a Physical Volume Mixer](#) Meet deej! deej is a physical voulume mixer. Just like the volume mixer built into windows, just physical! This means that you can change the volume of an application without closing your important game. You can turn the game volume down and Discord volume up,..... Listed under: [Sound – Audio Projects](#)

792.  [Arduino stoplight web server](#) At the place I work, we use xymon to monitor of our servers. All of the services monitored are important, but we wanted a separate indicator to simply show the overall health of the most critical systems. Furthermore, we came up with the following criteria:..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
793.  [Power off from an Arduino Sketch using the Pololu Power Switch](#) If you need an Arduino to shut off from within your Sketch, this is the solution. We will explore wiring the Pololu Pushbutton Power Switch, programming the Arduino to shut off the power, and making the unit "power on" only. The Pololu Pushbutton Power Switch..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
794.  [Bounce Back!](#) Responsive Pneumatic Envelop (A useless machine) Mockingly inspired by the blowfish, Bounce Back builds on state of the art bubble wrap shipping envelops by only inflating its bubbles when frightened by rough handling. Inversely, when the package is not being shuck, it will not inflate..... Listed under: [Other Projects](#)
795.  [How to Make CLAP Control Car|| Using Arduino Uno](#) Hey Guys, welcome to my first instructables article. So guys today we are going to make a " Clap Control Car With Arduino " seems to be interesting Right? Let me first tell you about the main working principle of this robot: This car uses a..... Listed under: [Car Projects](#)
796.  [Wireless nunchuk controlled animatronic doll using Arduino](#) This instructable will attempt to show you how to make an animatronic doll controlled by a wireless nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make..... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
797.  [Arduino & TFT Screen Volume Mixer](#) Before i start this AMAZING tutorial on how to build a physical windows volume mixer, i want to apologize for my bad written English. Now, let's get started. For this project I would like to build a sound mixer, but with a tft screen so i can..... Listed under: [Sound – Audio Projects](#)
798.  [Automatic Opening Garbage Can Cabinet](#) <https://youtu.be/RrtcjfrJk7I> Sometimes you need to throw something away, but your hands are either full of garbage, or they're contaminated with raw chicken or meat. I was able to make this automatic opening garbage bin with an Arduino Uno, and some supplies from Amazon, Ace Hardware..... Listed under: [Other Projects](#)
799.  [Digital Read Serial using Arduino](#) This example shows you how to monitor the state of a switch by establishing serial communication between your Arduino and your computer over USB. Hardware Required Arduino Board A momentary switch, button, or toggle switch 10k ohm resistor breadboard hook-up wire Circuit image developed using Fritzing. For more..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
800.  [Arduino Esplora Joystick Mouse](#) This sketch shows you how to read information from the Esplora's joystick and use it to control the movement of the cursor on your computer. You're making your Esplora into a mouse! This sketch will take over the mouse movement of your computer. If you..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
801.  [ART ROBOT](#) [Build a Robot That Creates Art](#) In this project I'm showing you how I made my own art robot. The whole concept is to illustrate how we as humans can work together and collaborate with machines and robots to create something new. Both the art style and ethos of the project..... Listed under: [Robotics – Automation Projects](#)
802.  [Arduino IoT Cloud ESP8266 NodeMCU Alexa Home Automation System | IoT 2021](#) In this IoT project, I have shown how to make an IoT-based Smart Home with Arduino IoT Cloud & Alexa using NodeMCU ESP8266 to control 4 home appliances with voice commands. If the internet is not available, then you can control the home appliances manually with switches. During the article, I have..... Listed under: [Other Projects](#)
803.  [Flux Capacitor PCB Badge](#) Hey Everyone what's up! <https://youtu.be/efD6QN1S20o> So this is my "FLUX Capacitor" PCB Badge which is a replica of the actual Flux Capacitor which was in back to the future movie. The Flux Capacitor was the core component of Dr. Emmett Brown's time-traveling DeLorean time machine..... Listed under: [Other Projects](#)
804.  [Arduino Tic Tac Toe Shield With an AI Opponent](#) In this Instructable, we're going to be making a Tic Tac Toe or Noughts and Crosses shield for an Arduino that allows you to play against another person or an AI player running on the Arduino. The game board is made up of a 3x3..... Listed under: [How To – DIY – Project Ideas](#)
805.  [Homemade CNC Machine From DC Servo Motors and Wooden Wine Boxes](#) Today, I would like to share how to build a 3 axis CNC machine at home using available or discarded materials. Specifically in this project, I reused 2 old DC servo motors and 2 wooden wine boxes, as well as, taking advantage of my daughter's..... Listed under: [CNC Machines Projects](#)
806.  [Differential Thermal Analysis Using Arduino and PhyPhox](#) When a solid substance is heated the increase in energy manifests itself in the form of an increase in temperature. If the heating rate is constant the temperature increase is also constant as long as there is no change in the structure of the substance..... Listed under: [Other Projects](#)
807.  [Plant Bartender](#) https://youtu.be/xV2tXc584_A This project was completed by Alexandra Pittiglio & Christelle Feghali for our Computational Design and Digital Fabrication 'Useless Machine' Project, Semester 2, ITECH M.Sc Programme ----- We present Plant Bartender, a 2-axis robot that senses and waters in the most inefficient way. This device..... Listed under: [Other Projects](#)

