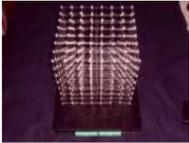
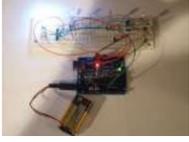
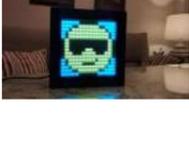


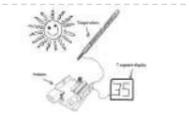
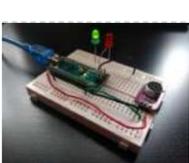


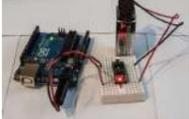
Use Arduino for Projects

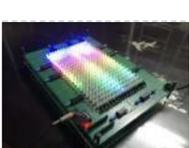
Advanced View Arduino Projects List

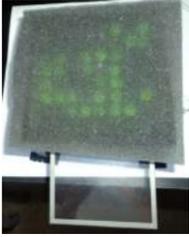
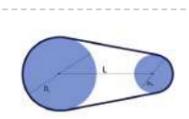
List of Projects using arduino with advance view:

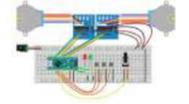
1.  [DIY Arduino Unit Converter: How to use LCD](#) Step 1: Ingredients: Electronics Arduino Breadboard LCD* 2x 50k pots 150 ohm resistor Jumper wires, and tons of them! If you do not want to use a LCD then you will have to use serial monitor. Wherever you see lcd.print just change it to Serial.print..... Listed under: [How To – DIY – Projects](#), [LCD Projects](#)
2.  [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](#)
3.  [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](#)
4.  [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](#)
5.  [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](#)
6.  [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](#)
7.  [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](#)
8.  [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](#)
9.  [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](#)
10.  [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](#)
11.  [Mario 64 Cake Timing Light Game](#) <https://youtu.be/nFllqSWAj8E> 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](#)
12.  [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](#)
13.  [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](#)

14.  [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](#)
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15.  [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](#)
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16.  [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](#)
-
17.  [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](#)
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18.  [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](#)
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19.  [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](#)
-
20.  [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](#)
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21.  [USB Freeform using an Arduino](#) This is a project in attempting to improve its 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](#)
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22.  [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](#)
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23.  [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](#)
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24.  [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](#)
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25.  [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](#)
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26.  [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](#)
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27.  [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 too 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](#)
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28.  [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](#)

29.  [Visual Network Threat Level Indicator using Arduino](#) Network monitoring is very important in today's 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](#)
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30.  [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](#)
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31.  [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 friend's house burned down of Christmas tree candles, I don't want to burn real candles into my..... Listed under: [LED Projects](#), [Projects](#)
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32.  [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](#)
-
33.  [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](#)
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34.  [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 wherever we want, this is useful for permanently installed Arduino boards,..... Listed under: [Arduino Android](#), [Electronics News Updates](#)
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35.  [Deej – a Physical Volume Mixer](#) Meet deej! deej is a physical volume 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](#)
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36.  [Arduino stoplight web server](#) At the place I work, we use Xymon to monitor 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](#)
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37.  [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](#)
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38.  [Bounce Back!](#) Responsive Pneumatic Envelop (A useless machine) Mockingly inspired by the blowfish, Bounce Back builds on state-of-the-art bubble wrap shipping envelopes by only inflating its bubbles when frightened by rough handling. Inversely, when the package is not being shucked, it will not inflate..... Listed under: [Other Projects](#)
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39.  [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](#)
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40.  [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](#)
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41.  [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](#)
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42.  [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](#)
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43.  [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](#)

44.  [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](#)
45.  [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](#)
46.  [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](#)
47.  [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](#)
48.  [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](#)
49.  [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](#)
50.  [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](#)
51.  [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](#)
52.  [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](#)
53.  [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](#)
54.  [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](#)
55.  [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](#)
56.  [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](#)
57.  [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](#)
58.  [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](#)
59.  [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](#)
60.  [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](#)

61.  [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](#)
62.  [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](#)
63.  [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](#)
64.  [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](#)
65.  [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](#)
66.  [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](#)
67.  [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](#)
68.  [Freeform Arduino](#) As an artist, sometime I created an art piece 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](#)
69.  [L.O.G. sous vide](#) So have you heard of sous vide? Well, this Lazy Old Geek (LOG) hasn't or hadn't. <http://en.wikipedia.org/wiki/Sous-vide> It's French. So it's kind of like boil-in-a-bag only you don't boil it. The equipment can be rather expensive. http://www.sousvidesupreme.com/Shop_Online/SousVide_Supreme_Demi/Department.aspx?DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodomkA6g I thought that was rather expensive for a..... Listed under: [Home Automation Projects](#)
70.  [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](#)
71.  [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](#)
72.  [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](#)
73.  [Make your own custom Arduino compatible](#) I love Arduino. 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 make a..... Listed under: [How To – DIY – Projects](#), [Projects](#)
74.  [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](#)
75.  [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](#)
76.  [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](#)

77.  [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](#)
78.  [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](#)
79.  [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](#)
80.  [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](#)
81.  [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](#)
82.  [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 concat() 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](#)
83.  [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](#)
84.  [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](#)
85.  [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](#)
86.  [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](#)
87.  [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](#)
88.  [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](#)
89.  [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](#)
90.  [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](#)
91. [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.....



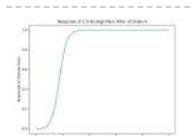
Listed under: [Other Projects](#)

92.  [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](#)

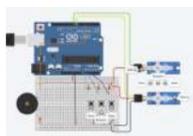
93.  [End of Days Clock](#) https://youtu.be/33Q_PqhLzWw The days got shorter here in Alaska until it felt like the murky light was only a short interruption of a long sleep so I built a clock to display the seasonal diminishment (and expansion) of time. It also displays when it snows and..... Listed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

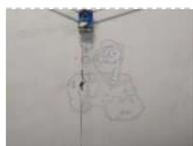
94.  [Arduino Sketch Classifier Demo](#) N.B. this is new and still being tested. This sketch demonstrates an example of ultrasonic range sensor data processing using a combination of signal filters and a classification tree. The classifier code was generated using the Python script classify_gen.py on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

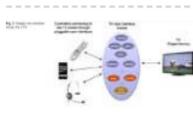
95.  [7-Segment NeoPixel Clock With Countdown Timer](#) <https://youtu.be/H4J4Cl4Dduc> In this Instructable, my twin brother, Sunyec06, and I will show you how to make a 7-segment NeoPixel Clock with Countdown Timer. The inspiration for this project began with our parents and their fitness room. While they have an older digital clock in the room,..... Listed under: [Clock – Timer Projects](#)

96.  [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](#)

97.  [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](#)

98.  [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](#)

99.  [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](#)

100.  [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](#)

101.  [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](#)

102.  [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](#)

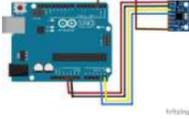
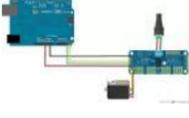
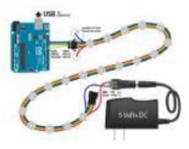
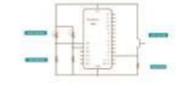
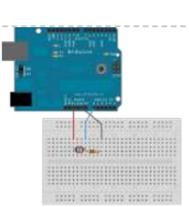
103.  [How to make a servo and Arduino stand](#) In this instructible I will show you how I make my servo stand. This stand is useful if you want to test a new way to control a servo but dont want to use a servo on your robot or something. make Step 1: Cut..... Listed under: [Arduino Motor Project Ideas, Ideas, Other Project Ideas](#)

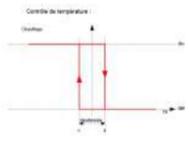
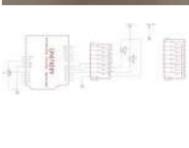
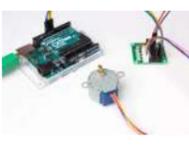
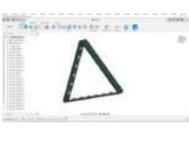
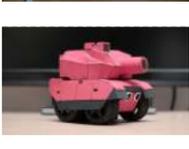
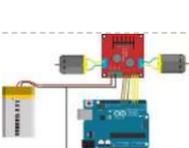
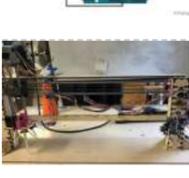
104.  [Arduino Sketch CKS-Shield-1-Test](#) This Arduino sketch exercises the standard hardware of the CKS-1-Shield board. It provides a console interface for reading inputs and triggering outputs, and a set of asynchronous state machines for generating test motions. Console Interface static void parse_user_input(int argc, char *argv[]) Process an input message tokenized from a..... Listed under: [Other Projects](#)

105.  [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](#)

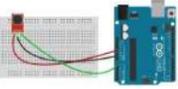
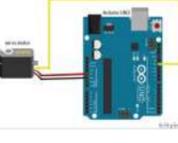
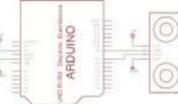
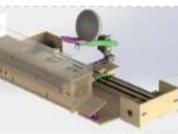
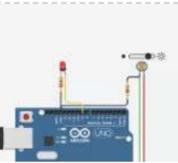
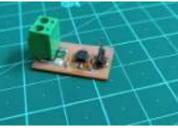
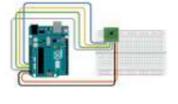
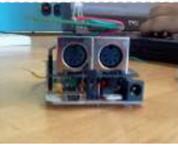
106.  [The useless alarmed Coke can using Arduino](#) Hi all! This is the most useless project in the world! It consist in a Coke can attached to an Arduino trough a coaxial cable and two resistors that make a sound when an hand is near it. Step 1: Materials and Tools For make..... Listed under: [Game – Entertainment Projects, Projects](#)

107. [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

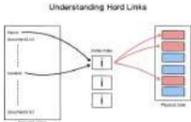
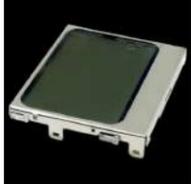
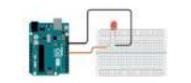
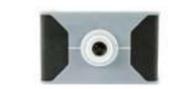
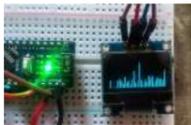
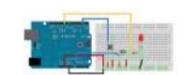
- specifically useful, but..... Listed under: [Other Projects](#)
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108.  [RC Arduino Domino Layer With Bluetooth App Control](#) How to 3D print and assemble your very own programmable and remote controllable automatic domino laying machine. Who likes 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](#)
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109.  [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](#)
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110.  [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](#)
-
111.  [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](#)
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112.  [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](#)
-
113.  [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](#)
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114.  [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](#)
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115.  [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](#)
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116.  [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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117.  [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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118.  [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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119.  [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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120.  [Arduino Sketch OneInOne 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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121.  [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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122.  [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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123.  [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](#)

124.  [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](#)
125.  [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](#)
126.  [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](#)
127.  [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](#)
128.  [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](#)
129.  [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](#)
130.  [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](#)
131.  [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](#)
132.  [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](#)
133.  [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](#)
134.  [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](#)
135.  [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](#)
136.  [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](#)
137.  [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](#)
138.  [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](#)

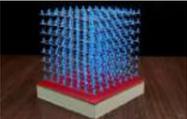
139.  [Arduino Sketch Sound Demo](#) This sketch is used by Exercise: Multichannel Bipolar Transistor Driver. Full Source Code The full code is all in one file SoundDemo.ino. // SoundDemo - generate sound using a speaker and pager motor // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Sound – Audio Projects](#)
140.  [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](#)
141.  [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](#)
142.  [\\$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](#)
143.  [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](#)
144.  [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](#)
145.  [Analog In, Out Serial using Arduino](#) This example shows how to read an analog input pin, map the result to a range from 0 to 255, and then use that result to set the pulsewidth modulation (PWM) of an output pin to dim or brighten an LED. Circuit image developed using Fritzing..... Listed under: [Projects](#), [PWM Projects](#)
146.  [Arduino Sketch Sensor Fade](#) This sketch is used by Exercise: Sensor Fade. Full Source Code The full code is all in one file SensorFade.ino. // SensorFade - read a photosensor and control several LEDs at different brightnesses // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the //..... Listed under: [Sensor – Transducer – Detector Projects](#)
147.  [DIY Current Sensor – 2.0](#) Hello there! I hope you all are fine and in good health. This instructable is about making your own current sensor that is compatible with Arduino and most other widely popular microcontrollers. This project features a compact design and an all SMD component based circuit..... Listed under: [Sensor – Transducer – Detector Projects](#)
148.  [Arduino Sketch Read Accelerometer](#) This sketch is used by Exercise: Read Analog Accelerometer. Full Source Code The full code is all in one file ReadAccelerometer.ino. // ReadAccelerometer - read a 3-axis analog accelerometer and display the results to the serial port // // Copyright (c) 2016, Garth Zeglin. All rights reserved..... Listed under: [Metering – Instrument Projects](#)
149.  [MicroBot V1](#) So this is my microbot V1 which is an ESP32 based robot which is powered by a Wemos d32 pro and controlled by Blynk. Its body is a 3D printed square surface that has mounting holes for the same size PCB which is mounted with..... Listed under: [Robotics – Automation Projects](#)
150.  [Midi Light Show using Arduino](#) For a class, my teammate and I decided to develop a MIDI based system that has a responsive light for each note played. For example, if you plug our little setup to a keyboard, pending on which note you press, you'll get a specific color..... Listed under: [Projects](#), [Sound – Audio Projects](#)
151.  [Arduino Sketch ReadSwitchInput](#) This sketch is used by Exercise: Read Switch Input. Full Source Code The full code is all in one file ReadSwitchInput.ino. // ReadSwitchInput - read a digital input and report its value using the LED and serial monitor // // Copyright (c) 2016, Garth Zeglin. All rights..... Listed under: [LED Projects](#)
152.  [Game & MINTIA](#) This instructables show how to use a tiny sweet box to make a NES console. <https://youtu.be/-ehaDDSYJaE> Supplies TTGO T7 v1.3 <https://www.aliexpress.com/af/Ttgo-t7-v1.3.html?d=...> 1.54" ST7789 IPS LCD <https://www.aliexpress.com/af/1.54-st7789.html?d=y...> Lipo 303040 <https://www.aliexpress.com/af/lipo-303040.html?d=y...> MAX98357 I2S DAC audio breakout board <https://www.aliexpress.com/af/max98357.html?d=y&or...> 10*18 mm speaker <https://www.aliexpress.com/af/1018-speaker.html?d=...> Thin Prototype PCB <https://www.aliexpress.com/af/lipo-303040.html?d=y...> Four..... Listed under: [Game – Entertainment Projects](#)
153.  [Arduino Sketch SoftBlink2](#) This sketch is used by Exercise: Soft Blink. Full Source Code The full code is all in one file SoftBlink2.ino. // SoftBlink2 - fades the onboard LED on and off. // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the..... Listed under: [LED Projects](#)
154.  [Arduino Audio Sound Level Meter](#) This is add-on of the audio amplifier project result which is introduced in other instructable. (<https://www.instructables.com/PC-Speaker-Amplifier/>) Usually many types of sound level meters are directly connected with input (or rarely output) signal lines of amplifier. But personally I'm thinking any electrical connections with amplifier circuit..... Listed under: [Sound – Audio Projects](#)
155. [Piano Metronome](#) This project was conceived of after I examined the types and styles of various off-the-shelf Metronomes. I am currently learning to play the piano and having a Metronome in order to keep time was necessary. I felt sure that I could build one based on..... Listed under: [Sound – Audio Projects](#)

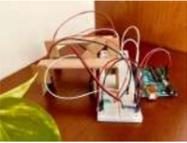
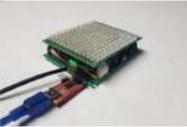


156.  [Arduino Sketch SoftBlink1](#) This sketch is used by Exercise: Soft Blink. Full Source Code The full code is all in one file SoftBlink1.ino. // SoftBlink1 - fades the onboard LED on and off. // // Copyright (c) 2016, Garth Zeglin. All rights reserved. Licensed under the // terms of the..... Listed under: [LED Projects](#)
157.  [Arduino Basics: Working One LED](#) I've been encountering lots of Arduino projects but generally most are on intermediate and advanced level and only a few basic instructions on how to start with Arduino. This project I made were actually inspired by this example on the Arduino page, but a much..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
158.  [Tweet-a-Pot: Twitter Enabled Coffee Pot using Arduino](#) Like the idea of making coffee on the fly? from your bed? While you're on the bus coming home? Then the Tweet-a-pot is for you! Tweet-a-pot is the next in fancy twitter enabled devices. This coffee pot enables its owner to make a pot of..... Listed under: [Home Automation Project Ideas](#), [Ideas](#)
159.  [Making a Prototype With Arduino \(TIM-01 EYES\)](#) I have been designing and building a robot. It got to the stage where it was time to do a head for it, but before I did the head I needed to design some Eyes for it using the Nokia screens found cheaply on eBay. There..... Listed under: [Development Board – Kits Project Ideas](#)
160.  [Arduino Sketch Fade](#) This is a standard Arduino example sketch, copied here for reference. Full Source Code The full code is all in one file Fade.ino. /* Fade This example shows how to fade an LED on pin 9 using the analogWrite() function. This example code is in the..... Listed under: [LED Projects](#)
161.  [3D Printed Digital Camera](#) This is a 3D printed digital camera that you can build yourself. By making your own digital camera, it takes away some of the mystery around how such devices work, and are fabricated. Also, it allows you to fully customize the camera to your liking..... Listed under: [Video – Camera – Imaging Projects](#)
162.  [Arduino M&M Color Sorter](#) Are you tired of sorting your m&ms by hand? Looking for a silly way to spend your time and 3D printer filament? Then this is the Instructable for you. This is a project that I built for one of my engineering courses, in which we..... Listed under: [Other Projects](#)
163.  [Blink Arduino Sketch](#) This is a standard Arduino example sketch, copied here for reference. Full Source Code The full code is all in one file Blink.ino. /* Blink Turns on an LED on for one second, then off for one second, repeatedly. Most Arduinos have an on-board LED you..... Listed under: [LED Projects](#)
164.  [Acrylic Arduino Prototyping Stand](#) I do a lot of projects with Arduino's and breadboards. Often as I work on a messy workbench, the Arduino or breadboard get jostled and the wires pop out of the headers or the breadboard. To solve this problem, I decided to make a simple..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
165.  [Arduino OLED Spectrum Analyzer](#) Image: Today I am make an Arduino OLED Spectrum Analyzer its work with 0 to 3.3v Analog input. This is very smooth and clear Visualization of audio frequencies. This is very important to make an audio spectrum analyser for DVD Music player, iPod, MP3 player..... Listed under: [Other Projects](#)
166.  [The LED Strip Jellyfish Costume with Arduino & LPD8806 Led Strips](#) It all started when I saw a BBC documentary in 2002 about deep waters of the ocean. There was a bioluminescent jellyfish in the documentary, probably of the species "ctenophores" that grabbed my attention so in the later years I decided use it as a Halloween costume..... Listed under: [LED Projects](#)
167.  [How to use a while loop to calibrate the value of an analog sensor using Arduino](#) Sometimes you want everything in the program to stop while a given condition is true. You can do this using a while loop. This example shows how to use a while loop to calibrate the value of an analog sensor. In the main loop, the sketch below reads..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
168.  [Fainting Goats Are Friends Not Food](#) Project by Ailey Simpson and Peter Ehvert Rooted in biomimetics, this project for Computational Design and Digital Fabrication looks to emulate one of the most useless behaviours seen in the natural world, the Fainting Goat. The robot shown here copies some of the core principals of the..... Listed under: [Other Projects](#)
169.  [Arduino-I3dgecomm – Integrating L3DGEWorld and Arduino](#) L3DGEWorld is a tool for monitoring and interacting with networks and computer systems. Within a 3D world, entities bounce, spin, scale and otherwise change. These entities all represent an entity in another context - be it a server, phone, router or other monitorable device. The..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
170.  [Mailbox Phone Alert](#) The mailbox phone alert sends you a text whenever you get mail. I remember anxiously checking my mail multiple times a day during the spring of my senior year of high school as I awaited letters back from colleges. Nervously, I would walk up to..... Listed under: [Phone Projects](#)
171. [Painless WiFi on Arduino](#) Communication with the outside world is a great feature for Arduino Projects and mandatory for many of them. In this instructable, we will, painlessly, create an Arduino WiFi project that allows you to send it commands to turn on/off LED's connected to the Arduino from..... Listed under: [Wifi -](#)

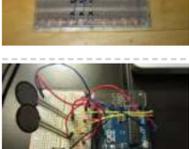
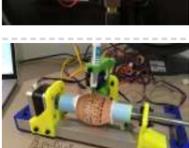
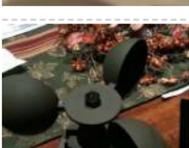