808.  [ATtiny85 – Spectrum Analyzer on RGB Led Matrix 16x20](#) Continuing with ATtiny85, today I'd like to share how to build a music spectrum analyzer on 16x20 RGB led matrix. The music signal FFT transformation and LED Bit Angle Modulation are all carried out by one DigiSpark ATtiny85. Please watch my video below: <https://youtu.be/257Ma3YemKs> Step 1:..... Listed under: [LED Projects](#)
809.  [Metroid Morph Ball](#) https://youtu.be/q6j_CxbCovE If you are like me, there are many nostalgic things that bring me back to my youth. Tom Sutton, username yakis on thingiverse, created this 3d model of Metroid's Samus in morph ball form. It has room inside for LEDs to light it up..... Listed under: [Other Projects](#)
810.  [Hookup an LCD to an Arduino](#) Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost - you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
811.  [The Flight Millennium Controller](#) I realized a PCB remote control in order to control remote controlled objects and more particularly an airplane. This one works in wifi 2.4Ghz, has an Oled screen, joysticks, potentiometers, buttons/switches and a pipe to select the device to control. I made a form of..... Listed under: [Other Projects](#)
812.  [LED Chaser Circuits Using IC4017 and Arduino](#) <https://youtu.be/F6V1AjESWbU> A Chaser Circuit consists of a clocked IC or other electronic unit like an Arduino that drives an array of LEDs in such a way that individual LEDs (or small groups of LEDs) turn on and off in a predetermined and repeating sequence, thus..... Listed under: [LED Projects](#)
813.  [Wind Speed Monitor Via MQTT](#) Once I failed to control the drone because of the wind so I want to measure the wind speed to know whether it is suitable for the drone flight in the wild. So I am thinking of how to measure the wind speed in the..... Listed under: [Other Projects](#)
814.  [Life and Tetris and Pong...Oh My!](#) Several months ago I got a really good deal on a large 32x32 RGB LED matrix display. It matches up with the wiring interface shown on the Adafruit website for their 32x32 display so I did the usual testing with their libraries. Recently I was..... Listed under: [Other Projects](#)
815.  [The Tetris Pumpkin using an Arduino](#) Who wants grinning faces and candles when you can have an interactive pumpkin this Halloween? Play your favorite block-stacking game on an 8x16 grid carved into the face of the gourd, lit by LEDs and using the stem as a controller. This is a moderately..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
816.  [Switch Statement used with serial input using Arduino](#) An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you..... Listed under: [How To – DIY – Projects](#), [Projects](#)
817.  [LED Hour Glass](#) In this article I describe how we made an hour glass with leds as the sand. We were always interested in making something that visually flows like sand and decided to use an hour glass to start. The movement is not completely fluid given the..... Listed under: [LED Projects](#)
818.  [Touch Sticky Note using Arduino](#) This piano-like thing is what I called touch sticky note. I Use a piece of sponge as the paper, and put 8 x 8 LEDs under the sponge. Whenever I touch the touch screen, the related LED will turn on, and this is how I..... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)
819.  [BLE & LoRa Based Indoor Location Tracker Without GPS](#) Hey, what's up, Guys! Akarsh here from CETech. GPS-based location tracking is one of the very important services nowadays. We use this to find a path to our destination and also track the position of our goods using this. But have you ever heard of location..... Listed under: [GPS Based Projects](#)
820.  [A laundry alarm for the hearing impaired and everyone else using Arduino](#) This Arduino based project was designed to solve a recurring problem for my hearing impaired wife. Our laundry room is located remotely from our living area. If our laundry has finished washing and is not removed in time, it can sour or even get moldy. Listed under: [Home Automation Project Ideas](#), [Projects](#), [Security – Safety Projects](#)
821.  [Automatic Irrigation System \(Arduino\) With Usb Type DC Submersible Water Pump](#) This mini project is involved to use Arduino to control submersible water pump when soil reach below or above predefined moisture level. How it works ? 1. Soil moisture sensor is reading analog signal which transmit to Arduino. 2. Arduino control submersible water pump ON..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
822.  [Android & Arduino Controlled Projector Screen](#) This is my first time using Arduino, or any microcontroller. I'm glad it worked out so well but my wife may not be, due to the stacks of microcontrollers that will be showing up on our doorstep soon for future projects. Any feedback or questions..... Listed under: [Arduino Android](#), [Projects](#)
823. [Mini-TV Weather Station With the ESP32!](#) Hello everyone, today I'm going to show you how I built a Mini-TV weather station with Open Weather Map and the ESP32! Background and Troubleshooting I'm not kidding when I say the inspiration for this project came from boredom! I had been working on the same project..... Listed under: [LCD Projects](#)



824.



[Freeform Arduino](#) As an artist, sometime I created an art pieces without planning ahead what I want to draw or paint, just want to add colors or lines onto the drawing or canvas, and never think of the outcome of the piece. Let's our own instinct and subconscious leading..... Listed under: [LED Projects](#), [Projects](#)



825.

[L.O.G. sous vide](#) So have you heard of sous vide? Well, this Lazy Old Geek (LOG) hasn't or hadn't. <http://en.wikipedia.org/wiki/Sous-vide> It's French. So it's kind of like boil-in-a-bag only you don't boil it. The equipment can be rather expensive. http://www.sousvidesupreme.com/Shop_Online/SousVide_Supreme_Demi/Department.aspx?DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodmkA6g I thought that was rather expensive for a..... Listed under: [Home Automation Projects](#)



826.

[ARC Reactor Lamp MKII](#) Welcome to this instructable, this time I will be showing you how to make the newest version of my ARC Reactor Mood lamp I did a couple of months ago. This time it won't be a mood lamp, but a lamp that changes depending on..... Listed under: [Other Projects](#)



827.

[SEE-THROUGH LED MATRIX WITH WASHERS](#) I do project related works. After the structure contractors finished their building works, they threw away a lot of washers and nuts M10. During I did cleaning, I picked them up to make this decorative see-through led project. It can be viewed from frontside or..... Listed under: [LED Projects](#)



828.

[Energy-Saving Light using an Arduino](#) In the spirit of Earth Day, I have created a revolutionary new energy-saving lighting solution that is only ever on when your eyes are open. This is remarkably more efficient than normal lighting that remains on, even when your eyes are shut. Using my device, you..... Listed under: [Home Automation Projects](#), [Projects](#)



829.

[Make your own custom Arduino compatible](#) I love Ardunio. I love the things that people make with them and I love to make my own. Last August I published an Instructable on how to make your own postage stamp sized Arduino compatible. This Instructable will show you how to to make a..... Listed under: [How To – DIY – Projects](#), [Projects](#)



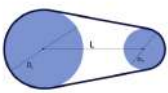
830.

[Gesture Controlled Interactive Desk Light](#) <https://youtu.be/4BFWbc2f39I> We all have seen different kinds of mood lamps & RGB light, most of them have some buttons or a remote to interact with them, but we thought of making a Gesture Controlled RGB Desk Lights which can change its colour only using a simple swipe..... Listed under: [Sensor – Transducer – Detector Projects](#)



831.

[Program ESP8266 With NodeMCU](#) Hey everyone what's up! so you got yourself an esp12f module and now you want to program it? here's how you can do that in an easy way that doesn't involve that complex FTDI module with the button's method. so the easy way is to..... Listed under: [Arduino Programmer Projects](#)



832.

[Arduino Timing Belt Calculator \(console\)](#) This command-line Python script is a utility to help calculate parameters for timing belt drive systems. A more general discussion of designing with timing belts can be found on the Timing Belt Guide pages. Installation Requirements The code requires a working installation of Python 3 with scipy. For..... Listed under: [Calculator Projects](#)



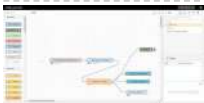
833.

[The CoaTracker using Arduino](#) Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you..... Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)



834.

[Arduino Bird Shoo!](#) In the spring every year, we have a group of robins who start making nests around the house. We also have lots of windows in a patio area that when the robins see their reflection they think it's a rival bird. They attack the windows..... Listed under: [Sensor – Transducer – Detector Projects](#)



835.

[MIDI-to-MQTT Bridge \(console\)](#) This command-line Python script transmits MQTT messages based on events from a MIDI input device such as the Akai MPD218 Drum Pad Controller. This can be used as a platform for remote control of one or multiple embedded devices. The MQTT and MIDI configuration must be..... Listed under: [Other Projects](#)



836.

[3D Printer Add-on Heated Bed](#) I have a FlashForge Finder 3D printer that did not come with a heated bed. The factory build plate is also somewhat limiting in what kind of build surfaces you can use. I finally decided it was time to resolve those issues and added a..... Listed under: [Other Projects](#)



837.

[Arduino Performance Utility Tools](#) Some of the exercise packages include several utility and test programs. These are all standalone scripts using Python 3 and a few additional packages as described in Python 3 Installation. The following scripts may be browsed in the Python MIDI tools directory on the course site. list_MIDI_ports.py Command-line..... Listed under: [Other Projects](#)



838.