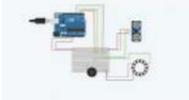
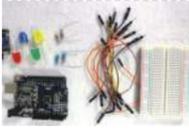
[WLAN Projects](#)

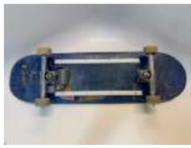
172.  [Tree Climbing Robot using Arduino](#) After I got comfortable programming and building with an Arduino, I used my newly acquire microcontroller skills to build a robot. Using a microcontroller, four high-torque DC gear motors, spiked legs, a linear actuator, rotation sensors, and 3 L298 H-bridge circuits, this robot can climb..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
173.  [Home Security Smart Clock IoT Emergency App Notification](#) I made a Clock that not only display Time,Date, Temp & Hum but you can send message to the clock via Mobile App (Blynk) from anywhere in the World as long as you are connected to internet. And you can also alert by Pressing Panic Button in..... Listed under: [Clock – Timer Projects](#)
174.  [Palm Arduino Board V3](#) I design and create this Palm Arduino V3 prototype PCB, as I was tired of recreating Arduino Compatible on perf board every time I prototyping a new project, especially when I had to spend a lot of time tracing the wiring to see that I..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
175.  [How to make a XY-plotter with Makeblock](#) Last month, I made a XY-plotter by Makeblock and use it to built a Drawing Robot. This Drawing Robot was built with two Linear Motion Shaft D8x480mm, two Long Beam0824, the timing belt, two stepper motors, two stepper motor driver, and a micro-controller Arduino. You..... Listed under: [Robotics – Automation Projects](#)
176.  [How to Build a Smart House Model](#) Smart House will be the next smartphone. The technology that encompasses a smart house will become the new normal for modern-day homeowners. Smart houses range from basic to advanced depending on the sensors that are installed in the house and the operating system. The ARD-02,..... Listed under: [Other Projects](#)
177.  [Music PlayBox – ITTT](#) HKU Assignment Welcome to my "If This Then That" Project. For this project I made a simple music box where you can play several chords of instruments. You can choose which instrument you want to play (piano/guitar) and which chord you want to play per..... Listed under: [Sound – Audio Project Ideas](#)
178.  [Best RGB LEDs for any project \(WS2812\)](#) When we're working with LEDs, we often like to control their state (on/off), brightness, and color. There are many, many different ways of going about this, but none are as compact a solution as the WS2812 RGB LED. In its tiny 5mm x 5mm..... Listed under: [LED Projects](#)
179.  [Rainbow Led Circuit Sculpture](#) Today I would like to share how to make a sculpture circuit that controls 16 RGB leds using ATTINY85. We can adjust their colors separately according to the colorwheel rule with a touch button. Step 1: Things We Need The main components are as follows:..... Listed under: [LED Projects](#)
180.  [Tiny MatchBox LCD Display – Desktop Decor](#) Have a nice day, in this instructable I'll explain how to make a little decorative display for your desktop. It connects to your PC via USB and you can upload any image you want (240*240 BMP) It uses an Arduino pro micro for the serial..... Listed under: [LCD Projects](#)
181.  [DIY Skee Ball Machine](#) The skee ball machine is a wonderful thing. The simple experience of rolling a ball into a target is so freakishly satisfying that I used to play as much as I could as a kid at the local amusement park/mini-golf course. The sound of the..... Listed under: [How To – DIY – Projects](#)
182.  [How to Build 8x8x8 LED Cube](#) An 8x8x8 LED cube is a visual treat with 3D effects and patterns. It works on the concept of Persistence of Vision, a feature of the human eye which tricks our brain in to thinking that an object is present permanently at a place if..... Listed under: [LED Projects](#)
183.  [The Dryer Messenger using Arduino](#) The dryer in our house is in an out-of-the-way corner where it's hard to hear the buzzer. When we miss it, the clothes sit in the dryer getting wrinkly, so we start the dryer again, don't hear the buzzer again ... it's an endless cycle..... Listed under: [Home Automation Projects](#), [Projects](#)
184.  [Morse Code Iambic Trainer and Decoder](#) In Amateur radio, Morse code is used to send messages using a series of short or long pulses which are heard by the operator as audio beeps. The short beeps are known as dots or dits, and the longer beeps are known as dashes or..... Listed under: [Other Projects](#)
185.  [LED Shoulder Pads](#) For this project, I was inspired by my best friend. She had been wanting some disco-fabulous armor-inspired wearable technology for music festivals and costume parties for some time. I took a pair of construction/gardening knee-pads and turned them into glitterific shoulder pads that shine bright..... Listed under: [LED Projects](#)
186.  [Sense Magnetic Fields Like a Bird – Sensory Extension Puppet](#) This project will show you how to create a computationally enriched puppet that can detect magnetic fields. The puppet (who I call Compy) has two very sensitive GMR analog magnetic sensors that are located in her beak, these sensors are read by an Arduino Nano..... Listed under: [Sensor – Transducer – Detector Projects](#)
187.  [Using Copper Tape To Create A Digital Selection Pad using Arduino](#) This is partially me sharing this technique, and partially me learning how to use Instructables. If there are issues with my documentation of the technique or my use of Instructables, please let me know in the comments - thanks! I needed a long row of..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)

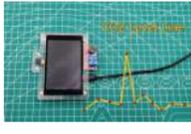
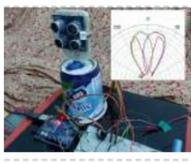
188.  [Reverse Engineered Bumper Sensor Campsite Security Alarm](#) This Instructable is to build a very smart, talking campsite security system that is disguised in an owl decoy. Now, this isn't your typical Arduino ultrasonic distance sensing project. Rather, you will learn how to reverse engineer the very inexpensive, but far superior automotive bumper backup..... Listed under: [Security – Safety Projects](#)
189.  [How to Create an Arduino Compatible Bluetooth 4.0 Module](#) I had been looking for a cheap alternative to some of the Arduino Bluetooth devices I'd seen, which in my opinion are overpriced. Redbear's Mini: \$39.95 (Note: This is a uC and BLE combo). Redbear's Uno Shield: \$29.95 BLEduino: \$19.95 (if part of Kickstarter) Bluegiga..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
190.  [Sense Direction Like a Bird: Sensory Extension Mask](#) In a couple of weeks, some students will visit my lab (Craft Tech Lab) to learn more about wearable technologies. I wanted to build a quick and simple application of a sensor and vibration motors for them to play around with and rough up. While..... Listed under: [Sensor – Transducer – Detector Projects](#)
191.  [Tilt Sensing Bracelet using Arduino](#) A bracelet decorated with six conductive fabric petals and a thread of beads with a metal bead at the end, makes for a simple six point tilt detection. It is also designed so that the metal bead will make contact with two petals if it..... Listed under: [Ideas, Sensor – Transducer – Detector Project Ideas](#)
192.  [Programmable Arduino Remote Control \(PCB\)](#) With this small, palm-sized device, it is possible to remote control your PC or your Smartphone. Or to control your PC and your Smartphone at the same time. And it is freely programmable. You can write programs like: Login to your PC, open and login..... Listed under: [Arduino Programmer Projects](#)
193.  [Homemade Arduino Friendly Pulse Sensor](#) I saw the Open Hardware Pulse Sensor at thought I'd try to make it at home. Took me awhile, but here's my bumbling process. Step 1: Pulse Sensor -- Overview I've been working on re-making the the Open Hardware Pulse Sensor so it'd be "easy" to send off to..... Listed under: [Medical – Health based Projects, Sensor – Transducer – Detector Projects](#)
194.  [FRICTION CALCULATOR – WITH IR LASERS](#) Friction can often seem like a 'boring' force. Something we are all familiar with from a young age, but friction does a lot more than just make objects slow down - although that is a big part of this project. Friction allows the world to..... Listed under: [Calculator Projects](#)
195.  [Sensory Helping Hands: Modular Sensory Augmentation System \(Prototype\)](#) Having made a lot of wearables as an engineer, advisor, and through replication, there's one irritation that I find consistent with a lot of systems (mine included) - components (typically sensors & actuators) can't be maneuvered to the wearer's preferences. To begin to think about..... Listed under: [Sensor – Transducer – Detector Projects](#)
196.  [Otto Robot || Arduino Robot || Simple Arduino Robot](#) Hi, First off all Please subscribe to my youtube channel. This is the simplest Arduino robot. The name of this Arduino robot is Otto Robot. The beginners can build it with simple steps. All codes and library is given on my github page. Let's begin this cut..... Listed under: [Robotics – Automation Projects](#)
197.  [DIY Robotic Hand Controlled by a Glove and Arduino](#) This project idea came to me when I was sitting on a bed on a hotel room on vacation. I thought: "It'd be really neat to have a robotic hand that I can control with my own hand!" Upon returning home, I embarked upon a..... Listed under: [Robotics – Automation Projects](#)
198.  [Cheap Expandable Floor Piano](#) I created design to build a big and expandable floor piano (1 to 8 or more octaves) . They were plenty of challenges with this piano. I wanted all bullet ticked: - Cheap - Big but could fit in a car (from 1 to 8..... Listed under: [Sound – Audio Project Ideas](#)
199.  [Hack Computer to Make It Smart!](#) Have you ever wondered why smartphones are called smart-phones? Because they are smart, right? They do some works automatically, smartly. That's the short answer. I was thinking something, even if computers are a lot more powerful than phones, why aren't they smart! For instance, mobile..... Listed under: [Development Board – Kits Projects](#)
200.  [MAXIMIZE THE CAPABILITIES OF ESP-01 ESP8266](#) ESP-01 ESP8266 is a popular and widely used module because of its low-cost, reliability and easily availability in the market. It can be used as a stand-alone device or connected with a microcontroller. The ESP-01 is the smallest ESP8266 module and it has limited I/Os..... Listed under: [Other Projects](#)
201.  [Arduino Barometric Pressure Web Server](#) This example shows how to use SPI communications to read data from a SCP1000 Barometric Pressure sensor, and how to then post that data to the web by using your Arduino/Ethernet Shield combo as a simple web server. Using the Ethernet library, your device will..... Listed under: [Internet – Ethernet – LAN Projects, Projects, Sensor – Transducer – Detector Projects](#)
202.  [NES in a Cartridge using Arduino](#) Have your ever seen any of "Ben Hecks" portable console builds? Well if you haven't, he often uses these Chinese Famicom clone consoles. These cloned consoles are often times refered to as NOAC's, meaning NES On A Chip. They are called this because they are..... Listed under: [Game – Entertainment Project Ideas, Ideas](#)

203.  [Arduino Bluetooth PC Fan Wind Sensor With RemoteXY](#) This projects is a mix of two of my main passions, Arduino and Wind. Here is a simple project that I used this OLD PC fan as a small wind generator to sense the wind speed. Here we are using modified PC fan as a wind speed..... Listed under: [Bluetooth Projects](#)
204.  [Create an Internet Connected Pill Dispenser](#) The P.I.L. Box - A Better Medication Reminder System Studies show the consequences of patients not taking medications according to doctor's orders can be serious, especially in older patients. With today's low cost micro-controllers and sensors (and the incentive of the Radio Shack / Instructables Micro..... Listed under: [Internet – Ethernet – LAN Projects](#)
205.  [COD \(Camera on Deck\) – Motion Time Lapse](#) INTRODUCTION Hi. I've built this little device for my HNC project back in the old days (2015). Because I like photography, and my task was to make something using microcontrollers. I've made this little device using Arduino UNO, as this was an ideal board for..... Listed under: [Clock – Timer Projects](#), [Video – Camera – Imaging Projects](#)
206.  [Android talks to Arduino](#) This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android..... Listed under: [Arduino Android](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Projects](#)
207.  [Make an Emoticon Jacket with LCD screen using Arduino](#) Concept: I would like to make a jacket that has a small LCD screen to create subtexts for interpersonal human interaction. The user would use a limited "keyboard" with force sensors and buttons under soft silicone keys to create computer textual subtitles to human interaction..... Listed under: [Arduino LCD Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
208.  [DIY USB Type-C Power Delivery Trigger Board](#) In this video we will have a closer look at a USB Type-C Power Delivery Trigger board. Such boards are used to output 5V, 9V, 12V, 15V or even 20V from a Power Delivery compatible power source. So I will be showing you how such..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
209.  [Create Interactive Electronic Instruments with MaxMSP](#) This Instructable is part 3 in an Intro to MaxMSP series I've just finished teaching at Women's Audio Mission in San Francisco. Part 1 is an introduction to MaxMSP and MIDI, part 2 is intermediate Max and Audio, and this Instructable is all about interfacing MaxMSP with hardware. I..... Listed under: [Other Projects](#)
210.  [Make another Arduino LCD shield](#) In this tutorial we make an LCD shield for using 20 character by four row LCD modules with Arduino Uno. Updated 18/03/2013 In this article you can follow the process of making another LCD shield for the Arduino Uno or compatible boards. In the past (which explains..... Listed under: [LCD Projects](#), [Projects](#)
211.  [Control Your Computer With a Stepper Motor!](#) In one of my previous Instructables, I showed you how you can use a Stepper motor as a rotary encoder. In this Instructable, let's learn how we can use it to control our computer. So without further ado, let's get started! Step 1: Watch the Video..... Listed under: [Motor Projects](#)
212.  [RGB LED Skate Light](#) I like to go skating every week but I noticed that the my skates weren't cool enough so I decided it was time for some lights! I installed these lights on my Dad's skates as a thank-you present for taking care of the pool for..... Listed under: [LED Projects](#)
213.  [ITTT – Cat Laser](#) Heey my name is Rens Kuilman. For a school project (If This Then That) we had to make something using the Arduino. After a few misses I decided to make a random laser, which I a lazy cat owner could use the get his lazy..... Listed under: [Other Projects](#)
214.  [Arduino controlled window for cat](#) I am submitting this instructable to the Arduino challenge. Please remember to vote! My neighbor had a little problem with his cat. It want's to go out and back inside too frequently. Usually he opens just his kitchen window and let's the cat in/out. Usually..... Listed under: [Home Automation Project Ideas](#), [Ideas](#)
215.  [Homemade Infrared Rangefinder \(Similar to Sharp GP2D120\) using Arduino](#) Here is my instructable on how to construct a pretty simple (for some!) short range infrared rangefinder/range sensor. Infrared rangefinders are very useful in a number of projects. The majority of these come from obstacle detection (in robots) or generally detecting distances! The one shown..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
216.  [Touch Sensitive Interactive Music Instrument DIY / Windows Version](#) https://youtu.be/_xEfiXkto "Sensor Retouch" touch sensitive interactive instrument which allows to play Water, Fruit, Plants and Conductive surfaces as a musical instrument by your touch. All you need is Arduino and few upgraded touch sensitive sensors, i'll teach you how to put together everything and let start playing with your new interactive instrument !..... Listed under: [Sound – Audio Projects](#)
217.  [Alastor "Mad-Eye" Moody Moving Eyeball](#) Before COVID hit my son went to a costume party dressed as Professor Alastor "Mad-Eye" Moody from Harry Potter. I made him a moving eyeball using an Arduino, servo and ping pong ball. Step 1: Parts list Arduino Uno <https://smile.amazon.com/dp/B008GRTSV6> Arduino Case <https://smile.amazon.com/dp/B00HFSWC06> 9-volt Battery Clip <https://smile.amazon.com/dp/B01AXIEDX8> 12g..... Listed under: [Other Projects](#)

218.  [Make your own Enigma Replica](#) EDIT: This Instructable has won Second prize in the 2013 Radio Shack Microcontroller Contest. Thank You to all who voted! This is our very first Instructable and this step by step guide will show you how to build a fully functional electronic replica of the..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
-
219.  [Robotic Eye using Arduino](#) Hello, This time I will show an application of the infrared sensor module with Arduino. This module (composed of a pair of LEDs, a infrared transmitter and a receiver and an IC that generates a frequency modulated) is generally used to detect obstacles in robots..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
-
220.  [MIDI Note Player using Arduino](#) This tutorial shows how to play MIDI notes from an Arduino. MIDI, the Musical Instrument Digital Interface, is a useful protocol for controlling synthesizers, sequencers, and other musical devices. MIDI devices are generally grouped in to two broad classes: controllers (i.e. devices that generate MIDI..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Projects](#)
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221.  [Serial Call and Response with ASCII-encoded output using Arduino](#) This example demonstrates string-based communication from the Arduino board to the computer using a call-and-response (handshaking) method. The sketch sends an ASCII string on startup and repeats that until it gets a serial response from the computer. Then it sends three sensor values as ASCII-encoded..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
-
222.  [Arduino Magnetic Board](#) My first meeting with microcontrollers was a few decades ago (you might remember the first Parallax Basic Stamps) but with the Arduino platform it happened more recently, only 6 years ago and although at that time the development boards were quite difficult to find, even..... Listed under: [Development Board – Kits Projects](#)
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223.  [Trinity Assembly](#) Hey dudes! Lets build the trinity synt! ! More information about the synth at: www.bastl-instruments.com Before you start: the board solders from both sides and the component goes always above its printed sign so it hides the sign! You should know that there are some..... Listed under: [Other Projects](#)
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224.  [12x12 LEDX From Escape From Tarkov](#) Once after Russian EFT community podcast where one of the guests said that expensive items, such as LEDX, should occupy a larger number of the slots in secure containers... It didn't happen in 0.12,6 patch, but it did happened in my workshop. Supplies Things required:..... Listed under: [LED Projects](#), [Sound – Audio Projects](#)
-
225.  [6 button RGB controller using Arduino](#) In this instructable we will learn how to use 6 buttons to control the color of an RGB LED with the use of an Arduino Micro Controller. This is a fun and easy little project that should take you no more then 20 minutes to..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
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226.  [Serial Call and Response using Arduino](#) This example demonstrates multi-byte communication from the Arduino board to the computer using a call-and-response (handshaking) method. This sketch sends an ASCII A (byte of value 65) on startup and repeats that until it gets a serial response from the computer. Then it sends three..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
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227.  [Arduino Based Egg Plotter](#) An Egg plotter is an art robot that can draw on spherical shaped objects such as eggs. You could also use this machine to draw on ping pong balls and golf balls. You can use your imagination with the designs you put on it, you..... Listed under: [Other Projects](#)
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228.  [A Self-Contained Data Logging Anemometer](#) I love collecting and analyzing data. I also love building electronic gadgets. A year ago when I discovered the Arduino products, I immediately thought, "I'd like to collect environmental data." It was a windy day in Portland, OR, so I decided to capture wind data..... Listed under: [Metering – Instrument Projects](#)
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229.  [How to Add an E-Ink Display to Your Project](#) Lots of projects involve monitoring of some kind of data, such as environmental data, often using an Arduino for control. In my case, I wanted to monitor the salt level in my water softener. You might want to access the data over your home network,..... Listed under: [Other Projects](#)
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230.  [Calibrating sensor input using Arduino](#) This example demonstrates one technique for calibrating sensor input. The Arduino takes sensor readings for five seconds during the startup, and tracks the highest and lowest values it gets. These sensor readings during the first five seconds of the sketch execution define the minimum and..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
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231.  [Arduino 4wd robot with ping sensor "J-Bot"](#) Experience Level: Intermediate (requires soldering) Time Required: 3-5 hours depending on experience J-BOT Kit □ Jameco P/N 2140285 Someone mentioned that Jameco needed a robotic mascot. I have always been a tinkerer, especially with radio-controlled electronics and so I volunteered for the chance to design..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
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232.  [Touch Sensitive Interactive Music Instrument DIY / OSX Version](#) "Sensor Retouch" touch sensitive interactive instrument which allows to play Water, Fruit, Plants and Conductive surfaces as a musical instrument by your touch. All you need is Arduino and few upgraded touch sensitive sensors, i'll teach you how to put together everything and let start..... Listed under: [Sensor – Transducer – Detector Projects](#)