[Arduino String Appending Operators Code](#) Just as you can concatenate Strings with other data objects using the StringAdditionOperator, you can also use the += operator and the cconcat() method to append things to Strings. The += operator and the concat() method work the same way, it's just a matter of..... Listed under: [Development Board – Kits Projects](#), [Projects](#)



839.

[Arduino MQTT Plotter \(PyQt5\)](#) This utility GUI application is a tool for visualizing the content of multiple data streams passed as short numeric messages back and forth across the network via a MQTT server. It supports opening an authenticated connection to the server, subscribing to a class of messages..... Listed under: [Wireless Projects](#)

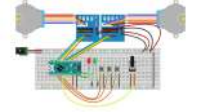
840.



[Gas Detector](#) Let's create a simple Gas Detector connectable to WiFi. The gadget would offer: web UI including gauges for LPG, CO, Smokesimple data handler returning values in JSONcapable of regularly sending data to ThingSpeak server andobviously triggering loud alarm if threshold of dangerous concentrations exceeded. We..... Listed under: [Sensor – Transducer – Detector Projects](#)
841.



[Arduino MQTT Monitor \(PyQt5\)](#) This utility GUI application is a tool for debugging programs using a remote MQTT server. It can show messages on multiple topics and publish text-based messages on a single topic. The MQTT monitor application in operation. The large button at the top brings up detailed..... Listed under: [Other Projects](#)
842.



[Synchronized 2-Axis Motion With Variable Speed \(Arduino + LEDs + 28BYJ-48\)](#) https://youtu.be/liEz_sJd45E This tutorial shows how to move two stepper motors so they will synchronously arrive at defined destination point. There are many sophisticated solutions for doing this such as GRBL or Marlin. Using an Arduino, there are also dedicated “Multi Stepper” libraries that can support you. However, we will use..... Listed under: [LED Projects](#)
843.



[Solar powered arduino on the back of a playing card](#) Here's a six word tragedy: My arduino needs four AA batteries. Really? Isn't this 2012? Where's my jetpack?!! Here's a way to the future -- a way to make a solar panel, from scratch, that can power any arduino off of sunlight or even light..... Listed under: [Battery Projects](#), [Projects](#), [Solar energy_projects](#)
844.



[Farkle! Handheld PCB Game Console](#) In this Instructable I will show you how I made my PCB Farkle Game! Farkle, also known as 10000, Zilch, 6 Dice, and Ten Thousand, is a fun and challenging dice game with multiple variations and scoring options. I first got the inspiration from my..... Listed under: [Game – Entertainment Projects](#)
845.



[Arduino-MQTT Bridge \(PyQt5\)](#) This GUI application connects an Arduino sketch to a remote MQTT server over the network. It communicates with the Arduino using the serial port, relaying lines of text to and from the MQTT server. This can be used as a platform for remote Arduino to Arduino collaboration..... Listed under: [Wireless Projects](#)
846.



[How to Build an Arduino Voice Controlled TV Remote](#) `#include <EEPROM.h> #include <Wire.h> #include <SoftwareSerial.h> #include <LiquidCrystal.h> SoftwareSerial voice = SoftwareSerial(15, 16); LiquidCrystal lcd(5, 6, 7, 8, 9, 10); int pulses, A_SIG=0, B_SIG=1, menu=0, datacount, i, buttoncount=0; int count, j, k, m, ready=0, even=0, fail, first_but=0, second_but=0; word Power[100]; word Remote[100]; //word Remote2[100]; word..... Listed under: Home Automation Projects, Projects`
847.



[SMARTWALKER D4E1](#) The smartwalker is being developed for a project called "design for everyone" at Howest university college of Applied Sciences (Belgium). We are a group of design and occupational therapy students. This project is specifically made for an individual person: Peter. Peter can't see nor hear. When..... Listed under: [Other Projects](#)
848.



[Arduino Lecture Sample Code](#) This collection of short Arduino sketches introduces a variety of programming concepts. The comments are minimal as these are intended to be starting points for explanation. blink // 1. blink the onboard Arduino LED on pin 13. // 2. demonstrate setup(), loop() // 3. demonstrate..... Listed under: [Clock – Timer Projects](#)
849.



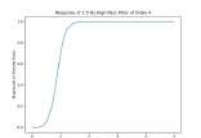
[End of Days Clock](#) https://youtu.be/33Q_PqhLzWw The days got shorter here in Alaska until it felt like the murky light was only a short interruption of a long sleep so I built a clock to display the seasonal diminishment (and expansion) of time. It also displays when it snows and..... Listed under: [Clock – Timer Projects](#)
850.