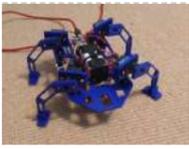
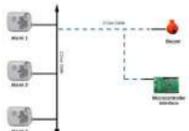
233.  [*duino Keg Temp Monitor, or the Quest for the Perfect Pint](#) I was looking for a project that combined my three favorite things - working in my shop, building cool stuff for my bar and of course, drinking beer. After a couple of weeks in the old country drinking "the Guinness", I decided my I'd put a keg..... Listed under: [Temperature Measurement Projects](#)
234.  [Arduino Fingerprint Lock](#) There is a short video for this Arduino fingerprint lock here: http://v.youku.com/v_show/id_XNjlxNzQyNzY4.html I live in a small apartment in Shenzhen with my wife and baby, 5 months old. Sometimes, I need to go out, for example, to go downstairs to buy candy or diapers for my..... Listed under: [Security – Safety Projects](#)
235.  [Electronic Connect Four \(arduino\)](#) Authors: Kelly Bodeman - kbodeman4@gmail.com Jack Whelan - whelanjack11@gmail.com (For more questions contact us at our emails above) Here is a link of a youtube video of our project: Connect Four Video AcknowledgmentsCalifornia Maritime Academy (Marine Engineering Technology) Professor Chang-Siu (ET370 Electronics) The Idea: Connect Four..... Listed under: [Game – Entertainment Projects](#)
236.  [SOCIAL DISTANCING INDICATOR](#) Social distancing indicator is used for many purpose . It is harmless and one of the social services. It will reduce the health issues and society problems. Description SOCIAL DISTANCING INDICATOR DESCRIPTION: For the..... Listed under: [Other Projects](#)
237.  [ORP / pH / Temperature Data Logger](#) As a Water Quality professional working in the drinking water field, I know how important it is to accurately monitor the disinfectant levels in the drinking water that gets served to the public. Usually, that means taking weekly grab samples in the distribution system and..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
238.  [Tobias – Arduino Music Box With TVout](#) First of all, let me introduce Tobias, my girlfriend's giant teddy bear, who is the inspiration for this project. Tobias has a personality, built up over time while we jokingly wonder in our minds what he does while she's away at work. The project was..... Listed under: [Sound – Audio Projects](#)
239.  [Arduino Cyclone Game](#) I have never played the real cyclone arcade game but I like the idea to play with our reaction time. I designed a miniaturized game. It consists in 32 LEDs forming a circle, the LEDs lights up one by one as a led chaser. The..... Listed under: [Game – Entertainment Projects](#)
240.  [Portable Fine Particle Measurement](#) The objective of this project is to measure air quality by measuring the quantity of fine particles. Thanks to its portability, it will be possible to carry out measurements at home or on the move. Air quality and fine particles: Particulate matter (PM) is generally..... Listed under: [Temperature Measurement Projects](#)
241.  [Particle Photon IoT Personal Weather Station](#) Supplies Particle Photon[OPTIONAL] 2.4GHz u.FL antennaSparkFun OpenLogSparkFun Photon Weather ShieldSparkFun Weather MetersDallas DS18B20 Waterproof Temperature SensorSparkFun Soil Moisture SensorSparkFun Qwiic VEML6075 UV Light Sensor3.5W solar panelSparkFun Sunny BuddyCustom 3D Modelled Stevenson ScreenA soldering kitA bunch of single-core jumper wireA 2-pin screw terminalSome male and female..... Listed under: [Other Projects](#)
242.  [Tetrahedral LED Hat \(Deichkind Style\) V1](#) Do you know the German music band Deichkind? Well, I am a big fan of them and have been to several concerts. As part of their stage shows this band wears tetrahedral hats, full of LEDs. Already at the first concert more than 10 years ago..... Listed under: [LED Projects](#)
243.  [Power Timer With Arduino and Rotary Encoder](#) This Power Timer is based on the timer presented at: <https://www.instructables.com/id/Timer-With-Arduin...> A power supply module and an SSR (solid state relay) were attached to it. Power loads of up to 1KW can be operated and with minimal changes the load power can be increased. The..... Listed under: [Clock – Timer Projects](#)
244.  [Wall-e, an Obstacle Avoiding Robot](#) <https://youtu.be/MDWsgSw9pog> It's not Wall-e, But it looks like Wall-e a bit. In this Instructable, I'm going to show how you can make a simple obstacle avoiding robot using Arduino in a very simple manner. learn to interface a servo motor and ultrasonic sensor with Arduino..... Listed under: [Robotics – Automation Projects](#)
245.  [TWO WHEELS CRAZY RC CAR](#) About two years ago, I carried out a project involving a 2 wheel self-balancing robot from broken toy car. After upgrading it to new version, this broken toy car was left in my warehouse and I intended that someday I would make it operating again..... Listed under: [Other Projects](#)
246.  [Non-Contact Hand Washing With LED Timer Displays](#) Washing should be done even without the presence of the COVID-19 pandemic. Appropriate washing can prevent the transmission of diarrheal infections and other person-to-person illnesses. For personal health, it is quite useful to follow CDC guidelines on hand washing whenever one returns from being out..... Listed under: [LED Projects](#)
247.  [Temperature Sensor for Arduino Applied for COVID 19](#) The temperature sensor for Arduino is a fundamental element when we want to measure the temperature of a processor of the human body. The temperature sensor with Arduino must be in contact or close to receive and measure the heat level. That's how thermometers work..... Listed under: [Sensor – Transducer – Detector Projects](#)
248.  [Strive for Five: Arduino 5-Minute Classroom Exit Timer](#) Are you a teacher? Do your students leave your classroom and stay out too long? Are you tired of trying to keep track of whether someone is out of the room and how long he/she has been out? If so, then the the Strive For..... Listed under: [Clock – Timer Projects](#)
249. [LED Skateboard Rubiks Cube](#) This project uses LED lights controlled by an accelerometer and gyroscope to challenge your skateboarding creativity. The LED lights change according to what trick is being performed. For example, a shuvit (180-degree yaw rotation) changes the lights blue. a kickflip (360-degree roll) changes the color..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)

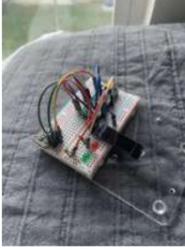
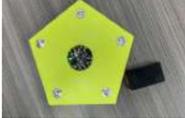
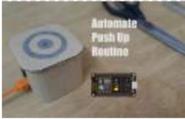
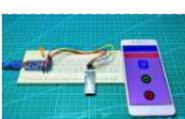
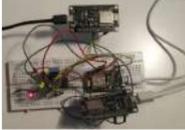


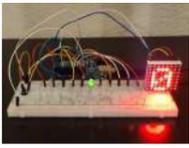
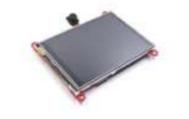
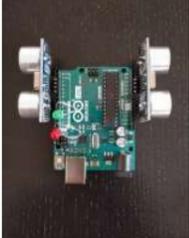
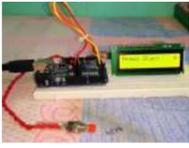
250.  [DIY Non Contact IR Thermometer V1.0](#) Currently, we are chasing an invisible monster named Corona Virus (COVID-19) and we are going through the biggest health crisis in our time due to a sharp increase in infection cases. One of the main symptoms of the COVID-19 infected person is an increase in..... Listed under: [Temperature Measurement Projects](#)
251.  [Sonic Illustrations](#) Sonic Illustrations was technically born around 2013. Back then I started a little experiment in my bedroom which also served as my workshop. I used the bass reflex speaker of my computer setup, put some clingwrap over it, poured some ecoline on the top of it,..... Listed under: [Other Projects](#)
252.  [DIY Studio Light/ Light Box](#) Hey Everyone what's up. This is my DIY Studio Light Project <https://youtu.be/AfNryfsIxTc> Which basically is a do-it-yourself studio light that is made from a custom 3D Printed body and a custom PCB which were both provided by PCBWay. Question Is it better to Buy an..... Listed under: [How To – DIY – Projects](#)
253.  [RoboCat: a Pet Without the Mess](#) This will not be a tutorial, just me reflecting on the process and sharing it! Welcome to RoboCat, a cute pet without the mess! The RoboCat responds to any sounds above a certain range and if you press the red button you can give him..... Listed under: [Robotics – Automation Projects](#)
254.  [ITTT – Project Distance – Jurre De Groot 1D](#) HKU Assignment Hello all!Welcome to my HKU ITTT - "If This Than That" Project. For this assignment I created a simple eye test. The Distance Measuring Eye will give you a score based on the distance away from the eye. In this Instructable I will show you my thought..... Listed under: [Temperature Measurement Projects](#)
255.  [Multicolored Light-Up Countdown Timer for Studying](#) For this project, I wanted to make something that would aid me while studying, so I made a custom timer to use for the Pomodoro Technique. This study technique involves allocating 25 minutes of uninterrupted focus to work/study, followed by a 5-minute break. I wanted a..... Listed under: [Clock – Timer Projects](#)
256.  [Show CO2 Historical Level Curve With ESP32](#) Once I had made a project about the CO2 monitor that had such a problem. The displayed value changes too frequently and fluctuates greatly, which makes it impossible for me to accurately judge the CO2 level. I have a point to make it better now—record..... Listed under: [Other Projects](#)
257.  [Ultrasonic Mono Pulse Tracker](#) This project demonstrates the functioning of an "Ultrasonic Mono-pulse Tracker" built using two Grove ultrasonic sensors. Two sensors facing forward at a small angle from each other are placed on a servo pedestal capable of rotating +/- 60 degrees based on commands from an Arduino UNO..... Listed under: [Other Projects](#)
258.  [DIY Laser People Counter](#) Let's start of with a question: What is a people counter? Well, it is a device, that counts the amount of people passing by. They are usually placed in doorways and can be used to see how many people are in a room or..... Listed under: [How To – DIY – Projects](#)
259.  [Low-tech and High-tech POV \(Persistence of Vision\)](#) Persistence of vision is an optical illusion. When we look at an object, our eyes keep seeing an image of it for a fraction of a second after the object is removed. If several images appear quickly after each other, they seem to merge. My..... Listed under: [Other Projects](#)
260.  [Contactless Switchboard](#) <https://youtu.be/o9go2oERWaq> This is a prototype version of the contactless switchboard which helps to control the appliances (AC appliances can be controlled through relays) without touching the actual switches. This can be used in public places like malls, hospitals, etc. In this pandemic time such device..... Listed under: [LED Projects](#)
261.  [AUTOMATIC WATER TAP](#) Greetings everybody! We hope you are in good health. In this Instructable, we will be converting a manual water tap into an automatic one using an Arduino. We will use an Infrared sensor to detect the presence of a human hand and a solenoid valve..... Listed under: [Other Projects](#)
262.  [Bidirectional Zoom Mute Button](#) <https://youtu.be/tfPAHNXUp20> We're spending the majority of our time on Zoom today, and yet we still keep forgetting to mute/unmute and embarrassing ourselves. Sure, the Zoom UI is far from perfect, but as makers, we should be solving our own problems ourselves instead of blaming it..... Listed under: [How To – DIY – Projects](#)
263.  [Personalized Professional Weather Station DIY, LineaMeteoStazione V2.0! Using EZSBC Boards ESP32, ESP8266, Attiny85](#) LineaMeteoStazione, in the improved version, is a complete weather station solar powered which can be interfaced with professional sensors from Sensirion as well as some Davis Instrument component (Rain Gauge, Anemometer) It also can be interfaced with a less expensive set of anemometer and rain..... Listed under: [How To – DIY – Projects](#)
264.  [Tunnel Book With Pinoo](#) <https://youtu.be/nxLPUPADWy0> Purpose of the Project: Creating a tunnel book with a light sensor (LDR) and led module using the Pinoo Control Card. Duration: 2 lessons Age Group: 7 years and older Set Used: Pinoo Basic Set Benefits: • Learns to code Pinoo control card • Learns to code the..... Listed under: [Sound – Audio Project Ideas](#)
265. [Zoetrope With Pinoo](#) <https://youtu.be/sIY7vYLaDoo> Purpose of the Project: To create a Zoetrope system with the button module and DC motor using the Pinoo control card. Duration: 2 lessons Age Group: 9 years and older Set Used: Pinoo Full Set Benefits: • Learns to code Pinoo control card • Learns to code the..... Listed under: [Sound – Audio Project Ideas](#)

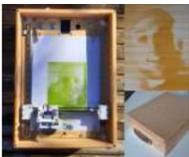
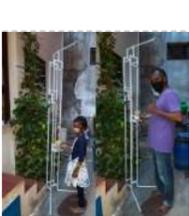
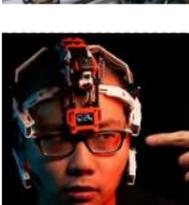


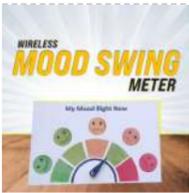
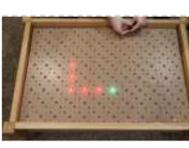
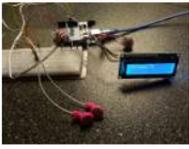
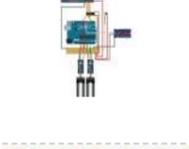
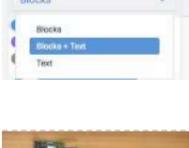
266.  [Arduino/Unity Car Driving Experience](#) Idea behind project Hi, I am a 12-year-old kid who loves electronics, coding, space, and building. I remember, on my 10th birthday, I began sitting in the front seat of our car, and I loved it. Not only did I not get car sick, but..... Listed under: [Car Projects](#)
267.  [Contact Digital Thermometer With Deep Sleep \[Attiny85\]](#) This might seem totally useless, considering how advance current technology can be and you might even be like "Tsk! a Thermometer?" But there is a lot of experiment based on temperature (water temperature, room temperature, etc) so digital thermometer becomes a key instrument for temperature..... Listed under: [Temperature Measurement Projects](#)
268.  [Hack Wrist Watch LCD With Arduino || D-type LCD || Arduino Digital Watch|| Vishal Soni](#) https://youtu.be/_IHsXlv9sZ8 Please subscribe to my YouTube channel. In this tutorial we will hack our old school digital watch which is no longer working now. So let's fix the watch Control it's LCD display which is known as D-type LCD display. Step 1: Open the Watch Take the..... Listed under: [Clock – Timer Projects](#)
269.  [Automatic Soap Dispenser With Hand Wash Timer](#) This project I wanted to build a better and more full-featured version of my present automatic soap dispenser. Automatic Soap Dispenser V1.0 This one can be improved a lot, and you left excellent suggestions in the video comments which I would like to incorporate in..... Listed under: [Clock – Timer Projects](#)
270.  [Improved Artwork Clock](#) Want to improved some piece of artwork? Surprise your friends by showing day time through it! You will find in this instructables the way of making the same clock I did, it can totally be improved with strip leds, 3d printed supports, painting skill and..... Listed under: [Clock – Timer Projects](#)
271.  [SIMON SAYS BOX](#) Authors: Jackelyn Garcia- JGarcia8710@csum.edu Hector Villalobos- HVillalobos7936@csum.edu Allan Hambly- AHambly1472@csum.edu (For more questions contact us at our emails above) Here is the YouTube video for our project: https://youtu.be/_aWIVS0qf_Q Acknowledgements: California Maritime Academy (ET Department) Professor Chang-Siu Erin Cole Gage Sturgeon Jack Whelan The Idea: The..... Listed under: [LCD Projects](#)
272.  [IMU Controlled LED Cube \(Simon Says\)](#). Authors: Bella Lax Tianle Zhai Alex Clark With Help and Thanks To: Professor Chang-Siu (ET-370) Professor Clyatt (ET-370L) Erin Cole Cal Maritime Project Abstract: This new take on the classic Simon Says game utilized a motion processing unit and the six faces of a cube..... Listed under: [LED Projects](#)
273.  [Gesture Sensing E-textiles](#) After playing around with Freetouch to make a knitted fabric switch, it was found that the sensor reading varied depending on the type of interactions. For example, prodding the fabric resulted in a much lower sensor reading than grabbing the fabric. Based on this observation,..... Listed under: [Sensor – Transducer – Detector Projects](#)
274.  [Stone-Paper-Scissors Game With Pinoo](#) <https://youtu.be/J32Z-YdQCFs> Purpose of the Project: Creating a rock-paper-scissors game with a servo motor module, joystick module, module with lcd (I2c) and distance sensor using the Pinoo control card. Duration: 2 lessons Age Group: 7 years and older Pinoo Set: Maker Set, Full Set. Benefits: • Learns to code Pinoo..... Listed under: [Game – Entertainment Projects](#)
275.  [Memory Lamp](#) [Intro] This product can you a way to keep your memory in a self-made frame, combining with a lamb decorated by yourself, increasing the visibility and exposure of the image being kept in the memory lamp, creating your own unique memory. Features of..... Listed under: [Memory – Storage Project Ideas](#)
276.  [Glowing Garden](#) For this project, I wanted to create an interaction that would seamlessly combine the natural and the digital to make a cohesive project which sparked wondering and curiosity. I was inspired by the idea of a fairy garden and wanted to make a plant that..... Listed under: [Sensor – Transducer – Detector Projects](#)
277.  [DIY Robot Head Made Out of RGB LED Lights](#) In this instructable, you will be taught how to make a decorative robot head light by using RGB LED lights to create a visual effect in the robot's mouth, the lights can shine brightly colored rainbow lights back and forth, almost as if the robot..... Listed under: [Robotics – Automation Projects](#)
278.  [Simple Arcade Button Ideas for Your Projects](#) One thing that I've always needed for my projects is a simple form of input and output. At first, it was a simple push button and an led on a breadboard. The breadboard mounted buttons are inconvenient. So I created a 3D printed stand to..... Listed under: [Ideas](#)

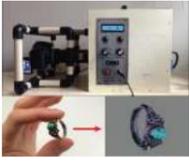
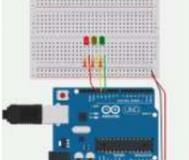
279.  [Social Distancing Robot](#) This instructable was created in fulfillment of the project requirement of the Make course at the University of South Florida (www.makecourse.com). The Social Distancing Robot is a robot concerned with its health in the midst of the current pandemic. It has an RGB LED to..... Listed under: [Robotics – Automation Projects](#)
-
280.  [Kid's Control Panel With Arduino\(s\)](#) Since getting an Arduino starter kit I was wondering what to make of all those fancy buttons, shiny LEDs, touchscreen LCD displays... I was thinking about weather station, but I was told that in the maker's world, weather station is like a "Hello World" app..... Listed under: [Other Projects](#)
-
281.  [COVID-safe Useless Box](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) Supplies One (1) Arduino Uno One (1) Adafruit 16-Channel 12-bit PWM/Servo Driver - I2C interface - PCA9685 Two (2) MG995 Metal Gear Servo One (1)..... Listed under: [Security – Safety Projects](#)
-
282.  [Measuring the Boiling Point of Liquefied Gases Using Arduino and PhyPhox](#) A substance that is in a liquid state is constantly evaporating or passing into the gaseous state (depending on the intermolecular forces and temperature). The pressure exerted by the gaseous molecules produced in this process is known as vapor pressure. The vapor pressure depends on..... Listed under: [Temperature Measurement Projects](#)
-
283.  [A Shuttle Mission Control Mock-Up for Kids](#) A Mission Control Center for children was constructed to manage a pretend launch of the space shuttle. I wanted to play-out the make believe mission with nothing but LED lamps to tell the story; both 7-segment displays and graphic displays with LED lights strategically mounted..... Listed under: [Other Projects](#)
-
284.  [ESP32 CAM WEB Server and Getting Started Guide](#) This Instructables is all about setting up ESP32 CAM Webserver. The goal here is to connect ESP32 CAM with FTDI Module and program it with the CAM WEB SERVER sketch which will allow us to monitor the camera feed via a web app. The Next..... Listed under: [Video – Camera – Imaging Projects](#)
-
285.  [Tom the Tortoise Thief](#) I had 8 small and really old servos, as well as an ESP32 that was soldered onto a copper stripboard. I therefore decided to make a walking quadruped that would have something sticky on it's stomach, allowing it to pick things up secretly when it..... Listed under: [Other Projects](#)
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286.  [Wizard Chess](#) Wizard Chess is a form of chess originally invented by J.K. Rowling in Harry Potter and the Sorcerer's Stone. The characters give verbal commands to the chess pieces and they move by magic. Seems impossible right? Not anymore! Using an Arduino Uno, along with an XY..... Listed under: [Game – Entertainment Projects](#)
-
287.  [Machine Learning With the Arduino: Air Quality Prediction Learning With the Arduino: Air Quality Prediction](#) Air Quality Prediction is a project that balances Arduino development and Machine Learning. I have always found the world of machine learning captivating but was never able to run models on real-time data. Arduinos provide the solution with a vast array of sensors supported on..... Listed under: [Sensor – Transducer – Detector Projects](#)
-
288.  [DIY Solar Panel Monitoring System – V1.0](#) A few months back, I have installed a small-scale Off-Grid Solar System. I am always very curious to see the performance of my solar PV system, and the good news is that the charge controller that I am using has its own local display for..... Listed under: [How To – DIY – Projects](#)
-
289.  [Useless Box](#) Interested in making a useless box? Building this project was a really fun experience for me. Having very little prior knowledge about circuits, making this simple gadget was a great introduction to circuits for me. And, it's really fun to play with once completed! This..... Listed under: [Motor Projects](#)
-
290.  [Neo Pixel Tic Tac Toe \(Arduino Uno\)](#) Tic Tac Toe is a two player game in which the players compete to get 3 pieces in a row. In this project we constructed a Tic Tac Toe game using a number pad and neo pixels as pieces. This results in a portable Tic..... Listed under: [LED Projects](#)
-
291.  [Party's Over!](#) This is a little diorama made with Arduino for a school project. What happens is a party which just stops playing music. As the sound stops there's a bright light which turns on. There are two party people. One is having a stroke or something because..... Listed under: [LED Projects](#)
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292.  [Remote Smoke Alarm Buzzer & Microcontroller Interface](#) Add a remote buzzer to Smoke Alarms that are too far away be heard. Also add an optional Microcontroller interface e.g. Arduino. This document describes how to: Modify an escape-light type smoke alarm to sound a remote buzzerCreate the buzzer moduleCreate a microcontroller alarm interface..... Listed under: [Battery Projects](#)