[Arduino Sketch Classifier Demo](#) N.B. this is new and still being tested. This sketch demonstrates an example of ultrasonic range sensor data processing using a combination of signal filters and a classification tree. The classifier code was generated using the Python script classify_gen.py on recorded and labeled training data. The underlying..... Listed under: [Other Projects](#)
851.



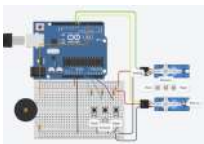
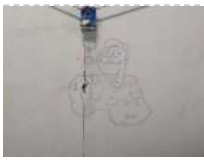
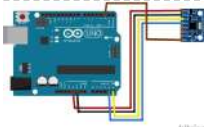
[7-Segment NeoPixel Clock With Countdown Timer](#) <https://youtu.be/H4J4CI4Dduc> In this Instructable, my twin brother, Sunyec206, and I will show you how to make a 7-segment NeoPixel Clock with Countdown Timer. The inspiration for this project began with our parents and their fitness room. While they have an older digital clock in the room,..... Listed under: [Clock – Timer Projects](#)
852.

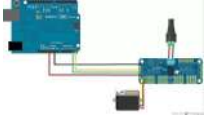
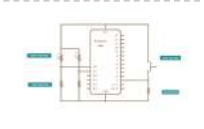
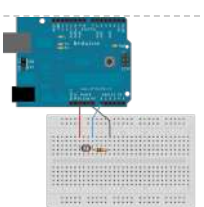
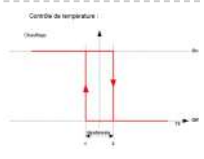
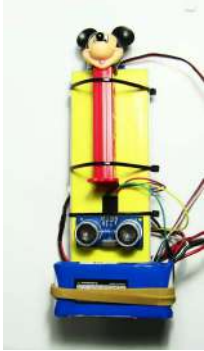
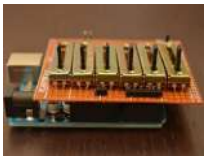
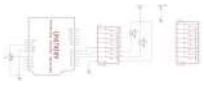


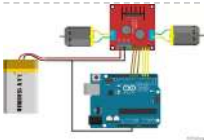
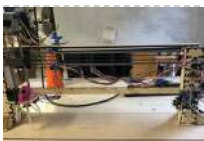
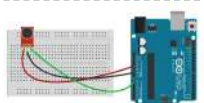
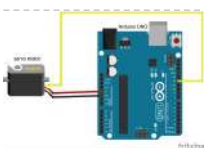
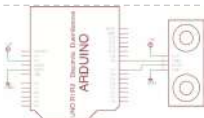
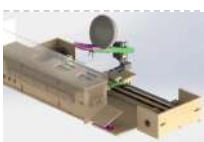
[Arduino Sketch FilterDemos](#) N.B. this is new and still being tested. This sketch demonstrates several examples of single-channel filters for processing sensor data. The filter functions are purely numeric operations and not dependent on any Arduino-specific features. This supports offline testing, as they can be compiled for debugging..... Listed under: [Sensor – Transducer – Detector Projects](#)
853.



[AI Auto-Classify Trash Can](#) This project is a trash can that recognizes and classifies garbage automatically. Use Machine-Learning and Arduino in Scratch. How it works 1. Camera takes an image of garbage. 2. Machine-Learning model recognizes the classification of garbage by the image. 3. Electrical and mechanical parts drive the garbage..... Listed under: [Other Projects](#)

854.  [Arduino Sketch Rock Paper Scissors](#) This sketch implements a rock-paper-scissors game using three pushbuttons for user input, two hobby servos in lieu of human hand for displaying the countdown and selections, and tone feedback using a speaker. The code is intended as a demonstration for several techniques: non-blocking event polling loop to..... Listed under: [Game – Entertainment Projects](#)
855.  [VERTICAL X-Y PLOTTER || DRAWING ROBOT || ARDUINO PLOTTER](#) In this instructable, we will learn to make an XY plotter/ Vertical plotter drawing machine using Arduino. With this very efficient Vertical Drawing machine, We can draw images on different paper sizes, walls, or whiteboards along with printing texts, generating arts and graffiti. Vector images(SVG)..... Listed under: [Robotics – Automation Projects](#)
856.  [Arduino Sketch Remote User Interface](#) This sketch demonstrates Internet-based remote communication using a companion 'bridge' program running on the attached host which sends and receives messages via an online MQTT server. This allows connecting one Arduino to another over arbitrary distances, which we can use as a starting point for..... Listed under: [LED Projects](#)
857.  [Brainwaves Fly a Drone](#) Drones are fun to fly, and it's possible to do limited flying using brainwaves. The headset senses my brainwaves and transmits them to a small computer. When I increase my attention level, the computer converts the signals and passes them to the drone's controller, which..... Listed under: [Drone](#)
858.  [Arduino Sketch RemoteStation](#) This sketch demonstrates Internet-based remote communication using a companion 'bridge' program running on the attached host which sends and receives messages via an online MQTT server. This allows connecting one Arduino to another over arbitrary distances, which we can use as a starting point for..... Listed under: [Other Projects](#)
859.  [How to make a servo and Arduino stand](#) In this instructible I will show you how I make my servo stand. This stand is useful if you want to test a new way to control a servo but dont want to use a servo on your robot or something. make Step 1: Cut..... Listed under: [Arduino Motor Project Ideas, Ideas, Other Project Ideas](#)
860.  [Arduino Sketch CKS-Shield-1-Test](#) This Arduino sketch exercises the standard hardware of the CKS-1-Shield board. It provides a console interface for reading inputs and triggering outputs, and a set of asynchronous state machines for generating test motions. Console Interface static void parse_user_input(int argc, char *argv[]) Process an input message tokenized from a..... Listed under: [Other Projects](#)
861.  [Arduino – How to Read SD Card Text File Line by Line](#) In this tutorial we will learn how to read the SD card text file line by line. Watch the Video! Note: You can use other Displays such as OLED, but make sure that you use a board with enough memory like Arduino Mega,etc https://youtu.be/930oLDGyCSs Also..... Listed under: [Other Projects](#)
862.  [The useless alarmed Coke can using Arduino](#) Hi all! This is the most useless project in the world! It consist in a Coke can attached to an Arduino trough a coaxial cable and two resistors that make a sound when an hand is near it. Step 1: Materials and Tools For make..... Listed under: [Game – Entertainment Projects, Projects](#)
863.  [Arduino Sketch Event Busy Box](#) Note: this sketch is a work-in-progress and only partly tested. This multi-file sketch is provided to serve as a template for projects which combine responsive sensing and actuation with behavioral logic, implemented using a non-blocking event loop. The actual sketch does nothing specifically useful, but..... Listed under: [Other Projects](#)
864.  [RC Arduino Domino Layer With Bluetooth App Control](#) How to 3D print and assemble your very own programmable and remote controllable automatic domino laying machine. Who likes knocking down absurdly long runs of dominoes? I do. Who doesn't like laying them all by hand. I don't. That's why I made this. ? Using..... Listed under: [Bluetooth Projects](#)
865.  [The useless but mazing QR-clock using Arduino](#) I got this idea for a while but I never had the chance to try it out. Friday, a workmate gave me a LCD shield for Arduino and I thought that was the right time to build a clock that communicate the time through QR-codes. Of course, it's..... Listed under: [Clock – Timer Project Ideas, Ideas](#)
866.  [Arduino Sketch PinballGame](#) This sketch provides a pinball machine controller as an extended example of a real-time logic controller utilizing third-party hardware drivers. It is configured to use hardware in the PinballShield circuit board. This sketch assumes you have already installed several third-party Arduino libraries in your IDE..... Listed under: [Game – Entertainment Projects](#)
867.  [I2C With the ESP8266-01 !? || Exploring ESP8266:Part 1](#) Hello all ! With this instructable I will be writing and documenting a series of projects mentioning and exploring the various hidden (rather unexplored) features of the tiny ESP8266-01 WiFi Module. Did you know that the ESP8266-01 supports I2C communication? Yes it is..... Listed under: [Other Projects](#)
868.  [Building the YaNis EOS Controller using Arduino](#) The YaNis EOS controller is a device that allows you to wirelessly control your Canon DSLR from your Android phone. What's really exciting here is that the Android interface allows you to change most of the camera's settings (like Shutter Speed, Aperture Size, ISO, White..... Listed under: [Arduino Android, Internet – Ethernet – LAN Projects, Projects](#)
869.  [Arduino Sketch MPU6050 DMP6](#) This sketch is used by Exercise: MPU6050 IMU I2C Module. Main Source Code The main code is in MPU6050_DMP6.ino. // I2C device class (I2Cdev) demonstration Arduino sketch for MPU6050 class using DMP (MotionApps v2.0) // 6/21/2012 by Jeff Rowberg <jeff@rowberg.net> // Updates should (hopefully) always be available..... Listed under: [Other Projects](#)
870.  [WetRuler–Kitchen Helpers for the Visually Impaired](#) https://youtu.be/9_ZpVLm8NMY I have worked most of my adult life with patients with vision problems in Alaska and pondered building a helpful device that would enable a more defined way of metering out fluids in a kitchen if users had no central vision. There are devices..... Listed under: [Other Projects](#)