293.  [The CelloBot \(Robot Design Controlled by an Arduino Uno\)](#) Hello, I'm Andre and this is how you can build and design your own robot with dancing features. This robot was designed as a team project for my junior design class at Georgia Tech. The entire system is completely controlled by an Arduino Uno microcontroller,..... Listed under: [Robotics – Automation Projects](#)
294.  [DIY Arduino Smart Digital Scale | ESP8266 + HX711](#) Hello to everyone, today I am here to show you a very interesting project that I was working on for a while, it consists on a digital scale using the ESP-12S microcontroller plus a load cell and it HX711 wheatstone bridge to i2c converter, it..... Listed under: [How To – DIY – Projects](#)
295.  [Wearing Your Heart on Your Sleeve](#) There are many smart devices available to us that are able to detect our heart rate and other bio data by using a method called photoplethysmography (PPG), a concept of how blood is able to reflect red light while absorbing green light. The device can..... Listed under: [Sensor – Transducer – Detector Projects](#)
296.  [Pulse Oximeter and Heart Rate Monitor](#) Arduinos are incredibly useful tools for all sorts of projects. Given the current COVID-19 pandemic, having easy, fast, cheap, and reliable access to health information is more important than ever. While an Arduino might not be the tool of choice for proper medical applications, we..... Listed under: [Other Projects](#)
297.  [Chore Tracker](#) Chore Tracker is a device used to help motivate you to do your chores, and manage your time. Each week, Chore Tracker gives you a goal to complete five chores of your choice. It will set a timer for you to stay on track and..... Listed under: [Other Projects](#)
298.  [STONE HMI and Arduino + Physical Therapy Instrument](#) Today is Friday, January 29, 2021, control of the COVID-19 in Beijing is also promoting the "New Year in place", family said the Spring Festival can not visit each other, or each person is fined 1500. It seems to go out as little as possible,..... Listed under: [Metering – Instrument Projects](#)
299.  [Don't Make Me Choose – a Randomized Light Wheel](#) So much of our lives is spent making choices. Cut down on that time by making your own "Don't Make Me Choose" project. This project uses the lights on a Circuit Playground to point to a specific item you have listed on the whiteboard. This..... Listed under: [Arduino Battery Project Ideas](#)
300.  [Resistive/Capacitive Sensing Tester \(For E-textiles Soft Sensors and More\)](#) A handy-dandy portable device for testing e-textile sensors on the fly. Sometimes your electronics workspace and your textiles workspace are not the same places. You want to make multiple samples and test them, but then you have to carry your whole electronics prototyping kit (laptop,..... Listed under: [Sensor – Transducer – Detector Projects](#)
301.  [Over Engineered True Random Value Generator](#) Random numbers are often used in daily for example in encryption, gambling, gaming and much more. These numbers are generated by computers using complex algorithm but it can be predicated if we know the seed value and the algorithm. So this is my attempt to..... Listed under: [Other Projects](#)
302.  [IoT Temperature and Humidity Sensors](#) About a year ago, I felt like some rooms in my house were colder than other ones. I wanted to check for sure, so I built a few temperature and humidity sensors connected to my phone via wifi, and dispersed them in my house. I..... Listed under: [Temperature Measurement Projects](#)
303.  [Automate Push Up Routine With ESP8266](#) For most of us during lock down, we have been practicing a lot of exercises. Either its some stretching or some muscle building exercises. But one issue that I have faced personally is keeping track of my workouts. I was unable to see my progress..... Listed under: [Other Projects](#)
304.  [Smartphone LED Controller Using Bluetooth With Own Application](#) Hello friends welcome back to "Techno-E-Solution" In this video I'll be going to show you an interesting project "Smartphone controlled LED Using Arduino & Bluetooth with Own developed Application", I developed this application on kodular app making platform. In this project, we control the LED..... Listed under: [Phone Projects](#)
305.  [DIY Wireless Pi Table Decor](#) Going through the Instructables website, I came across this fascinating "Pi Day Speed Challenge" contest. I decided to take part in the contest, as a challenge to myself of how creative and innovative can I be. As I'm not good as a cook, I did..... Listed under: [How To – DIY – Projects](#)
306.  [Getting Started With ESP-MESH and 8266 -8266](#) Introduction ESP-MESH is a networking protocol built on the top of the Wi-Fi protocol. ESP-MESH allows numerous devices (generally referred as nodes) spread over a large physical area to be interconnected under a single WLAN. ESP-MESH allows multiple nodes to communicate with each other under..... Listed under: [Other Projects](#)
307.  [Make Your Own Arduino AC Dimmer | Drive Motors & Lights](#) Hi every one, here Chris, and I want to show you how I made my own Arduino AC dimmer that can control AC loads such as motors and lights easily. It has the power to handle 1200+ Watts and It's a very nice project for..... Listed under: [Motor Projects](#)
308. [Never Lose Your Phone Again](#) Who hasn't ever left his phone on a spot and realised they had lost it too late? Anonimoconhache present you the solution: Don't Lose Me. With this amazing gadget you will never lose your phone again. Whenever you are too far away from your phone..... Listed under: [Phone Projects](#)

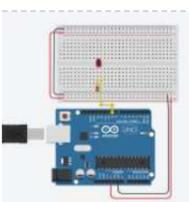
309.  [RC Strandbeest](#) (This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com).) Inspired by the Wind powered machines built by "Theo Janse" I've come up with a design of my own, but with a twist. This design..... Listed under: [Motor Projects](#)
310.  [Open Grow Light](#) Exactly a year ago (February 2020), James' wife wanted to expand her plant growing setup in the house. This included a bigger, larger, taller plant growing area AND the need for more lighting. BINGO! The seed for the Idea was planted. After an exhaustive market..... Listed under: [LED Projects](#)
311.  [Predator Count Down Box](#) This is a count down timer with some flair! This project was made as part of an assignment for an online engineering course. The purpose was to have a timer with a set time which would then prompt the user to some action. The timer..... Listed under: [Other Projects](#)
312.  [Carnival Lights Game](#) Welcome to an Arduino beginner project. It's a simplification of my previous instructable; it's designed to be easier to reproduce. This is a timing minigame where the active light moves back and forth across a row of lights in order. When the button is pressed the..... Listed under: [Game – Entertainment Projects](#)
313.  [Toy Camera Using ESP32 + OV2640 Camera and 3.5" TFT Touchscreen](#) https://youtu.be/G_ur5BdAAoE This project is for educational purposes. I made this for teaching engineering classes for my kids. It helps to describes how the camera works. It consists of three main parts : Brain : the microcontrollerInput : camera moduleOutput : TFT display That parts are..... Listed under: [Video – Camera – Imaging Projects](#)
314.  [Ultrasonic Occupancy Counter \(2-way\)](#) https://youtu.be/Ncsu_gZS-ql This simple Arduino project can be placed in the doorway of a shop or other venue to count the number of people inside. Limiting the number of people inside a space can help to maintain social distancing. A demonstration of this project can be..... Listed under: [Other Projects](#)
315.  [Automatic Arduino Pet Feeder – 3D Printed \(With Stepper Motor\)](#) Hi guys, I made an automatic 3D Printed Pet Feeder (or just dispenser, but I use it to feed my dog). I 3D modelled all that project. U can print it by yourself. All parts are down there. Basically how it works, is u type..... Listed under: [Motor Projects](#)
316.  [How to Make Smart Obstacle Avoiding Robot Using Arduino Uno](#) https://youtu.be/tnwTIMyOL_8 Hi guys. In this instructable, I will teach you how to build an obstacle avoiding robot. The robot will be a small and simple 2-wheeled car which will move forward until it detects an obstacle in its path. Upon doing so, it will stop,..... Listed under: [Other Projects](#)
317.  [Tree Tidy – a Functional Desktop Decoration \(Prototype Build\)](#) Everyone loves a good desktop decoration. We can also agree that keeping our desks clean is great. So why not combine both? In this Instructable I'll show you how to make a desktop item that combines aesthetics and cleanliness to create (in my very biased..... Listed under: [Other Projects](#)
318.  [Arduino Basics With Night Light](#) Recently I have been playing around with Arduino. Arduino is really cool and is a great way to learn electronics. In this Instructable I will teach you the basics of Arduino including: LED'sButtonsPotentiometersResistorsTinkercadAnd a project with this knowledge. Step 1: The Board The controller can..... Listed under: [LED Projects](#)
319.  [Flappy Bird Game Using Arduino & LCD Display](#) Hello friends welcome back to "Techno-E-solution" in this article I'll show you how to make "Flappy bird game using arduino Uno & LCD display". This is beginners level project, if board at home & if you want fun with arduino let's make this game. This..... Listed under: [Game – Entertainment Projects](#)
320.  [Solar Powered WiFi Weather Station V3.0](#) In this Instructable, we will learn how to make a Solar-powered wireless weather station by using an ESP32 Wifi Module and few common weather sensors available in the market. The weather station is fully solar-powered, so no need to worry about the external power supply..... Listed under: [Wifi - Wlan Projects](#)
321.  [Automatic Arduino Powered Camera Slider With Pan and Tilt](#) Are you fed up of shaky footage that ruins your video? In this Instructable I attempt to address this issue by building my own automated camera slider. I used the power of CAD and digital fabrication to create a robust gantry system that rolls along..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#)
322.  [Visualizing Chaos With the Double Pendulum](#) We enjoy having an ordered, methodical and efficient lifestyle, however, more recently we have acquired a taste for the disorganized, topsy-turvy, chaotic lifestyle. Which is why, in this Instructable we attempt to address our new found love for chaos by building a simple machine to..... Listed under: [Other Projects](#)

323.  [Automatic Toilet Flusher \(Reduce Touch, Reduce COVID-19 Infection\)](#) The place most of us like to see a hands-free toilet flusher is in public washrooms. It will be a welcome convenience – no-one wants to touch a public toilet! In this COVID-19 pandemic touching the flush button in a public toilet is risky also..... Listed under: [Security – Safety Projects](#)
324.  [Open Theremin From Scratch: Building a PCB From Open Source Plans](#) <https://youtu.be/CKgfZY-ZhTc> This Instructable shows the steps I took to build my own open source theremin (Open Theremin) when there was none available to buy online. The lovely thing about open source is that the plans are freely available to make and modify. A theremin is..... Listed under: [Other Projects](#)
325.  [JCB Machine](#) JCB Machine is very popular because it is heavy-duty construction equipment in the civil industry. JCB is also known as the backhoe loader. It can be used to load or unload the trucks very quickly. It is used for the construction of roads, loading and..... Listed under: [CNC Machines Projects](#)
326.  [Portable Portrait Painter](#) Introduction There are probably over one-hundred Arduino based plotting machines on the internet with instructions available on how to make them. What makes this one unique (as far as I know), is the inbuilt camera and screen. Other plotters must be connected to a computer..... Listed under: [Other Projects](#)
327.  [Automatic Missile Defence System](#) Automatic Missile Defence System destroys aerial targets like aircraft, high-altitude ballistic missiles, and low-altitude cruise missiles. Missile defense systems are really important for a nation like India which is surrounded by hostile neighbors. A Surface to Air missile is a very high speed (2-4..... Listed under: [Security – Safety Projects](#)
328.  [Let Your Plant Talk](#) In Today's Tutorial, we will learn how to make our plant talk using Arduino nano with the MP3 player module. Basically, we will connect 3 sensors to the Arduino module: LDR Sensor. Capacitive Moisture sensor. DHT22 Temperature and humidity sensor. We will read the sensors..... Listed under: [Other Projects](#)
329.  [How to Teach an Online Circuits Class With Tinkercad](#) <https://youtu.be/50I3fREv0Qo> You probably know Tinkercad for the beginner friendly 3D CAD program, but it also includes a circuit + Arduino simulator that runs in your web browser! I've used Tinkercad for both in-person and online college-level classes and for introductory makerspace workshops. In this Instructable I'll not only..... Listed under: [Other Projects](#)
330.  [Portable Auto Height Adjust Stand for Multipurpose](#) Height is a major concern in public places. Kids affected more in public places due to height problem. The problem places due to height concerns are 1) First place is school from kg kids to High school kids, so lot of height variation so using..... Listed under: [Other Projects](#)
331.  [Timer With TM1637 and Arduino](#) This timer is useful in both domestic and industrial applications. It is a countdown timer programmable in the range of 1s 9999s. During this time, the load is powered by a relay on the board. For repeated timings, it is possible to memorize the..... Listed under: [Clock – Timer Projects](#)
332.  [Smart Pull-Up Bar](#) Hello friends! My name is Nikolas and I am 15 years old. Today in this Instructable I'll show you how to make a Smart Pull-Up Bar which, when you start doing Pull-Ups or Chin-Ups starts playing music in order to keep you motivated and after exercising for..... Listed under: [Other Projects](#)
333.  [Autonomous Basil Farm With Robot Arm!](#) Growing basil is great, but do you know what's even better? Having an autonomous basil farm! As the saying goes: "never spend ten minutes doing something by hand, when you could spend 10 hours failing to automate it". Although I may be bad at gardening,..... Listed under: [Robotics – Automation Projects](#)
334.  [STOP Face Touching Device](#) Why do you want to stop touching since it is part of our human nature? Well, it is all because of the virus floating around. Health officials keep telling the public to stop touching faces when they couldn't help. So I decided to use some technology to..... Listed under: [Sensor – Transducer – Detector Projects](#)
335.  [DIY Game Controller](#) Hey everyone what's up... so this is my DIY Game controller. It uses an Arduino Pro Micro which runs with HID Function, this is actually the second version of my previous game controller which had buttons but this one has two joysticks. unlike the previous..... Listed under: [Game – Entertainment Projects](#)
336.  [ECG Display With Arduino](#) This ECG (Electrocardiogram) unit has an integrated display. The display can show individual heart beats in a large format, the train of heart beats in a small format and a Poincaré plot. It is battery powered and can be worn round your neck on a lanyard. It..... Listed under: [Other Projects](#)
337.  [Ez Arduino 12 DOF Quadruped Robot – Robot Dog Lassie](#) Since Boston Dynamics releases the quadruped robot - Spot, making robot dog has been very popular. There are number of attempts to build similar robot. Most are expensive and very difficult to follow and to make one. This instructable is trying to deliver a DIY..... Listed under: [Robotics – Automation Projects](#)
338.  [Making an Alarm Clock That Asks Questions Randomly](#) Do you usually have trouble getting up? Set more than a dozen alarm clocks in the morning, but still can't wake up and turn them off in a daze. When you waking up and find out that you are late, and then you blame the..... Listed under: [Clock – Timer Projects](#)
339.  [TClock – Tissue Box Clock](#) In this Instructable I will show you how you can convert an empty tissue box into a cool Arduino based clock that can show the time, date, current temperature & humidity in the room. If you like this Instructable consider voting for it in theTrash..... Listed under: [Clock – Timer Projects](#)

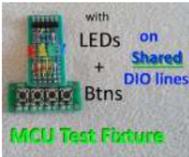
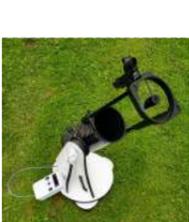
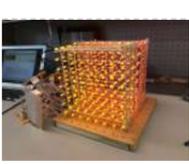
340.  [Arduino LED Night Lights With Switch to Turn on and Off](#) The design was inspired by a product that is also presented on Instructable called "Arduino Basics with Night Light" (<https://www.instructables.com/Arduino-Basics-With-...>). Originally, the device is only allowed to change the LED lights by pushing down a button; after adding the codes and circuits (added: a speaker..... Listed under: [LED Projects](#)
341.  [Wireless Mood Meter](#) Suppose your mood changes so fast that people can't cope up with it. You feel sad but people do something that makes you more sad. If only they knew what you are feeling right now! Behold, I present you the Wireless Mood Swing Meter!! Place it..... Listed under: [Metering – Instrument Projects](#)
342.  [Arduino 8 Key Tinfoil Piano](#) In this Instructables tutorial, I will teach you how to make a simple 8 key piano with your Arduino. Supplies: Arduino Board Breadboard 10MΩ Resistor*8 Arduino mini box speaker Wires/Jumpers Tape Cardboard Tinfoil (optional) Hot glue gun Step 1: Gather Supplies Here is what you'll need: Arduino Board Breadboard 10MΩ Resistor*8 (1MΩ Resistors work too) Arduino..... Listed under: [Sound – Audio Project Ideas](#)
343.  [Arduino Snake LED Game](#) In a previous project we created an interactive coffee table, which lit up LEDs under an object. In this project, we reuse that table to create a snake game from the 2D matrix of LEDs. If some parts of the project are unclear, it may be..... Listed under: [Game – Entertainment Project Ideas](#)
344.  [Delayed Dog Feeder](#) For our second project, I wanted to make something that I am going to be able to use in my day to day life. When I have to leave during awkward mealtime hours, it's important for my dog to maintain a consistent eating schedule, and..... Listed under: [Other Projects](#)
345.  [Arduino Volume Control](#) Arduino UNO with volume control, pause/play button, and LCD display: This tutorial will show you how to set up an Arduino UNO to produce a tone through standard earphones, with volume control via potentiometer, with visual volume display via LCD, with pause/play button. Step 1: Pieces, Parts..... Listed under: [Other Projects](#)
346.  [Arduino Cyclone Reaction Time Game](#) In this instructable, we walk through how I made a "Cyclone" - type arcade game using an Arduino. This game also includes a reaction timer mode. Let's get started! A list of things you will need: Arduino Uno LCD Screen MCP23017 serial port expander 2 pushbuttons LEDs of differing..... Listed under: [Game – Entertainment Projects](#)
347.  [SafeT-Park System](#) This device will help protect parking structures by implementing three safety concepts into an IOT device. Automated emergency response system, in the case of parking structure fires Integrated temperature and altitude sensor to pinpoint the location of the fire Activated pressure system to mitigate radiation..... Listed under: [Other Projects](#)
348.  [Arduino Home Irrigation System With a 7 Segment Display](#) <https://youtu.be/lu4rbQRmRwo> In this instructable we are building a home irrigation system based on an Arduino Uno. I know there are tons of similar projects / tutorials already floating the web, but maybe I did something different and you can pick up an idea or two..... Listed under: [Irrigation Projects](#)
349.  [Alone Together – Plant Lamps](#) This instructable is part of the course Physical Interaction and Realization at KTH, Royal Institute of Technology. We are going to teach you how to build two, quite organic and interactive plant-lamps, Thorulf and Svamp. Thorulf is a plant with flex sensors and LEDs while Svamp is a collection of mushrooms..... Listed under: [Sensor – Transducer – Detector Projects](#)
350.  [Blink an LED With Arduino in Tinkercad](#) <https://youtu.be/yyG0koj9nNY> Let's learn how to blink an LED (light emitting diode) using Arduino's digital output. If you're new to Arduino, this is a great place to start. We'll connect an LED to the Arduino Uno and compose a simple program to turn the LED on..... Listed under: [LCD Projects](#)
351.  [SMS Monitor || Dot Matrix Display || MAX7219 || SIM800L](#) In this video, you will learn how to use a GSM module, dot matrix display and how to display scrolling text on it. After that we will combine them together to display messages received over a GSM SIM to a dot matrix display. It is..... Listed under: [Other Projects](#)
352.  [Premiere Pro Edit Dial Controller \(Seek / Play / Pause\) \(\\$6 DIY\)](#) <https://youtu.be/FACm5D3bskQ> Update!!! New version is here!! I'm really into making Youtube videos for Instructables. Sometimes it is hard to rewind the moment I wanted to pause. So, I thought it would be nice if I had a dial for it. [Instruction] Manual <https://eunchan.me/PREMIERE-PRO-CONTROLLER-DIAL-DI...> Source Code <https://github.com/happythingsmaker/PremiereProDi.....> Listed under: [How To – DIY – Projects](#)
353.  [Arduino RFID Lock Tutorial](#) Dear friends welcome to another Instructable. This is Nick from educ8s.tv and today we are going to learn how to use this RFID Reader with Arduino in order to build a simple lock system. For the first time, we are going to use RFID tags..... Listed under: [RFID - NFC projects](#)
354.  [6WD Shock Absorption Robot for Arduino](#) The new design of the 6WD mobile platform, the vehicle uses 2mm aluminum alloy, aluminum spray surface treatment. 6 high-speed DC motor (original 17000 rpm), with 1:34 full metal gear box, so that the car to obtain strong off-road performance. Shock absorption design is the..... Listed under: [Robotics – Automation Projects](#)
355.  [Automated LEGO BB-8!](#) We absolutely LOVE the new LEGO Star Wars sets that have come out over the last couple of years. They're well designed, fun to build, and look great. What would make them even more fun is if they also moved on their own! We took..... Listed under: [Robotics – Automation Projects](#)
356.  [Arduino RC Car Wheel](#) This is an Instructable of my Arduino RC car Wheel in which I took a cheap RC car and made it so the Arduino could act as a wheel, controlling the direction it goes automatically. The Arduino RC car Wheel is my first original Arduino design..... Listed under: [Car Projects](#)