871.  [Home Automation System Using Smartphone and Bluetooth Part 2 With Manual Control](#) Hello friends welcome back to "Techno-E-solution", In previous video we see how we can control the home appliances with the help of Smartphone & Bluetooth but there is no any manual control for the system, so In this tutorial we are going to make a..... Listed under: [Bluetooth Projects](#)
-
872.  [Arduino Sketch Adafruit PWM](#) This sketch is used by Exercise: Adafruit PWM I2C Module. Full Source Code The main code is in Adafruit_PWM.ino. /***** This is an example for our Adafruit 16-channel PWM & Servo driver PWM test - this will drive 16 PWMs in a 'wave' Pick one up today..... Listed under: [Other Projects](#)
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873.  [Color Changing Nightlight using Arduino](#) So, instead of buying a nightlight for my kid's room, I decided I could do a much better job of it. This nightlight cycles through 1500 colors over 7 mins and turns on when it is dark and turns off when it is light. It..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
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874.  [Creative Console for Space Mouse!](#) <https://youtu.be/ZeQCTqFfhYo> Hello makers!! For those who already know my Instructable "Space Mouse" <https://www.instructables.com/Space-Mouse-With-Ard...> there is now an extension for it! The Creative Console!! I designed this console to extend the functionalities of the space mouse keeping the prime concept: keep it cheap, customizable and 3D..... Listed under: [Other Projects](#)
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875.  [Arduino Sketch WS2801LED](#) This sketch is used by Exercise: WS2801 RGB LED SPI Module. Full Source Code The full code is all in one file WS2801LED.ino. // *- mode:c++; *- /// @file WS2801LED.ino /// /// @brief Example for driving several WS2801 RGB LED modules over SPI on an Arduino UNO..... Listed under: [LED Projects](#)
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876.  [Arduino Sketch OnOne Out ASCII](#) This sketch is an Arduino program which acts as an simplified hardware I/O server using a simple readable message protocol. The intent is to provide an easily modified and extended real-time embedded hardware controller which can interface easily with a non-real-time client running on a..... Listed under: [Other Projects](#)
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877.  [Tiny Whoop Drone Gate With Timer](#) I got my son a tiny whoop indoor FPV drone for Christmas, specifically an EMAX Tinyhawk II. We've had fun creating small obstacle courses in our basement, but one thing was missing – a timer so we could compare flight times. This instructable (my first)..... Listed under: [Clock – Timer Projects](#)
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878.  [Arduino Switch Statement used with sensor input](#) An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
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879.  [Arduino Combi-button Lock optional Android support](#) Recently, I decided I would like to attempt to make a passcode lock with my newly acquired Arduino Uno, but all the tutorials I could find made use of a modified keypad, something that not every Tom, Dick and Harry has lying about. I therefore..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Security – Safety Projects](#)
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880.  [Arduino Sketch Input Hysteresis](#) This sketch is used by Exercise: Input Hysteresis. Full Source Code The full code is all in one file InputHysteresis.ino. // InputHysteresis.ino : Arduino program to demonstrate a simple single-state hysteretic response. // Copyright (c) 2014-2015, Garth Zeglin. All rights reserved. Licensed under the terms // of..... Listed under: [Other Projects](#)
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881.  [3D Print Bed Leveling Tool Using M5StickC](#) Do you ever find it a hassle to manually level your 3D print bed every time you make a print? Even seasoned 3D printing pros need to level the printbed after every couple prints. We've created a device that helps tremendously improve this procedure. This..... Listed under: [Other Projects](#)
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882.  [PEZ Robo Dispenser Using Arduino](#) I was strolling down the candy aisle at the supermarket and there it was: the PEZ dispenser, conjuring up sweet (literally) childhood memories served up by my favorite cartoon characters in squarish sugary pellets. Then, all of a sudden, an LED went off in my..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Robotics – Automation Projects](#)
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883.  [Arduino Sketch Music Sequence Demo](#) This sketch is used by Exercise: Music Sequencer. Full Source Code The full code is all in one file MusicSequenceDemo.ino. // MusicSequenceDemo.ino : demonstrate generation of two simultaneous tones at different rates and patterns // The example program generates audio-frequency square waves at different // pitches and..... Listed under: [Sound – Audio Projects](#)
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884.  [Indoor Air Quality Meter](#) Simple project to check the air quality in your house. Since we stay/work from home a lot lately, it might be a good idea to monitor the quality of the air and remind yourself when it's time to open the window and get some fresh..... Listed under: [Metering – Instrument Projects](#)