357.  [Arduino Based CNC Plotter Made From Scrap DVD/CD Drives](#) Indeed, the world of web has quad trillion tons of information but when you want to build anything you need all the intricate little details. There are already a number of good DIYs, Tutorials and YouTube videos on the topic but I was unable to..... Listed under: [CNC Machines Projects](#)
358.  [Arduino Based USB Paper Gesture Mouse](#) Please vote for me in the contests I have always been pretty amazed by the Capacitive sensor library of Arduino, It makes me feel like a super human, I can make any non conductive material to act like a touch enabled controller for various use..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
359.  [A Pocket Sized Touch Keyboard](#) In this Instructables I am going to explain about my new project called " A Pocket Sized Touch Keyboard" .It is a Arduino based small physical device used to simplify your different keyboard operations.You plugs it into your computer usb port and touch it on..... Listed under: [Sensor – Transducer – Detector Projects](#)
360.  [Cardboard Spider \(DIY Quadruped\)](#) Hello again and welcome to my new project. In this instructable I've tried to make a simple Quadruped made from materials accessible to everybody. I know to get a good looking final product you need a 3d printer and maybe a CNC, but not everybody..... Listed under: [How To – DIY – Projects](#)
361.  [Fake Dynamic Price Tag](#) Amazon's prices change constantly. If you leave items in your shopping cart for longer than a few hours, you'll likely get alerted about minute fluctuations – \$0.10 here, \$2.04 there. Amazon and its merchants are obviously using some form of algorithmic pricing to squeeze the..... Listed under: [Other Projects](#)
362.  [Coke Machine Can Level Detector](#) Rev 2.5 - tidied up the 3D printed parts and updated the plug connector to a common PCB unit. Rev 2 - ultrasonic "button" replaces manual push-button. Pushing a button is so old fashion, particularly when I'm already using an Ultrasonic sensor. Why not use..... Listed under: [CNC Machines Projects](#)
363.  [Desktop CT and 3D Scanner With Arduino](#) Computed tomography (CT) or computed axial tomography (CAT) is most often associated with imaging the body because it enables clinicians to see the anatomical structure inside the patient without having to do any surgery. To image inside the human body, a CT scanner requires X-rays..... Listed under: [Other Projects](#)
364.  [Arduino Pong Clock With Temperature and Timer](#) In Pong clock mode the clock uses the classic video game Pong to tell the time The 2 players automatically win and lose so their scores show the hours and minutes. It is based on a clock by Nick Hall. This is the 2nd version of..... Listed under: [Clock – Timer Projects](#)
365.  [Line Follower Robot – Arduino Mega/uno – Very Fast Using Port Manipulation](#) Line follower robot is a useful robot that is used in warehouses, industries, and stores etc, where it follows a dedicated path. The presented robot captures line position with IR Sensors. If the robot get off the line it will U turn and back to the line..... Listed under: [Robotics – Automation Projects](#)
366.  [Robotic Hand With Wireless Glove Controlled | NRF24L01+ | Arduino](#) In this video; 3D robot hand assembly, servo control, flex sensor control, wireless control with nRF24L01, Arduino receiver and transmitter source code are available. In short, in this project we will learn how to control a robot hand with a wireless glove. Step 1: Video..... Listed under: [Robotics – Automation Projects](#)
367.  [DIY Digital Spirit Level](#) In this project we will have a closer look at accelerometer ICs and find out how we can use them with an Arduino. Afterwards we will combine such an IC with a couple of complementary components and a 3D printed enclosure in order to create..... Listed under: [Other Projects](#)
368.  [The Ultimate DIY Automatic Fish Feeder Tier 2](#) The Tier 2 Feeder is a big step up from the Tier 1. This version uses an ESP8266 wifi module to sync the arduino's clock to control the feeding schedule and the tank's lighting. Step 1: What You Will Need: Everything in Tier 1 except the..... Listed under: [Other Projects](#)
369.  [Eve, the Arduino Chatbot](#) Hello DIYers, have there been instances when you really wanted to share your feelings with someone and no trusted one was around? In today's busy world, this is a common instance. Well, a chatbot can help here to make you feel better. And that leads..... Listed under: [Arduino Programmer Projects](#)
370.  [Arduino Powered Dog Food Dispenser](#) If your house is anything like mine, some tasks may be forgotten when in a rush. Don't let it be your pet that gets forgotten about! This automated dog food dispenser uses an Arduino to deliver the right amount of kibble at the right time..... Listed under: [Projects](#)
371.  [Multiple LEDs & Breadboards With Arduino in Tinkercad](#) <https://youtu.be/MojSo7OtF9w> Let's learn how to control multiple LEDs using Arduino's digital outputs and a breadboard. Expanding upon the last lesson on blinking an LED, We'll connect some LEDs to the Arduino Uno and compose a simple program to light them up in a pattern. You can..... Listed under: [LED Projects](#)
372.  [Getting Started With Arduino: What You Need to Know](#) I have been working with Arduino and electronics for many years now, and I am still learning. In this ever-expanding world of micro-controllers, it is easy to get lost and run circles around yourself trying to find information. In

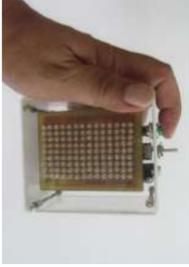
this Instructable, I will be showing..... Listed under: [Other Projects](#)

373.  [Minimalist IoT Clock \(using ESP8266, Adafruit.io, IFTTT, and Arduino IDE\)](#) In this tutorial I show how you can make a minimalist clock synchronized with the internet. I tested it with two different ESP8266 based boards: Firebeetle and NodeMCU. The microcontroller gets current time from a Google server, and displays it on a NeoPixel LED ring..... Listed under: [Clock – Timer Projects](#)
374.  [YouTube Subscriber Counter With LEDs](#) This is a YouTube Subscriber counter built with an ESP8266. It uses the YouTube apiv3 to poll for changes. It's made specifically for one of my favourite youtubers Henk Rijckaert. It was featured in his livestream where the goal was to get to 9000 subscribers. <https://youtu.be/6b43lbccmZ0>..... Listed under: [LED Projects](#)
375.  [Acoustic Levitator Case](#) Acoustic levitator from Asier Marzo is a very popular thing here on instructables. I build it, it was working but I noticed couple of issues. For example: The 3D printed space between bowls is a bit fragile. The levitator can't stand on its own because of..... Listed under: [Other Projects](#)
376.  [DIY Attiny Programming Shield](#) If you are looking for a small and low powered Arduino board the Attiny is a really good option, its surprisingly featureful for it's size. It has 5 GPIO pins, 3 of which are Analog pins and 2 which have PWM output. It is also..... Listed under: [Arduino Programmer Projects](#)
377.  [Knife Sharpening Angle Coach With Bluetooth & Arduino](#) Precision sharpening skills aren't developed overnight! Here's a high-tech way to monitor your knife angle during sharpening, with the help of an absolute orientation sensor and bluetooth microcontroller. This project is a collaboration with Alex French Guy Cooking! This is an intermediate level Arduino project, so..... Listed under: [Phone Project Ideas](#)
378.  [Motorized Window Blinds Controller](#) For this project you will be creating a device that is capable of opening and closing window blinds, both automatically and manually (via a push button), based upon a time schedule and sensor data from a light dependent resistor. In addition, this device will be..... Listed under: [Other Projects](#)
379.  [Arduino Perpetual Calendar Clock](#) The clock uses 2 electro mechanical clock movements controlled by an Arduino to display the Day and Month. A third quartz controlled movement displays the time tide Low or High tide. The Calendar is fully automatic and takes into account leap years as well as..... Listed under: [Clock – Timer Projects](#)
380.  [DIY Word Clock](#) Today, I will show you how to build a Word Clock. It is basically a clock which displays time using words. I will also show you how to use a Shift Register and RTC using a microcontroller. Shift Register can come in very handy if you..... Listed under: [Clock – Timer Projects](#)
381.  [Music Reactive Infinite Mirror](#) Hi fellow makers! This is a project I've been working on for my Makerspace class at Collégial international Sainte-Anne. I truly hope you will like it! https://youtu.be/rHbPYaLJt_g *I'm sorry about the focus being bad. It was almost impossible to obtain a great focus since the..... Listed under: [Sound – Audio Projects](#)
382.  [Electronic Chameleon](#) Ever wondered how the chameleon changes its colour through the changes in environmental colours? There's something called Melanocyte Stimulating Hormone or MSH. If you want to dig more into this please follow this Link. The stories apart, I wanted to build ambient lighting system or something..... Listed under: [Sensor – Transducer – Detector Projects](#)
383.  [Automatic Drone Lap Timer – 3D Printed, Arduino Powered](#). I've been growing more and more interested in the idea of First Person Video (FPV) drone racing. I've recently acquired a small drone and wanted a way of timing my laps - this is the resulting project. This drone landing pad features an integrated ultrasonic..... Listed under: [Clock – Timer Projects](#)
384.  [Reaction Time Meter \(Visual, Audio and Touch\)](#) Reaction time is a measure of time a person takes to identify a stimulus and produce a response. For example an athlete's audio reaction time is time elapsed between firing of gun shot (that starts the race) and him or her starting the race. Reaction..... Listed under: [Clock – Timer Project Ideas](#)
385.  [Cheap and Simple Arduino Eggbot](#) In this Instructables I want to show how to make a simple and cheap arduino plotter that can draw on eggs or other spherical objects. In addition, soon Easter and this homemade will be very handy Step 1: Watch the Video <https://youtu.be/cznLDhbVzlk> Step 2: Materials..... Listed under: [Other Projects](#)
386.  [Arduino CNC Drawing Machine \(or the Road to Success\)](#) This project is based on mostly items which are easy to find. The idea is to take two unused computer disk units and combine them to create an automated drawing machine which resembles a CNC machine. The pieces used out of the drives include the..... Listed under: [CNC Machines Projects](#)
387.  [Fading LED With Arduino Analog Output in Tinkercad](#) <https://youtu.be/X8dHbdhnGKY> Let's learn to adjust an LED's brightness using one of the Arduino's analog outputs. You've probably already learned how to use Arduino's digital i/o pins to send HIGH and LOW signals to an LED, but some of these pins are capable of simulating a signal..... Listed under: [LED Projects](#)
388.  [Arduino-controlled Water Rockets](#) You've all probably had a chance to do that classic high-school experiment: pop bottle rockets. You've probably taped on some fins, a paper nosecone, and presto! You launch a "rocket" that is loads of fun- and watched it fall down from the sky.

Why stop..... Listed under: [Other Projects](#)

389.  [ISS Pointer Robo](https://youtu.be/0kBK3WHNv5Q) <https://youtu.be/0kBK3WHNv5Q> Hi there, This is my contribution to the Space-Contest. There are some ISS-Pointer around the WWW. Some of them use several PSUs and/or quite big motors. My goal was to build something cheap, looking cute and a little bit badass - all powered with only one 5 Volt..... Listed under: [Robotics – Automation Projects](#)
390.  [Motion Activated Stairs](#) Yes, I know what you're thinking, this does seem a little overkill but first of all, you'll never have to worry about stubbing your toe again and second, it makes walking up and down your stairs so much fun, i found myself going upstairs for no reason..... Listed under: [Other Projects](#)
391.  [Custom Macro Mechanical Keypad](#) In this Instructable I will be taking you through the basics of creating your own 6 keyed macropad, controlled by an Arduino. I will be taking you through what you need, how to assemble it, how to program it, and how to improve it or..... Listed under: [Other Projects](#)
392.  [Yes – No : an Arduino Driven Mailbox](#) In this project we're going to show you how to make your mailbox more fun and usefull. With this mailbox, if a letter is in your mail you have a nice light wich shows if you have mail, and you can controll this mailbox with..... Listed under: [Other Projects](#)
393.  [Web-Connected SMART LED Animation Clock With Web-based Control Panel, Time Server Synchronized](#) The story of this clock goes back a long way - more than 30 years. My father pioneered this idea when I was just 10 years old, long before the LED revolution - back when LED's where 1/1000 the brightness of their current blinding brilliance..... Listed under: [LED Projects](#)
394.  [Convert Your IR Remote to RF Remote](#) In today's Instructable, I'll show you how you can use a generic RF module without a microcontroller which will eventually lead us to build a project where you can convert an IR Remote of any device to a RF Remote. The main advantage of converting..... Listed under: [LED Projects](#)
395.  [Test Any MCU Using Only 4 I/O Lines](#) With this 'Test Fixture' and provided software you can test virtually any MCU with as little as 4 digital I/O lines (even only 2 is possible, all be it tricky) for project suitability and performance. When I start a new project I don't like hooking..... Listed under: [LED Projects](#)
396.  [Fish Feeder 2](#) Introduction / Why this project In 2016 I build my first fish feeder, see Fish Feeder 1. The feeder worked fine for more then half a year. After that period the servos were worn out, causing the program to halt, without sending an error-mail. Oops. I didn't..... Listed under: [Other Projects](#)
397.  [Kids MP3 Music Box](#) When looking for some new DIY projects around arduino I found some nice ideas on RFID based MP3 players for Kids. And there is one great professional toy box on the market - these guys rule. They made a great business out of their smart..... Listed under: [Sound – Audio Projects](#)
398.  [Versatile Volt, Ampere, and Power Meter](#) Multimeters are suitable for many purposes. But usually, they only measure one value at a time. If we deal with power measurements, we need two multimeters, one for voltage and the second for Ampere. And if we want to measure efficiency, we need four multimeters..... Listed under: [Metering – Instrument Project Ideas](#)
399.  [Building a DIY Arduino on a PCB and Some Tips for Beginners](#) This is meant as a guide to anyone soldering their own Arduino from a kit, which can be purchased from A2D Electronics. It contains many tips and tricks in order to build it successfully. You will also learn about what all the different components do. Read..... Listed under: [Other Projects](#)
400.  [Alexa-Enabled Death Star Lamp](#) Bring a snippet of the Dark Side to your living room with this unique voice-activated lamp. A functional work of art that is both useful and pleasing to look at. Switching on or off? All lamps do that! Changing brightness? Very common! But can yours do this? *cue..... Listed under: [LED Projects](#)
401.  [10 Useful Arduino Projects to Complete This Year](#) Whether you are new to the world of DIY electronic problems or an experienced fanatic, you will have heard of the Arduino. Arduino is the perfect source of microcontrollers; not only are their products reliable, open-source, affordable and efficient, they are also hugely versatile. The..... Listed under: [Projects](#)
402.  [Arduino Star-Finder for Telescopes](#) Space is big. Really big. Owning a small telescope can give a lot of pleasure, but it's often a struggle trying to locate specific objects in the night sky. In this project I made and integrated an Arduino-powered star-finder with a small reflecting telescope, to allow..... Listed under: [Solar energy projects](#)
403.  [DIY IoT Lamp for Home Automation | ESP8266 Tutorial](#) In this tutorial we're going to make an internet connected smart lamp. This will go deep into internet of things and opens up a world of home automation! The lamp is WiFi connected and built to have an open message protocol. This means you can..... Listed under: [LCD Projects](#)
404.  [LED Cube Display](#) In this project, you will build an 8x8x8 LED cube as a display. After building the cube and learning the code basics, you will be able to write your own display animations. It is a great visual for scientific purposes and it will be a..... Listed under: [LED Projects](#)
405.  [NodeMCU Humidity/Temperature Unit](#) n this tutorial we are going to show you how to setup your own temperature and humidity sensor. We are going to use a DHT22 unit, which is a low-cost digital output relative humidity and temperature sensor. The device includes a capacitive

humidity sensor and..... Listed under: [Temperature Measurement Projects](#)

406.  [Acrylic Fish Feeder](#) Step 1: Prepare Your Materials For this project, you will need the following materials: For the circuit:3 pieces of Insulated copper wire (22AWG wire) around 4-6 inches long, stripped on both endsAC/DC AdaptorGWS Mini ServoDouble Side Servo armServo screw (1.7 x 3mm)ArduinoUSB Cable A to..... Listed under: [Other Projects](#)
407.  [GYRO & VOICE ARDUIGAMES](#) This gaming box is made from Arduino Uno R3, LoLShield, MPU6050 and Microphone module. With LoLShield, we can show a message/scrolling message or animation picture like: plasma effect, sinewave effect...With MPU6050, we can read value from accelerometer and gyroscope to control movement for simple games..... Listed under: [Game – Entertainment Projects](#)
408.  [Convert Your Old Phone to a Remote Switch](#) Ever wondered what to do with your old basic phones? The advent of a smartphone in last decade made all the basic phones obsolete. Even though they had good battery life and decent look they are less when compared to big smartphones which have big..... Listed under: [Phone Projects](#)
409.  [Awful to Awesome: Replace a Mechanical Alarm Sound](#) Hoping to reduce my late-night smartphone use, I got a vintage alarm clock for next to my bed. This beautiful mechanical flip clock has just one problem: a truly horrifying alarm sound. (Witness the first video above.) It's no wonder what this clock isn't being..... Listed under: [Sound – Audio Projects](#)
410.  [How to Build a GPS Guided Robot](#) Here is a Youtube video of me demonstrating the GPS Guided Robot. You can see that I am holding a cellphone and controlling the robot. I am at a tennis court and I am setting a Waypoint for the robot to return to. Once I..... Listed under: [Robotics – Automation Projects](#)
411.  [Pocket Metal Locator – Arduino](#) This cool little Pocket Metal Locator is sensitive enough to identify small nails and tacks in wood and compact enough to fit into awkward spaces making it convenient to carry and use for metal locating. The unit has four independent search coils and color LED..... Listed under: [LED Projects](#)
412.  [Training Heart Rate Zone Monitor Watch](#) https://youtu.be/7oLxJ_725rU College is a hectic and chaotic time in ones life, that is why it is very important to keep your stress level low. One way we like to do this is by working out, it helps keep your mind clear and body feeling healthy..... Listed under: [Clock – Timer Projects](#)
413.  [Rob the Automated Robot](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com). In this tutorial you will learn how to make a fully automated robot named Rob who is equipped with sensors that allow it to detect..... Listed under: [Robotics – Automation Projects](#)
414.  [Infinite Jest](#) A rotating machine that is controlled by a robotic glove. Neverending fun. Step 1: Concept Our seminar assignment was to design a useless machine. Thinking about absurd tasks, we were inspired by the greek myth of Sisyphus and the idea of gravitational weight shifting in..... Listed under: [Robotics – Automation Projects](#)
415.  [Show Winch](#) For this project, I wanted to create a winch that would be functional for use in a show in a theatre. Often, we have to fly in and out small objects, like chandeliers. This unit would be ideal for raising and lowering small objects in..... Listed under: [Motor Projects](#)
416.  [DMX Effect Controller](#) The goal of this project was to make a DMX-Controlled plug box which would allow on-stage effects or devices to be triggered remotely from the lighting console. This could potentially eliminate the need for a separate control system and operator backstage. This controller could be..... Listed under: [Video – Camera – Imaging Projects](#)
417.  [Neo Pixel, Fastest Thumb Game.](#) I built this project because to take to my local Makerfaire In Newcastle, UK. The idea was to make a school yard game that would be relatively cheap and simple to produce. The idea is simple, to win you have to press the button repeatedly until you..... Listed under: [Game – Entertainment Projects](#)
418.  [DIY Weighing Machine](#) In today's Instructable, I'll show you how to build an easy but useful Weighing Machine. It is very sensitive and accurate up to 3 grams. The maximum weight it can measure is 20 kgs but I'll also show you how you can effortlessly build one..... Listed under: [Temperature Measurement Project Ideas](#)
419.  [Ultrasonic Range Finder](#) This instructable describes how to create a non-contact range-finder using an Arduino and an HC-SR04 ultrasonic module to measure distances in the range 2cm – 400cm. The accuracy is typically +/- 3mm depending on distance, air temperature, and humidity. Step 1: Parts List Very few..... Listed under: [Other Projects](#)
420.  [Around the World Time Clock](#) Whether world trotting or just interested in knowing what time it is before making that late night call, a 5 zone world clock fits the bill. Since I got some extra TM1637 7 digit displays in my latest shipment, I decided to put together a..... Listed under: [Clock – Timer Projects](#)
421.  [Magic Wand Target Practice \(IR Arduino Project\)](#) This is how I made my project for Electronic Art. This project was to focus on using an Arduino Uno to make a wearable. I did not focus so much on the wearable, I more so focused on playing around with an IR sensor and..... Listed under: [Other Projects](#)
422. [Squirting Scuba Helmet](#) In this project we will create a timer based water pump scuba helmet that will mist or spray every ten seconds. The original intention of this project is for the helmet to be used as a wearable garden, however, depending on the nozzels you use..... Listed under: [Other Projects](#)



423. [HALO: Handy Arduino Lamp Rev1.0 W/NeoPixels](#) <https://youtu.be/byTgKfpxKo> In this instructable, I will be showing you how to build HALO, or Handy Arduino Lamp Rev1.0. HALO is a simple lamp, powered by Arduino Nano. It has a total footprint of about 2" by 3", and a weighted wood base for extreme stability. The flexible neck..... Listed under: [LCD Projects](#)



424. [The Artificial Plant Emotion Expressor \(A.P.E.X.\)](#) <https://youtu.be/BdaTOP6ieVo> Step 1: Introduction What is APEX? APEX is a smart (not to mention cute) plant monitoring device. Just plug it into any plant and it will display the "happiness" level of the plant! This is a great reminder to water your plants if you..... Listed under: [Other Projects](#)



425. [Automatic Chicken Coop Door - Arduino Controlled](#) https://youtu.be/Kdt8fT_kvHE This Instructable is for the design of an automatic chicken door with manually alterable opening and closing times. The door can be opened or closed remotely at any time. The door is designed to be modular; the frame, door and controller can be constructed..... Listed under: [Other Projects](#)



426. [Card Reading Shop Power Switch](#) This box reads any card with a magnet strip and, if you're on the registered personnel list, turn on the shop power via a relay. A sole person, to be added to the program file upon creation, has the power to add others to this..... Listed under: [Other Projects](#)



427. [RGB LED Matrix With an ESP8266](#) I think these RGB LED Matrix displays are one of best displays you can get for your Arduino projects, they are incredibly bright and vivid and are actually pretty easy to use too! They can be used for displaying text, images or a combination of..... Listed under: [LED Projects](#)



428. [Light Up Clock for Kids - Green Means Go! Red, Stay in BED!!!](#) We were going crazy without enough sleep!!! Our 2-year-old could not understand how to "wait for the 7" on the clock before coming out of his room morning after morning. He'd wake up early (I mean like 5:27am - "there's a 7!!!" he'd say) and..... Listed under: [Clock - Timer Project Ideas](#)



429. [IOT Blink](#) Anyone who's started learning about microcontrollers and code could tell you that a good place to start is by looking at the most basic example sketches provided. As often times their simplicity can teach you a lot more than you think. With the Arduino, one..... Listed under: [Wifi - Wlan Projects](#)



430. [Art Deco FM Radio Project Using Arduino](#) https://youtu.be/kP_S3LuZBGA Dear friends welcome to another Arduino project Instructable! I am very excited because today I am going to show you how I built this Art Deco style FM Radio project using Arduino. It is by far the most complex project I have ever built and..... Listed under: [Radio Projects](#)



431. [TRASH-BOT. \(Arduino Auto Open Close Trash Bin\)](#) Everything's getting smarter right? So why not your Trash Bin? This trash bin Opens and Closes its lid if it sees any Rubbish in front of it. You just need to bring the rubbish to it and it'll open automatically and will wait for you..... Listed under: [Other Projects](#)



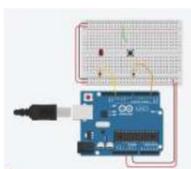
432. [Electric-Analog Piano](#) Music is a big part of our culture -- everyone enjoys listening to music. But while listening to music is one thing, learning to make music is another thing. Similarly, while making music is a difficult task, building a musical instrument is a whole new..... Listed under: [Sound - Audio Projects](#)



433. [Circuito Arduino Controller Pad](#) "Circuito" is a DIY controlling pad. It is a Supplementary project for my previous Robotic Arm project. The Controlling Pad is a computer controlled mechanical constructions that help to move and manage any robotic arm depend on servo motors. It can be considered kinetic control pad..... Listed under: [Other Projects](#)



434. [LED Ukulele](#) <https://youtu.be/X27byIWzV4s> Hi, my name is Elaine. This project combines a lot of things that I enjoy so I hope you enjoy it as well! The LED ukulele we'll be building teaches you how to play the four most played chords: C, G, Am, and F..... Listed under: [LED Projects](#)



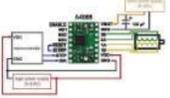
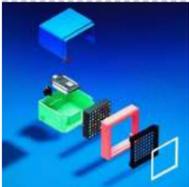
435. [Digital Input With a Pushbutton With Arduino in Tinkercad](#) <https://youtu.be/PC15jBx2UxI> Let's learn how to read a pushbutton using Arduino's digital input! We'll connect up a simple circuit using a solderless breadboard and use some simple Arduino code to control a single LED. So far you've learned to control LEDs with code, which is one use..... Listed under: [LED Projects](#)

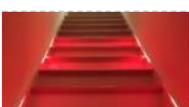


436. [Arduino Pocket Game Console + A-Maze - Maze Game](#) Welcome to my first instructable! The project I want to share with you today is Arduino maze game, which became a pocket console as capable as Arduboy and similar Arduino based consoles. It can be flashed with my (or your) future games thanks to exposed..... Listed under: [Game - Entertainment Projects](#)



437. [3D Printed Prosthetic Hand With Capacitive Touch Sensing](#) In this Instructables I've come with an idea that can be implemented to existing 3d printed prosthetic hands. In existing electrically powered prosthesis I Couldn't find the use of capacitive touch sensing technology for the actuation of fingers. This project combines two very cool things, Arduino with Capacitive..... Listed under: [Sensor - Transducer - Detector Projects](#)

438.  [Internet Speed Gauge](https://youtu.be/SG91jSD1xAk) <https://youtu.be/SG91jSD1xAk> Overview This "Internet Speed Gauge" will give you near real time oversight of your network usage. This information is available on the web interface of most home routers. However, accessing it requires you to stop your current task to go look it up. I..... Listed under: [Internet – Ethernet – LAN Projects](#)
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439.  [Simple Braille Writer \(Speech to Braille\)](https://youtu.be/y-N4hqFgOtE) <https://youtu.be/y-N4hqFgOtE> Hello everyone, All this started with doing a simple XY plotter after completing it successfully, I thought to develop a simple speech to braille text converter.I started searching it online and unexpectedly the prices were too high,that boosted me built a small portable and..... Listed under: [Other Projects](#)
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440.  [Phone+Arduino Controlled Teddy Ruxpin](#) In this instructable I will be demonstrating how to control Teddy Ruxpin with a phone and the help of an arduino. After this modification Teddy Ruxpin will work as Google Assistant(or just about any other virtual assistant) and be able to lip sync voice recordings..... Listed under: [Phone Projects](#)
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441.  [A Useful Remembrall](#) If you've ever watched the Harry Potter series, then you would have seen Neville receive a gift from his Gran which was a Remembrall. For those Muggles who haven't watched it yet or don't remember the scene, a Remembrall is a large marble sized glass..... Listed under: [Other Projects](#)
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442.  [Mini CNC Laser Wood Engraver and Laser Paper Cutter](#) This is an Instructables on how I made an Arduino based Laser CNC wood engraver and Thin paper cutter using old DVD drives, 250mW laser. Playing area is 40mm x 40mm max. Isn't it fun making a own machine out of old things? Step 1:..... Listed under: [CNC Machines Projects](#)
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443.  [Anti-Social Glasses](#) You look up, they tilt down! A tilt switch controls 2 servos which open/ close shutters on a pair of custom glasses. project by Rob Faulkner and You-Wen Ji Step 1: Parts (1) 30 x 60 cm plastic sheet (We used polystyrene but its up..... Listed under: [Other Projects](#)
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444.  [IoT Desktop Console. Part : 11 IoT, Home Automation](#) Preamble This article, the 11th in a series on home automation documents how to create and integrate an IoT Desktop Device into an existing home automation system including all the necessary software functionality to enable the successful deployment within a domestic environment. Picture 1 shows the completed..... Listed under: [Home Automation Projects](#)
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445.  [Robotic Arm Controlled by Glove](#) Purpose: Gain experience, and problem-solving skills by creating a project to complete Outline- Use a glove to connect through an arduino to control a 3-D robotic printed "arm". Each of the joints on the 3-D printed arm has a servo which connects to the flex..... Listed under: [Robotics – Automation Projects](#)
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446.  [Aerobic Arduino – a \\$15 Fitness Tracker Power by an Arduino](#) Please vote for this in the fitness challenge instead of a Fitbit or a smartwatch, you can build an Arduino powered fitness tracker for only \$15! It tracks the pumping motion of your arms while running and uses an accelerometer to detect this. It is..... Listed under: [Security – Safety Projects](#)
-
447.  [Arduino Ultra Mega Timers](https://youtu.be/_PL-bci4e0s) https://youtu.be/_PL-bci4e0s Hi! "Arduino Timer with on/off setpoint" is my most viewed instructable by far, so i got a lot of questions in the comments, inbox and youtube, about how to add minutes,seconds, days and save settings on the eeprom.... so i decided to bring an..... Listed under: [Clock – Timer Projects](#)
-
448.  [Arduino Energy Meter – V2.0](#) Hello friend, welcome back after a long break. Earlier I have posted an Instructables on Arduino Energy Meter which was mainly designed to monitor the power from the solar panel (DC Power) in my village. It became very popular on the internet, lots of people all over..... Listed under: [Metering – Instrument Projects](#)
-
449.  [DIY Telematics Box](#) Telematics boxes (aka Black Boxes) are used to record and log various attributes of a moving vehicle. They have been primarily used in airplanes to log various attributes of an aircraft, for example, air speed, heading, fuel levels, radio chatter etc. It is the first..... Listed under: [Other Projects](#)
-
450.  [ArduMeter: an Arduino Based Multimeter \(Sort Of\)](#) The ArduMeter is an Arduino Based Multimeter, which many people have made to perform different operations, and searching on google you could find all the variety of things it can do. I wanted to make one that is portable, quite easy to use, give decent..... Listed under: [Metering – Instrument Projects](#)
-
451.  [RC Flight Data Recorder/Black Box](#) In this instructable I am going to be building a arduino based fight data recorder for RC vehicles, specifically RC aeroplanes. I am going to be using a UBlox Neo 6m GPS module connected to an arduino pro mini and a SD card shield to..... Listed under: [Temperature Measurement Projects](#), [Video – Camera – Imaging Projects](#)
-
452.  [Make an Illuminated Rainbow Synthesizer With an Arduino!](https://youtu.be/MONr_VLFBWg) https://youtu.be/MONr_VLFBWg This Instructable shows you how to add a high-resolution touch screen to your Arduino and make a synthesizer that controls colored LEDs! The techniques you learn here can serve as a foundation for other touch screen projects! In this Instructable, you will learn: Where..... Listed under: [LED Projects](#)
-
453.  [RGB Box Clock](https://youtu.be/7inXakX4XOs) <https://youtu.be/7inXakX4XOs> This is a clock and decorative RGB Led Matrix It's controlled by a Colorduino Shield and NodeMCU v3 Board using i2C communication. With Blynk app you can setup the alarm,change colors and other things. Parts list is: LoLin V3 NodeMcu Lua CH340G ESP8266 Board..... Listed under: [Clock – Timer Projects](#)
-
454.  [Arduino Lilypad Controlled NeoPixel Earrings](https://youtu.be/7B3Uz_2O9Rw) https://youtu.be/7B3Uz_2O9Rw Hello everyone, Don't you want to have such a nice and cool earring when you go out at night or for parties? I would like to have it, that's why I made Arduino Lilypad Controlled Neopixel Earrings. 😊 These earrings don't just light up..... Listed under: [Pinouts](#)

455.  [Control Your Model Train Layout With Your TV REMOTE!](#) In this instructable, I will show you how to make an IR remote control system for a model train. You will then be able to control your trains while relaxing on your couch. So, let's get started! Step 1: Collect All the Stuff! Here is the..... Listed under: [Motor Projects](#)
456.  [TerraDome : Mini Tropical Greenhouse With Arduino](#) TerraDome is an indoor greenhouse for plants and tropical flowers shaped octagonal dome. It is driven by an Arduino Mega that regulates temperature and lighting through different sensors and an LCD display. It also has doors to the Jurassic Park (or Jurassic World) that opens..... Listed under: [Temperature Measurement Projects](#)
457.  [Smartphone / Tab Controlled ROBOT ARM !!](#) Making ROBOT ARMs is very popular and fun among hobbyists, but it's not that easy to control a ROBOT ARM. So today we'll be making a robot arm that can be controlled using just your Android Smartphone or tablet. Good news is, you just need to..... Listed under: [Robotics – Automation Projects](#)
458.  [Riding Through Walls: Google Street View Stationary Bike Interface](#) The Riding Through Walls: Google Street View Stationary Bike Interface allows you to cycle through Google Street-View from the comfort of your living room. Using some simple electronics, an Arduino, a stationary bike, a computer, and projector or TV you can explore the world without..... Listed under: [Other Projects](#)
459.  [NeoPixel Ring Kaleidoscope](#) I am pleased to offer instructions and material files for making a LightLogo Kaleidoscope! I have been thinking about doing this for many months and finally worked out a design. If you have any improvements on this design please do share! You will need: Adafruit..... Listed under: [Other Projects](#)
460.  [Make Your Own 1D Pong Game](#) For this project I will show you how I combined an MDF board with buzzer buttons, LEDs and an Arduino Nano in order to create a 1D Pong Game that is really fun to play. Along the way I will show you how to create..... Listed under: [Game – Entertainment Projects](#)
461.  [DIY ACRYLIC INDIGO BUTTERFLY LAMP.](#) The Indigo Butterflies looks so awesome, Aren't they? Colors, Colors, Everywhere. Some are here, and some are there. Mood Lighting to be Happy, Relaxed, or Focused. In this Instructable I'll show you how I build an Acrylic LED Lamp with WS2812B addressable RGB LEDs, Acrylic Cylinder with..... Listed under: [LED Projects](#)
462.  [Arduino Serial Monitor in Tinkercad](#) Keeping track of everything going on in your program can be an uphill battle. The serial monitor is a way to listen to what's going on in your code by reporting back to the computer over the USB cable. In the Tinkercad Circuits simulator, the Serial Monitor..... Listed under: [Other Projects](#)
463.  [Arduino Word Clock Mini](#) Arduino Word Clock Mini- Anniversary Clock Relatively easy to build Word Clock using a Arduino Nano and four MAX7219 32mm Dot Matrix Display Modules Choice of styles, picture frame or Perspex cube with various base options. Specs Mini Arduino Word Clock with minute resolution of time..... Listed under: [Clock – Timer Projects](#)
464.  [Virtual Reality Flying Machine \(Arduino\)](#) This project goes through converting a hammock into a VR flying machine. We will use a VR app that is running the WRLD SDK in Unity so you can input whatever GPS coordinates you want and fly around that area in VR! This VR app..... Listed under: [GPS Based Projects](#)
465.  [OLED Tutorial | Convert SPI to I2C](#) In this tutorial, we are going to learn about OLED displays. Which can be very easily interfaced with Arduino and can display important parameters for your project, and see how to convert these screens from SPI to I2C, So let's get started! Step 1: Watch..... Listed under: [LED Projects](#)
466.  [Arduino Robot Arm](#) Arduino robot arms are among the most popular DIY projects. We decided to make ours out of recycled materials we found in our workshop. We hope you enjoy this build. <https://youtu.be/T6Tffi3uX2w> Step 1: Electronics Main components Arduino UNO3 SparkFun Servos (Generic Metal Gear) PS2 Joystick..... Listed under: [Robotics – Automation Projects](#)
467.  [Arduino-based LED "Bloody Red" Automatic Stairs](#) WHAT? Hi! I've made bleeding LED stairs! It's a new Instructables leveraging some hardware installation I had done already from a previous I'ble from mine. I made a RED animation that resembles blood drops, perfect to be activated automatic during those trick or treat moments!..... Listed under: [LED Projects](#)
468.  [Jump Sensitive Neopixel Trampoline](#) In this instructable, I will show you how to build a trampoline that changes colors whenever you jump on it! https://youtu.be/k_8mHe4OKWg Step 1: The Things You Need Materials: 3 rolls of wire, different colors, the thinner the better Solder, the thinner the better - I had..... Listed under: [Other Projects](#)
469.  [Dual Sensor Echo Locator](#) This instructable explains how to pinpoint the location of an object using an Arduino, two ultrasonic sensors, and Heron's formula for triangles. There are no moving parts. Heron's formula allows you to calculate the area of any triangle for which all sides are known. Once..... Listed under: [Sensor – Transducer – Detector Projects](#)
470.  [\(almost\) Universal MIDI SysEx CC Programmer \(and Sequencer...\)](#) In the mid eighties synths manufacturers started a "less is better" process that led to barebones synths. This allowed the reduction of costs on the manufacturer side, but made the patching process tedious if not impossible for the final user. Manufacturers themselves and third party..... Listed under: [Arduino Programmer Projects](#)
471.  [iPad Play Timer](#) I think this is a topic every parent is struggling with. How much can the kids play with their iPads (or any other tablet). We tried multiple approaches, like fixed times, but that did not really work as our kid then always wanted to go home..... Listed under: [Clock – Timer Projects](#)



489.  [Retro Arcade Clock – Arduino](#) Build an interactive arcade bedside clock, with a touchscreen, and animated arcade figures that you can record a sound of your choice for the alarm. This is an update of a previous project which now includes a 3D Printed Case and four separate programs to..... Listed under: [Clock – Timer Projects](#)



490. [DIY Smart Scale With Alarm Clock \(with Wi-Fi, ESP8266, Arduino IDE and Adafruit.io\)](#) In my previous project, I developed a smart bathroom scale with Wi-Fi. It can measure user's weight, display it locally and send it to the cloud. You can get more details about this on link below: <https://www.instructables.com/id/Wi-Fi-Smart-Scale-with-ESP8266-Arduino-IDE-Adafruit/> This solved part of my problems: how to..... Listed under: [Clock – Timer Projects](#)



491. [ARDUINO BASED OIL DISPENSER](#) we all love food isn't that right? of course yes, everyone has tried cooking once in their life, and already knows the struggle to get exact amount of oil for the perfect recipe, so here is a project which will help you get it correct, follow the..... Listed under: [Other Projects](#)



492. [How to Make a Digital Watch](#) This is the first time I am writing an Instructable so hopefully I write well enough for you to understand. Today I will be telling you how to make a digital watch from a website that I found. The website is called sainsmart.com. It was..... Listed under: [Clock – Timer Projects](#)



493. [PIR Motion Sensor With Arduino in Tinkercad](#) Let's learn to sense movement in a room with a PIR motion sensor and Arduino's digital input. We'll connect up a circuit using a breadboard and use some simple Arduino code to control a single LED. We'll use Tinkercad Circuits to simulate the circuit so..... Listed under: [Sensor – Transducer – Detector Projects](#)



494. [80s Style Melting Digital "dali" Clock](#) This Instructable shows you how to build an 80s style digital "dali" clock with melting digits. I first came across this style of clock on the Apple Macintosh back when I was a kid in the 80s. This Instructable shows my attempt to recreate the..... Listed under: [Clock – Timer Projects](#)



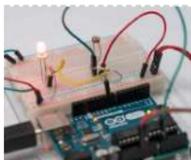
495. [DIY Wave Tank/flume Using Arduino and V-slot](#) A wave tank is a laboratory setup for observing the behavior of surface waves. The typical wave tank is a box filled with liquid, usually water, leaving open or air-filled space on top. At one end of the tank an actuator generates waves; the other..... Listed under: [Other Projects](#)



496. [IoT Split-flap Weather Forecast Powered by XOD](#) Hi everyone! In this instructable, I tell you how to make split-flap display and show the current weather conditions on it. Also how to fetch the weather information from the Web using Wi-Fi and API. I am a fan of the XOD visual programming environment. With..... Listed under: [Other Projects](#)



497. [Lightpipe 7-Segment Display](#) What if I told you that you could build a display out of shoe laces!? Well that is exactly what I've done! Building your own seven segment display is nothing new, it's a very common Arduino project, but I had an idea for this one..... Listed under: [LED Projects](#)



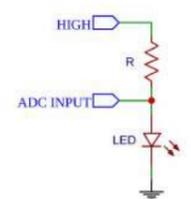
498. [Light Sensor \(Photoresistor\) With Arduino in Tinkercad](#) Let's learn how to read a photoresistor, a light-sensitive type of variable resistor, using Arduino's Analog Input. It's also called an LDR (light-dependent resistor). So far you've already learned to control LEDs with Arduino's analog output, and to read a potentiometer, which is another type of variable..... Listed under: [Sensor – Transducer – Detector Projects](#)



499. [ITTT – Sunlight Simulating Lightbox](#) I made a Sunlight simulating lightbox with a mountain village skyline, that I might upgrade to a wake-up light some time, for a school project. Step 1: Get the Supplies Supplies I used: -Arduino UNO -Neopixel ledstrip 1m, 30 leds(DC5V-W2812) -3 jumper wires -USB cable..... Listed under: [LED Projects](#)



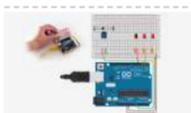
500. [*IMPROVED* Smart LED Candle: Reactive to Sound and Aesthetically Pleasing](#) Remember the "smart" LED candle from a few months ago? Well, the idea was nice, but the overall execution lacked some oomph. Technologically and aesthetically speaking there was a lot to improve. First off, as an artist, I wanted the container for the candle to look amazing..... Listed under: [Sound – Audio Projects](#)



501. [An LED You Can Blow Out Like a Candle!](#) LEDs are designed to emit light, but they also make surprisingly capable sensors. Using only an Arduino UNO, an LED and a resistor, we will build a hot LED anemometer that measures wind speed, and turns off the LED for 2 seconds when it detects..... Listed under: [LED Projects](#)



502. [Biometric Personal Diary](#) This neat little gadget has a fingerprint sensor so you can secure your cool stuff in a personalised portable case. I use to hold a diary and pen and designs for my new projects. Features a 3d printed case and uses an Arduino nano. Great..... Listed under: [Other Projects](#)



503. [TMP36 Temperature Sensor With Arduino in Tinkercad](#) In this project, you will turn the Arduino into a thermometer! Use a temperature sensor to measure your skin temperature, and register the output with three LEDs. Even though the Arduino is a digital tool, it can interpret signals from an analog input, like the..... Listed under: [Temperature Measurement Projects](#)

504. [DIY Adjustable Constant Load \(Current & Power\)](#) In this project I will show you how I combined an Arduino Nano, a current sensor, an LCD, a rotary encoder and a couple of other complementary components in order to create an adjustable constant load. It features a constant current and power mode and..... Listed



under: [Other Projects](#)

505.