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885.  [Arduino Sketch Event Loop Demo](#) This sketch is used by Exercise: Event-Loop Programming. Full Source Code The full code is all in one file EventLoopDemo.ino. // EventLoopDemo.ino : demonstrate generation of two simultaneous square waves at different rates // The example program generates audio-frequency square waves at different // pitches on pins..... Listed under: [Arduino Programmer Projects](#)
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886.  [BLACKBOARD V-PLOTTER](#) In this instructable, I'd like to share how to build a vertical plotter that can draw texts and images on the blackboard. Let's getting started. <https://youtu.be/YTYxPt15hTQ> Time-lapse video with hatch fill extension from Inkscape. https://youtu.be/w_8iHQgj6ss Step 1: Bill of Materials Main components: 1pcs x Arduino Mega..... Listed under: [Other Projects](#)
887.  [Quality of Life Meter](#) Harsh new rules at work getting you down? Overtime sucking the life out of you? Or maybe things are great, either way now you can show your co-workers and management exactly how you feel about your job without a single meeting, memo, or team bonding..... Listed under: [Metering – Instrument Projects](#)
888.  [Arduino Sketch Stepper Sweep](#) This sketch is used by Exercise: A4988 Stepper Motor Driver. Full Source Code The full code is all in one file StepperSweep.ino. // StepperSweep - move a stepper motor at different rates // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms..... Listed under: [Motor Projects](#)
889.  [PCB NANOLEAF/HEXALEAF](#) I've been a fan of Commerical Nanoleaf available in the market but their cost is pretty high so I try to make my own version by designing a WS2812B LED strip and connecting three of these strips together in a triangular shape to make a..... Listed under: [Other Projects](#)
890.  [Modifying a Robot Arm using Arduino](#) Essentially another tutorial involving controlling DC motors. In this post I'm going to first alter a robot arm I had built previously from a beginners kit so that it can be controlled from Arduino. Then I'm going to write a series of posts on different..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
891.  [RC Paper Tank – Bring your 3D models to life](#) Bring your 3D models to life! In this instructable we will custom make a remotely controlled tank. We will infuse paper-craft with an arduino based system. This tank will be controlled on a android based phone though a bluetooth connection. I've strived to create something with..... Listed under: [Game – Entertainment Projects](#)
892.  [Arduino Sketch Wheel Drive](#) This sketch is used by Exercise: DRV8833 Dual DC Motor Driver. Full Source Code The full code is all in one file WheelDrive.ino. // WheelDrive - move a pair of DC motors at varying rate and direction // // Copyright (c) 2016, Garth Zeglin. All rights reserved..... Listed under: [Motor Projects](#)
893.  [Fruit Sorter Robot Using Flexible Gripper](#) Hello Everyone, thank you for showing interest in our project. In this project, we are showing a fully automated robot that sorts fruits and vegetables based on their color. The project happened in the context of the Bruface program and more precisely in the mechatronics..... Listed under: [Robotics – Automation Projects](#)
894.  [Barcode Reading using Roborealm Output on Arduino LCD](#) This Instructable shows how to create a Barcode Reader using only a webcam together with Roborealm and Arduino. The webcam used in this demonstration is the Logitech Quickcam and the LCD screen is labelled, JHD162A. What you need for this project: 1. Arduino UNO 2..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
895.  [Arduino Sketch Sound Demo](#) This sketch is used by Exercise: Multichannel Bipolar Transistor Driver. Full Source Code The full code is all in one file SoundDemo.ino. // SoundDemo - generate sound using a speaker and pager motor // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Sound – Audio Projects](#)
896.  [Professional Weather Station Using ESP8266 and ESP32 DIY \(Please Check the V2.0 Improved Version Link!\)](#) PLEASE CHECK THE NEW IMPROVED WEATHER STATION LINEAMETEOSTAZIONE v2.0! LINK VERSION 2.0 LINEAMETEOSTAZIONE HERE LineaMeteoStazione is a complete weather station which can be interfaced with professional sensors from Sensirion as well as some Davis Instrument component (Rain Gauge, Anemometer) The project is aimed as DIY..... Listed under: [How To – DIY – Projects](#)
897.  [Arduino Sketch ServoSweep](#) This sketch is used by Exercise: Servo Sweep. Full Source Code The full code is all in one file ServoSweep.ino. // ServoSweep - move a servo along trajectories // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the BSD 3-clause..... Listed under: [Other Projects](#)
898.  [\\$50 Analog Joystick \(HOTAS\) With Haptic Feedback for Flight Sim](#) The aim is to create a fully functioning USB HOTAS* joystick from low cost electronics parts. I bought Elite Dangerous when it was released for the Mac and realised very quickly I was going to have the floor wiped with me if I didn't have..... Listed under: [Game – Entertainment Projects](#)
899.  [Arduino Sketch Read Sonar](#) This sketch is used by Exercise: Read Ultrasonic Ranger. Full Source Code The full code is all in one file ReadSonar.ino. // ReadSonar - measure distance using a HC-SR04 or compatible ultrasonic ranger // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Other Projects](#)
900.  [Apple Gripper](#) Fruit and vegetable market is a big sector that is worth more than 200 billion euros worldwide, this is expected to grow even more in the next decade due to an increasing healthier lifestyle across different European countries. When fruits and vegetables are sold at..... Listed under: [Other Projects](#)

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