[Arduino Arcade Lego Games Box](#) If you have kids, you are likely facing the same issues as we did with the Lego sets you bought for them. They assemble and play with them but after a while the sets transform into a single pile of bricks. The kids grow up..... Listed under: [Game – Entertainment Projects](#)

506.



[Ultrasonic Distance Sensor in Arduino With Tinkercad](#) Let's measure distances with an ultrasonic rangefinder (distance sensor) and Arduino's digital input. We'll connect up a circuit using a breadboard and use some simple Arduino code to control a single LED. You may have already learned to read a pushbutton and PIR motion sensor with Arduino's digital input,..... Listed under: [Sensor – Transducer – Detector Projects](#)

507.



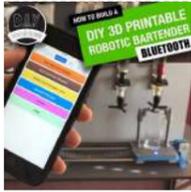
[DIY Electronic Locker Using Fingerprint Sensor](#) Bored of keeping track of countless locks and their keys? How about using your own fingerprint to unlock each and every safe in your house, just like your Smartphone? Sounds cool, right? Let's make an electronic Fingerprint locker that will keep all your secrets a..... Listed under: [Security – Safety Projects](#)

508.



[Measuring Time Period of a Pendulum Using IR Sensor](#) Calculating on paper is never an easy job. And when it comes to formulas with sub-formulas of their own, it is nothing short of a nightmare! Take the case of a simple pendulum, which has a variable with a formula of its own. What if..... Listed under: [Sensor – Transducer – Detector Projects](#)

509.



[Arduino Robotic Bartender – 3D Printable & Bluetooth](#) Build yourself a low-cost easy to assemble bluetooth controllable robotic bartender using an Arduino Uno. This easy Arduino based project can be 3D printed and is a cool Arduino project for beginners. The aim of this project was to create a bar robot that was..... Listed under: [Robotics – Automation Projects](#)

510.



[UltraV: a Portable UV-index Meter](#) Being unable to expose myself to the sun due to a dermatological problem, I used the time I would have spent on the beach to build an ultraviolet rays meter. UltraV. It is built on an Arduino Nano rev3, with an UV sensor, a DC/DC..... Listed under: [Metering – Instrument Projects](#)

511.



[LED Dancing Robots](#) I wanted to make something so I could find our camp at night at Burning Man 2018. 2018 was a robot theme and I'm a fan of neon but no way was gonna head that route so I came up with an idea about a..... Listed under: [Robotics – Automation Projects](#)

512.



[Spatial Synthesizer Kravox! Wireless, Motion- & Touch-Sensing](#) A New Kind of Instrument! invented Kravox during a research project at Lund University (Sweden) with the aim to give digital musical instrument controllers the feeling of conventional, mechanical instruments. Now I want to make Kravox accessible as a musical experimentation platform for everyone, so..... Listed under: [Wireless Projects](#)

513.



[WiFi Smart Power Strip With NodeMCU](#) This is an easy-to-do and quite cheap WiFi Smart Strip that can control 4 sockets independently from all around the world from your smartphone, tablet or computer. Everything you need is an internet connection. You can use it for christmas lights, or fan or everything..... Listed under: [Wifi - Wlan Projects](#)

514.



[Arduino LCD Stick Man Game!](#) hey there Electronic Enthusiasts! Kids, Adults, Seniors, in fact everyone loves games! so here is another Awesome Project based on Arduino, yes its a GAME, follow this pretty INSTRUCTABLE to make your own Arduino LCD Stick Man Game! Step 1: Watch the Video! <https://youtu.be/P97DJQUtKKU> Step 2: Gather..... Listed under: [LCD Projects](#)

515.



[Talking Baymax Display for a Pediatrician's Office](#) "Hello. I am Baymax, your personal healthcare companion." - Baymax At my local pediatrician's office, they have adopted an interesting strategy in an attempt to make the medical environment less stressful and more fun for kids. They have filled the entire office with movie posters..... Listed under: [Sound – Audio Projects](#)

516.



[How to Install LEDs Under a Scooter \(with Bluetooth\)](#) Join me in creating ground effect lighting for my scooter using a bluetooth microcontroller and addressable LED strip. For this project I'm recycling two bits of pixel strip leftover from my old POV bike project tutorial. These are APA102s or DotStars, but you could totally..... Listed under: [LED Projects](#)

517.



[Hearing Impaired Doorbell Room Light Hack](#) Problem: my dad is registered as deaf and my mum is hearing impaired and due to this they often find it difficult to hear the doorbell. This could be a problem suffered by many others as well. They bought a flashing light doorbell to help..... Listed under: [Sound – Audio Projects](#)

518.



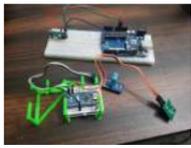
[Meet Twinky the Cutest Arduino Robot](#) Hi, In this instructable I'm going to teach you how I made my own "Jibo" but called "Twinky" I want to clear this up... THIS IS NOT A COPY! I WAS BUILDING TWINKY AND THEN I REALIZED THAT SOMETHING LIKE THIS ALREADY EXIST :c It has..... Listed under: [Robotics – Automation Projects](#)

519.



[Animated Spooky Pumpkin Eyes](#) A couple of years ago while looking for inspiration for a new animated Halloween prop we stumbled upon a video from YouTube contributor 68percentwater called Arduino Servo Pumpkin. This video was exactly what we were looking for, however, some of the details seemed to be missing. So, we decided we..... Listed under: [Other Projects](#)

520. [Autostat : a Remote Thermostat](#) The question you are probably asking is "why are you making another remote thermostat?" The answer to that question is, I had to, and the market smart thermostats are too expensive. Fair warning, this is "proof-of-concept" build that would require a few extra outputs to actually control..... Listed under: [Other Projects](#)

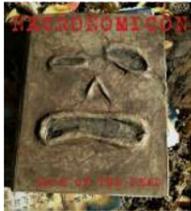


521.  [Morse Code for Kids](#). Morse code unit for kids. Variable speed and different levels. My son goes to CUBS and has a special event coming up. This event is all about communicating with other Scouts/Cubs from around the world? Via radio, also over the weekend there will be other..... Listed under: [Game – Entertainment Projects](#)

522.  [Model Railway Layout With Automated Siding](#) Making model train layouts is a great hobby, automating it will make it a lot better! Let us take a look at some of the advantages of its automation: Low-cost operation: The whole layout is controlled by an Arduino microcontroller, using an L298N motor driver, their..... Listed under: [Game – Entertainment Projects](#)

523.  [ESP32 Xiaomi Hack – Get Data Wirelessly](#) Dear friends welcome to another Instructable! Today we are going to learn how to get the data that this Xiaomi Temperature and Humidity monitor transmits using the Bluetooth functionality of the ESP32 board. As you can see, I am using an ESP32 board and a 2.8" color..... Listed under: [Wireless Projects](#)

524.  [Dropping Spider on Doorbell – Halloween Scare Prank](#) This Halloween my son Max, came up with the idea to drop a spider on anyone who tries to ring our doorbell... I immediately jumped on the idea and we started to work on it. Using a simple ultrasonic distance sensor (HC-SR04) and a servo..... Listed under: [Sound – Audio Projects](#)

525.  [Screaming Necronomicon](#) "Alright you Primitive Screwheads, listen up! You see this?" - Ash, Army of Darkness Each time an unsuspecting victim lifts the cover this disgusting book, a bloodcurdling scream pierces the air. This project uses an Arduino Uno, a light sensor and an MP3 player to bring..... Listed under: [Other Projects](#)

526.  [Realistic LED Candle](#) If you've even seen a fake candle you have probably noticed how it doesn't look realistic. Whether you're trying to add some atmosphere to a dinner or light up a jack-o-lantern, your choices are limited. A real candle has a fire hazard, but a fake..... Listed under: [LED Projects](#)

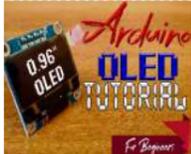
527.  [D.I.Y. SMART RGB MATRIX 8x16](#) In this project, I'll show you how to make your own 8x16 RGB LED Matrix using Arduino Uno/ Nano. An LED Matrix can show scrolling messages, display animations, music spectrum analyzer ... With integrating NodeMCU, it can be used as small screen to show weather..... Listed under: [LED Projects](#)

528.  [Frankenbot With Sound Effects and Lights](#) I was inspired by the cute Frankenbot papercraft, so I thought why not make it truly alive by giving it some blinking lights and sounds effect. Here is the plan: - Connect 2 LEDs for the eyes (different colours of course) and only one eye..... Listed under: [Sound – Audio Projects](#)

529.  [How to Use the RPLIDAR 360° Laser Scanner With Arduino](#) I'm a big fan of building sumo robots and I'm always on the look for new interesting sensors and materials to use to build a better, faster, smarter robot. I found out about the RPLIDAR A1 which you can get for \$99 at DFROBOT.com . I said..... Listed under: [Other Projects](#)

530.  [Bucky Touch: Light-up Dodecahedron Instrument](#) About two years ago, I built a big 120 face LED geodesic dome that plays music with a MIDI output. However, it was a difficult build and the sensors weren't completely reliable. I decided to build the Bucky Touch, a smaller version of my geodesic dome that..... Listed under: [Development Board – Kits Projects](#)

531.  [Charlieplexing Made Easy \(and What It Even Means?!\)](#) Charlieplexing. Aside from being a fancy word it is a technique for driving multiple LEDs with relatively few pins on a microcontroller. It allows you to drive N*(N-1) LEDs with just N pins without requiring any additional hardware, making it a quick, cheap and easy..... Listed under: [LED Projects](#)

532.  [OLED I2C DISPLAY WITH ARDUINO Tutorial](#) Hello there! Fellow electronics enthusiasts, I am quite sure we all make some or other projects, as a part of our learning experience or academics. We sure would want to display some data present on our micro-controllers, from sensors or simply display some message, so here..... Listed under: [LED Projects](#)

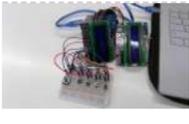
533.  [Spooky Teddy – Arduino Powered Self-rocking Chair & Rotating Head](#) Spooky teddy is a 2-part Halloween decor. The first part is the teddy bear that has a 3d printed mechanism that can rotate with an Arduino UNO and a solenoid. The second part is a self-rocking chair powered by an Arduino nano and a solenoid..... Listed under: [Game – Entertainment Projects](#)

534.  [Animated Chocolate Box \(with Arduino Uno\)](#) Once I saw a beautiful box of chocolate in a store. And the thought occurred to me to make an awesome gift out of this box - an animated box with chocolate. What we need: Clear plastic chocolate box 9V battery Battery cable adapter SD 1GB Arduino Uno TFT Shield..... Listed under: [Other Projects](#)

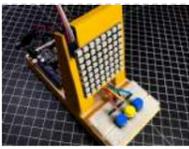
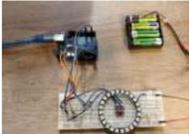
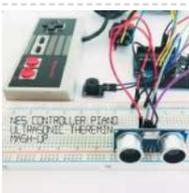
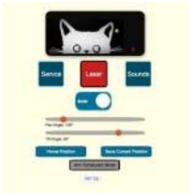
535.  [3 Simple Ways of Programming an ESP8266 12X Module](#) If you are not familiar with ESP8266 micro controller, I really feel you have been missing out! These things are incredible: they are cheap, powerful and best of all have built-in WiFi! ESP8266 started their journey out as a WiFi add on board for more..... Listed under: [Arduino Programmer Projects](#)

536. [Candy Claw Machine – Arduino Based Arcade Game](#) Eyes on the prize, Violet. Eyes on the prize! Get ready for a candy-grabbing face-off with your family and friends with this classic arcade game - the candy claw machine! But this time, it's going to be a bit different - first, it's going to..... Listed under: [Game – Entertainment Projects](#)



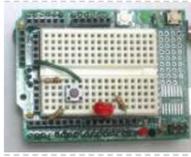
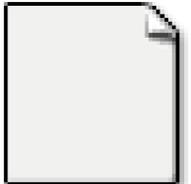
537.  [Remote Color Controlled Jack-o-Lantern](#) As usual, this Halloween I decided to create a project related to the season. Using Prusa I3 and Thingiverse, I printed a Halloween decoration where the color is controlled remotely through the Blynk project. <https://youtu.be/CpKM5cp7Rml> The Blynk project lets you create a mobile or tablet..... Listed under: [Robotics – Automation Project Ideas](#)
538.  [Arduino Zener Diode Tester](#) Zener Diode Tester is controlled by Arduino Nano. Tester measure breakdown Zener voltage for diodes from 1.8V to 48V. Dissipation power of measured diodes could be from 250mW to a few Watts. Measuring is simple, just connect diode and press button START. Arduino Nano gradually..... Listed under: [Other Projects](#)
539.  [Arduino Weathercloud Weather Station](#) I made a weather station connected to internet. It measures temperature, humidity, pressure, rainfall, wind speed, UV index and it calculates few more important meteorological values. It then sends this data to weathercloud.net, which has nice graphics and UX. It also has a weather webcam. It..... Listed under: [Other Projects](#)
540.  [Automated Train Reverse Loop Using Arduino](#) Making reverse loops can help in model train layouts to change the direction of trains, which cannot be done with turntables. In this way, you can create single-track layouts with a reverse loop on each end to run trains without any pause or interruption. So,..... Listed under: [Motor Projects](#)
541.  [Mug-O-Matic: a Modular Tiny CNC Drawing Robot!](#) Mug-O-Matic is a one of a kind DIY toy, a real 3-axis Tiny CNC drawing robot that can customize coffee mugs! This capable little robot can draw anything you want via manual control, bluetooth, calculated algorithms, or even g-code. So you can enjoy your custom mug..... Listed under: [Robotics – Automation Project Ideas](#)
542.  [How to Make an Arduino Radar](#) This is a radar, designed to detect the distance and direction an object is from the ultrasonic sensor. With the ultrasonic sensor connected to a servo, it has the ability to rotate 180 degrees, similar to a radar utilised to detect the position of planes..... Listed under: [Other Projects](#)
543.  [Arduino – Piano Tiles](#) Hello internet people, This is gonna be about how to make what DEFINITELY isn't a rip off of a mobile game on an arduino uno r3. so to start, your gonna need all the parts, which are as follows! 1x Arduino Uno r3 (\$42) 2x LCD Keypad Shield (\$19 each) 5x buttons..... Listed under: [Sound – Audio Projects](#)
544.  [Wireless Music Reactive Floor Lamps](#) In this instructable we'll be making some centrally controlled wireless RGB lamps, that responds to music and sounds in the environment! In addition to instructions, the instructable contains: Schematics List of components Link to the code so you can make and modify your own project Step 1:..... Listed under: [Wireless Projects](#)
545.  [Shoe-Mounted Running Distance Tracker](#) Since runners often need to track not only their total mileage, but also the distance run on each pair of shoes (in order to know when to replace them), this project seeks a solution to the problem of how to keep track of these numbers..... Listed under: [GPS Based Projects](#)
546.  [Interactive Cylindrical Cube](#) This is a creative cylindrical LED cube with proximity sensing by infrared led and photo-transistors. Interactive Cylindrical Cube includes: 8x8 royal blue LEDs, 12 infrared LEDs, 16 photo-transistors and all of them are bent & formed a cylindrical shape. Please see video below when this..... Listed under: [LED Projects](#)
547.  [Mini Acoustic Levitation](#) View this project on my website to see a circuit simulation and a video! Acoustic levitation is made possible through the fact that sound behaves as a wave. When two sound waves intersect each other, they can either constructively or destructively interfere with each other. (This is..... Listed under: [Sound – Audio Projects](#)
548.  [DIY Floor Cleaning Robot Using Arduino](#) While cleaning, getting to those nasty little unreachable spaces under the beds, tables, and sofas can be a big pain. Though small but smart vacuum cleaners are now out there, who wants to spend more than 500 bucks on them when you can make one..... Listed under: [Robotics – Automation Project Ideas](#)
549.  [Arduino Energy Cost Electrical Meter Device](#) Do you pay too much for your electricity bills? Do you want to know how much electricity your kettle or heater consumes? Make your own portable Energy Cost Electrical Meter! Watch how I found the use of this device. Step 1: Preparation. Tools Screws and..... Listed under: [Metering – Instrument Project Ideas](#)
550.  [Robotic E-textile](#) Hello! My name is Fiberbot, and I am so happy you are going to be making more of my friends. In this instructables you will learn exactly how to make a robot that looks just like me. I will also let you in on a..... Listed under: [Robotics – Automation Project Ideas](#)
551.  [Hey Pillow IoT Alarm](#) Know someone that constantly struggle to get out of bed, comes late to work and you are just want to give them a nudge in the morning. Now you can make your own Hey Pillow. Inside the pillow is embedded with an annoying piezo buzzer..... Listed under: [Clock – Timer Project Ideas](#)
552.  [Tchaibotsky \(a Piano Playing Robot\)](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) Tchaibotsky is an Arduino powered piano playing robot. The motivation was to build something that could accompany pianists, whether they're missing an arm and can't..... Listed under: [Robotics – Automation Project Ideas](#)

553.  [Internet Radio Using an ESP32](#) Dear friends welcome to another Instructable! Today we are going to build an Internet Radio device with a big 3.5" display using an inexpensive ESP32 board. Believe it or not, we can now build an Internet Radio in less than 10 minutes and with less than 30\$..... Listed under: [Radio Projects](#)
554.  [Control Your Model Train Layout With Your Mobile Phone!](#) Controlling a model train layout with a wired throttle and turnout controllers might be a good start for beginners but they pose a problem of non-portability. Also, the wireless controllers which come in the market can either control only some locomotives or are a bit..... Listed under: [Phone Projects](#)
555.  [Ultrasound Sensor: 2D Tracking With Arduino](#) Ultrasound ranging is a complicated task that made easy by the readily available module for Arduino. To detect or measure the distance it transmits the signal to the target and target reflects that back. Arduino measure time is taken for complete travel. As the speed..... Listed under: [Sensor – Transducer – Detector Projects](#)
556.  [Scrolling Text Display \(A to Z Guide\)](#) In this instructable / video I will guide you with step by step instructions how to make scrolling text display with Arduino. I won't be explaining how to make code for Arduino, I will show you how to use existing code. What and where you need..... Listed under: [LED Projects](#)
557.  [Matrix LED Candle Light](#) Hi, in this instructable you will learn how to build a very long lasting LED-Matrix-Candle. It looks very modern, doesn't smoke 😊 and can be reloaded with your smartphone charger. The yellow light gives you a very good expression of a real flame. To be exact..... Listed under: [LED Projects](#)
558.  [Brushless Motor Thrust Stand](#) Back in the time when I was building my Arduino based Ludwik Drone I faced a problem of choosing proper motors and propellers. I didn't know anything about drones at that time so I had to trust motor manufacturer and the datasheet of a motor..... Listed under: [Motor Projects](#)
559.  [Arduino Polygraph Machine \(Lie Detector\)](#) In this project, We'll try to get some information from the human body by using simple sensors and Arduino. You can use this information to create a lie detector machine. At the end of this article, you : Know Polygraph and basics of measuring and..... Listed under: [Sensor – Transducer – Detector Projects](#)
560.  [Bloomie-The Interactive Flowers](#) Sometimes words are not enough to share your feelings. That's when you need Bloomie! Bloomie is a product for people to share their emotions through lights. When you trigger a certain interaction, the message will be sent to the other person's Bloomie. By using Bloomie,..... Listed under: [Home Automation Projects](#)
561.  [DigiLevel – a Digital Level With Two Axes](#) The inspiration for this instructable is the DIY Digital Spirit Level found here by GreatScottLab. I liked this design, but wanted a bigger display with a more graphical interface. I also wanted better mounting options for the electronics in the case. Ultimately, I used this project to improve..... Listed under: [Battery Projects](#)
562.  [Simon & Whack-a-Mole Game Using Arduino \(also in Tinkercad\)](#) If you grew up in '80s, most likely you played an electronic toy game called Simon. In this Instructable, I will be building an Arduino kit that you can code to play Simon and other button-based games such as Whack a Mole. I developed this..... Listed under: [Game – Entertainment Projects](#)
563.  [Controlling Devices With Voice Command Using NodeMCU](#) I just want to say hello to everybody, this is my first time writing an instructable project. English is not my native language so I will try to make short and as clear as possible. Controlling devices with voice command is not a strange thing..... Listed under: [Sound – Audio Projects](#)
564.  [Glowing Ornament](#) Original glowing ornament for your Xmas tree. It's made from brass rods wired by a freeform method and contains 18 glowing LEDs. Step 1: Tools soldering ironsoldering paste0.8mm brass rod18x SMD LEDcoin batteryon/off switch Step 2: The Rings The main challenge here is to create..... Listed under: [LED Projects](#)
565.  [Bluetooth Air Horn](#) As a long time lurker I finally decided this project was worthy of a write up (also I'm killing for an instructables tshirt). I love this site and hope you enjoy this project. IMPORTANT!Just a quick heads up, there are optional steps in this build..... Listed under: [Bluetooth Projects](#)
566.  [How to Control Home Appliances With TV Remote With Timer Function](#) Even after 25 years of its introduction to consumer market, infrared communication is still very relevant in recent days. Whether it is your 55 inch 4K television or your car sound system, everything needs an IR remote controller to response to our commands. There are..... Listed under: [Clock – Timer Projects](#)
567.  [Needle-Felted Pressure Sensor](#) Create a pressure sensor using: - Needle-felted wool - Thin muslin - Velostat - Conductive thread This sensor can be used an analog input for Arduino code. Step 1: Prepare the Core Components Component 1: A felted wool ball. This can be made using unwoven..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
568.  [Arduinoflake – PCB Version](#) A few weeks ago I made a freeform Arduinoflake. Lot of you loved it. But its magic is not only being freeform but also in the pattern of the LEDs. So I decided to create a PCB version which would be really easy and cheap to..... Listed under: [Game – Entertainment Projects](#)
569.  [Simulated Sports Scoreboard](#) I am the theatrical technical director for a local high school. Their winter production was "Disney's High School Musical". During meetings with the director, he said it would be cool if he could have a scoreboard. I excitedly replied that I could make one that..... Listed under: [Game – Entertainment Projects](#)

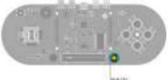
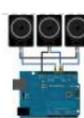
570.  [Ciclop 3d Scanner My Way Step by Step](#) I'm going to realize the famous Ciclop 3D scanner. All the step that are well explained on the original project aren't present. I made some fix to simplify the process, first I print the base, and than I restilize the PCB, but go on. Step 1: Printing and..... Listed under: [CNC Machines Projects](#)
571.  [Connect 4 Game Using Arduino and Neopixel](#) Rather than just giving an off-the-shelf toy gift, I wanted to give my nephews a unique gift that they could put together and (hopefully) enjoy. While the Arduino code for this project may be too difficult for them to understand, the basic concepts of input,..... Listed under: [Game – Entertainment Projects](#)
572.  [Controlling a Neopixel Led Ring With a Gesture Sensor](#) In this tutorial we're going to play with a gesture sensor (APDS-9960) and a neopixel ring to learn how to combine them both using an Arduino UNO. The end product will respond to left - right gestures by animating led movement right or left, and..... Listed under: [Sensor – Transducer – Detector Projects](#)
573.  [NES Controller Piano / Ultrasonic Theremin Mash-Up](#) I recently built a simple 8 key piano using an original NES controller and Arduino UNO board. Unlike conventional Arduino piano projects which require one digital pin for each key / button the NES controller piano used only three digital pins (D5 for nesClock, D6 for nesLatch, D7..... Listed under: [Sound – Audio Projects](#)
574.  [RGB One Button USB Keyboard](#) Ever felt the need to have a tiny, yet functional, RGB backlit keyboard, no bigger than the size of a single key? No? Who cares, make one anyway! This instructable will guide you through the steps you need to make your very own, slightly useless,..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
575.  [Radioactivity Counter \(IoT\) and Monitoring Eco-system](#) C-GM firmware last update on June, 10th 2019 with new 1.3 version A-GM application last update on Nov, 25th 2019 with new 1.3 version This D.I.Y low cost (50\$/43€) C-GM Counter project provides hardware and firmware for building a Geiger-Müller counter device aka G.M. counter for continuous measurement of the radioactivity level. It is based on an Arduino Nano,..... Listed under: [Sound – Audio Projects](#)
576.  [Bell Model 202 Bluetooth Telephone \(1930-2018\)](#) Using the magic of Arduino, I revived an antique Bell model 202 telephone and added Bluetooth capability to it. There are two parts to this. On one end I have an ancient phone from the 1930's. On the other end, I have one of a..... Listed under: [Bluetooth Projects](#)
577.  [LaserKitty!!](#) It is a truth universally acknowledged that a single cat in possession of good fortune must be in want of a laser toy. As with single gentlemen in want of future wives, some precautions must be observed. But is that not true of anything really..... Listed under: [Other Projects](#)
578.  [Use Your NES Controller As On/Off Switch for Lights.](#) Turn your NES controller's START BUTTON into an ON/OFF switch for lights with this Instructable - Other versions I have seen either gut or modify the electronics but in this project the electronics are intact so the controller can be used for retro gaming after the lights go out... I..... Listed under: [LED Projects](#)
579.  [Escape Robot : RC Car for an Escape Game](#) The main purpose of this project was to build a robot that would differentiate itself from already existing robots, and that could be used in a real and innovative area. Based on personal experience, it was decided to build a car-shaped robot that would be..... Listed under: [Robotics – Automation Projects](#)
580.  ["Wooden" Desktop Clock *Modern Looking*](#) Hi everyone, this is my second instructable! This time we are going to build a wooden clock with temperature and humidity display. Like shown in the picture, our the time will be displayed through the "wood". Since light isn't strong enough to pass a piece of..... Listed under: [Clock – Timer Projects](#)
581.  [Spaceship Control Panel – Laser Cut Arduino Toy.](#) A few months ago I decided to become a member of the local maker space, since I've been wanting to learn the tools of the maker trade for ages. I had a tiny bit of Arduino experience and a had taken a Fusion-course here on Instructables..... Listed under: [Game – Entertainment Projects](#)
582.  [RUMI the LineFollowing Robot](#) I made this project in collaboration with Ruben Says, for our studies in electromechanics at the HoGent. The assignment was to make a line follower robot, which is a little cart that by using its sensors is able to follow a black line on a..... Listed under: [Robotics – Automation Projects](#)
583.  [Chord Displaying Smart Guitar](#) I am an Electronics engineer by profession and a guitarist by hobby. I wanted to make a guitar which can itself show the beginner guitarist how to play the chords by displaying it on the fret board. So I decided to modify my acoustic guitar..... Listed under: [Sound – Audio Projects](#)
584.  [Brew|LOGIC – Bluetooth Enabled Arduino Brewing Controller](#) Brewing beer has become a worldwide phenomenon. Beer and wine is being crafted in ordinary kitchens in every corner of the world. One phrase that you may hear from your fellow homebrewer is "From Grain to Glass", which refers to the process of making beer..... Listed under: [Bluetooth Projects](#)
585. [Moving and Talking Giant Lego Hulk MiniFig \(10:1 Scale\)](#) I've always played with legos as a kid, but I didn't have any of the 'fancy' legos, just classic lego bricks. I'm also a huge fan of the Marvel Cinematic Universe (MCU) and my favourite character is Hulk. So why not combine the two, and..... Listed under: [Robotics –](#)



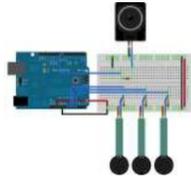
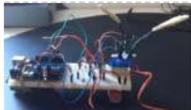
[Automation Projects](#)

586.  [Lego Mini Memory Game](#) A year or so ago, I wrote up an Instructable about installing a bunch of LEDs in a Lego Mini Cooper. The innovation, such as it was, was that the LEDs could be controlled with a smartphone (or through any web browser, for that matter). As I..... Listed under: [Game – Entertainment Projects](#)
587.  [Light Sensing LEDs using Arduino](#) I was recently reserching on LEDs and I stumbled upon this page as I read it I found that LEDs are not just used to emit light but the also have the ability to sense light.At first using LED as light sensor sounds complicated but..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
588.  [Physical Pixel using Arduino](#) This example example uses the Arduino board to receive data from the computer. The Arduino boards turns on an LED when it receives the character 'H', and turns off the LED when it receives the character 'L'. The data can be sent from the Arduino..... Listed under: [LED Projects](#), [Projects](#)
589.  [Arduino ProtoShield from Household Items](#) I love my Arduino. It got me into, and hooked on, microcontroller programming. I also like the expandability that shields provide. My Arduino can be a GPS Locator one minute, and be connected to the web the next. There's also a kit that lets you..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
590.  [SensoDuino: Turn Your Android Phone into a Wireless Sensors Hub for Arduino](#) UPDATES Nov 23, 2013: SensoDuino 0.160 gets a face left. Nov 19, 2031: OPINION: The Amazing Synergy Between Arduino & Android. Nov 19, 2013: SensoDuino 0.159 is out. Android phone date (y,m,d) and time (h,m,s) are supported as sensors. Support for Android KitKat (4.4/API 19). INTRODUCTION Think of SensoDuino as..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)
591.  [Sleep n' Tweet using an Arduino](#) Now I am lucky enough to work at the greatest company in the world as a University of Waterloo, co-op student. It might not even be a company you've heard of yet. They're named Upverter and we are trying to change the way people design,..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
592.  [Anti-Sunflower – Points to Your Darkness!](#) Since childhood, I always wanted to try my hands on electronics. Recently I bought the Arduino and started exploring it. In this process, I got to know more about Light Dependent Resistors (LDR). Somehow, I stumble across this idea. Basically, it's an electric sunflower which..... Listed under: [Home Automation Projects](#)
593.  [Mint-Sized Success Meter \(quit smoking!\) with Arduino](#) There comes a time in life to put childish things behind and give up nasty habits. Some, like smoking, can be damn hard without constant encouragement. It was time for me to combine my favorite hobby with my driving goal and make this: The Quit..... Listed under: [Ideas](#), [Medical – Health based Project Ideas](#), [Metering – Instrument Project Ideas](#)
594.  [Honey Bee Counter using Arduino](#) Where the honeybee's division of labor has stayed on a steady progression for 25 million years... our human superorganism has grown more complex and in all directions... hence the bee counter... By: thomashudson.org Live data from - June 25, 2012 I've moved away from live..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
595.  [NRF24 Two-Way Radio for Telemetry](#) Hi guys, my name is Pedro Castelani and I'm bringing you my first instructable: building a two way radio with arduino for, well, whatever you need it for. In this project, we will make two seperate circuits which will act as both reciever and transmitter..... Listed under: [Radio Projects](#)
596.  [Arduino Snail Mail Notifier](#) My mailbox is across the street from my house because our mailmen don't walk door-to-door, so I never know when the mail is delivered. Sometimes, I'm waiting for something and I'd really like to know when it arrives. I got my first Arduino last week,..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
597.  [Slipper Shining with LED strip & Xadow](#) mo.momi Led strips are amazing! Firewalker-led-sneakers(<http://learn.adafruit.com/firewalker-led-sneakers>) by Adafruit inspired me. I wanna change a way to control it, instead of "pressure-sensitive", I use a accelerometer sensor judging the motion of slipper. It's simple, I complete this version only calculating the acceleration on "z" axis, weather..... Listed under: [LED Projects](#)
598.  [Arduino CNC Plotter \(DRAWING MACHINE\)](#) Hey guys! I Hope you already enjoyed my previous instructable "How to make your own Arduino training platform" and you are ready for a new one, as usual I made this tutorial to guide you step by step while making this kind of super amazing..... Listed under: [CNC Machines Projects](#)
599.  [YouTube Desktop Notifier](#) Do you get nightmares of losing your YouTube Subscribers? If you do, you are not the only one. <https://youtu.be/ITi9ToWFHck> Luckily I have made this "YouTube Desktop Notifier" to keep me up-to-date with my channels Subscriber and

View Counts. This very simple DIY project cost me..... Listed under: [Video – Camera – Imaging Projects](#)

600.  [Arduino Esplora Blink Code](#) This sketch blinks the Esplora's RGB LED. It goes through all three primary colors (red, green, blue), then it combines them for secondary colors(yellow, cyan, magenta), then it turns on all the colors to create white. For best results, cover the LED with a piece..... Listed under: [LED Projects](#), [Projects](#)
601.  [Analog Input using Arduino](#) A potentiometer is a simple knob that provides a variable resistance, which you can read into the Arduino board as an analog value. In this example, you'll connect a poterntiometer to one of the Arduino's analog inputs to control the rate at which the built-in..... Listed under: [Projects](#), [PWM Projects](#)
602.  [3 Amazing BRAIN / MIND Control Projects Lights LedStrip LED With Arduino and Neurosky](#) <https://youtu.be/kbziDT0Aby8> Have you ever wanted to turn the lights ON or OFF just by thinking about it? Or do you want to know how stressed you are by looking at the color of a RGB led? While now you can by following this Instructables! To..... Listed under: [LED Projects](#)
603.  [Yoga Breathalyzer](#) The yoga breathalyzer is a breath visualization tool to help you understand and get in touch with your breathing. Breath is the basis of yoga and meditation, and this biofeedback tool is one way to develop a deeper understanding of your own breath. Using Arduino,..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
604.  [Arduino LED Button Pad That Drives Processing Animations](#) WhatThis button pad is made using a PCB and other components manufactured by Sparkfun. It is driven by an Arduino Mega. Each button is nice and squishy and satisfying to press, and it has an RGB LED inside! I've been using it to control animations..... Listed under: [LED Projects](#)
605.  [Sonic Switch: Use a Sonic Screwdriver to turn on your computer!](#) What it is: An Arduino-based light-sensitive switch for turning on a desktop computer. Why its cool: Use a Sonic Screwdriver to turn on your computer! Story: This project started, as I'm sure a lot of them do, as a result of boredom and the thought..... Listed under: [RTOS – OS Projects](#)
606.  [Arduino and 7 segment LED display decoder](#) In this instructable i will explain how to connect 7 segment display, decoder and arduino. It's pretty easy. At first we have to learn something about decoder. I'm using BCD to 7 segment decoder. My is D147D, this is old chip, but the newer are..... Listed under: [LED Projects](#), [Projects](#)
607.  [Smartphone Controlled Bubble Blower Using Arduino](#) Whether you're already a kid or not; you are going to become one as soon you see bubbles floating around you! You'll be lying if you say that you don't pop one on seeing one! Alas, everything isn't the same for the one who's blowing..... Listed under: [Phone Projects](#)
608.  [Pixel Shipped Counter](#) Many times, we often use LCD as display equipment, from tiny temperature monitors to large industrial equipment. The funny thing in this project is that it combines two Red LED Matrices as display. You don't need other devices except Arduino to drive it. This project..... Listed under: [Calculator Projects](#)
609.  [Coffee-Art Project](#) Well, hello there! My name is Manou and this is my very first instructable. This instructable is all about making a mechanic arm with an arduino genuino uno! This all started with this basic idea: I wanted to make a robot that made art and..... Listed under: [Home Automation Projects](#)
610.  [Capacitive Touch Arduino Lamp](#) The Problem It is late night, and your cellphone rings. You can't see where it is, you blindly grope around your nightstand, trying in vain to find that illusive switch that will illuminate your side of the bed. You clumsily turn on the lamp, locate..... Listed under: [Home Automation Projects](#), [Projects](#)
611.  [SPlaying tones on Multiple outputs using the tone\(\) function with Arduino](#) This example shows how to use the tone() command to play different notes on multiple outputs. The tone() command works by taking over one of the Atmega's internal timers, setting it to the frequency you want, and using the timer to pulse an output pin..... Listed under: [Projects](#), [Sound – Audio Projects](#)
612.  [Pokemon Elemental Arcade \(Mini Game\)](#) This project started as I had to create a project for the HKU with an arduino. It had to be something which would be either entertaining or solving a certain problem. For which I chose to pick the entertaining part. In the end combining multiple..... Listed under: [Game – Entertainment Projects](#)
613.  [Button State Change Detection using Arduino](#) Once you've got a pushbutton working, you often want to do some action based on how many times the button is pushed. To do this, you need to know when the button changes state from off to on, and count how many times this change of state..... Listed under: [Calculator Projects](#), [Projects](#)
614.  [Redefining the TV Remote using Arduino](#) We use them every day, but has no one got bored of pressing buttons on a stick, it's far too much effort pressing buttons! Surely there are better ways to control a device? After doing some work with my Nikon camera using IR to control..... Listed under: [Home Automation Projects](#), [Projects](#)
615.  [Digital Treasure Chest](#) I study Game and Interaction technology at Utrecht University of the Arts. There is one project called "If this then that" where you're asked to build an interactive product. You are to use an Arduino, design an interesting interactive element and build a nice and..... Listed under: [LED Projects](#)
616. [How to make a Ball Balancing Robot](#) Last year, I have made this ball balancing robot.It can stand on a ball stable by the balance system of itself. There is only one connect point between the robot and the ground, so it is more flexible than the traditional wheeled robot. It can..... Listed under: [Robotics – Automation Projects](#)



617.  [Using FM RC Controllers using an Arduino](#) I recently dug up my old RC transmitter and receiver and thought "How can i control my arduino with this?" so i powered on my scope to see what was going on at the receiver. Sure enough, it was sending out the standard PWM signal that servos..... Listed under: [Projects](#), [Radio Projects](#)
618.  [Simple keyboard using the tone\(\) function using Arduino](#) This example shows how to use the tone() command to generate different pitches depending on which sensor is pressed. Circuit Connect one terminal of your speaker to digital pin 8 through a 100 ohm resistor, and its other terminal to ground. Power your three FSRs (or..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Sound – Audio Projects](#)
619.  [Music Box With Mini Monitor\(OLED\) and LED](#) My idea was a box that would play music when you open it. It also has a display with an emoji on it that awakes, greeting you. There is also a LED in it that lights up if you hold the Force-sensitive resistor squeezed between..... Listed under: [LED Projects](#), [Medical – Health based Project Ideas](#)
620.  [Accessing 5 buttons through 1 Arduino pin](#) I made the original Instructible that this is based on over a year ago (You can see it here to see some of the theory around how this works:<http://www.instructables.com/id/How-to-access-5-buttons-through-1-Arduino-input>). To make a long story short, I moved to a different country a few weeks..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
621.  [Web Controlled Arduino LED](#) This instructable shows you how to build a Web-enabled tri-color LED based on an Arduino and the WIZnet Ethernet shield, controllable from any Web browser . Check the live demo at <http://try.yaler.net/~arduino/led> Because the LED is exposed through a simple RESTful web service running on..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
622.  [Interactive Glowing Mushrooms](#) <https://youtu.be/z1V3YJo0Cwk> This instructable will show you how to make mushrooms that will glow in the dark. You can turn individual mushrooms off and on again by pressing the top. I started this project for a school assignment where we had to create something using the..... Listed under: [Other Projects](#)
623.  [Arduino Powered Nixie Tubes: ArduiNIX Nixie driver shield assembly](#) www.ArduiNIX.com presents: ArduiNIX Nixie driver shield assembly The ArduiNIX shield is a user programmable platform for driving multiplexed Nixie tube or other high voltage displays**. The ArduiNIX is open source hardware Welcome to the assembly portion of the site. Here we will take you step by..... Listed under: [LED Projects](#)
624.  [LED Show 2 using Arduino Esplora](#) This example shows you how to read different analog sensors to change the brightness of the three colors in the RGB LED. In this example you will read the amplitude from the microphone, the amount of light on the light sensor, and the position of..... Listed under: [LED Projects](#), [Projects](#)
625.  [Infinite Disco](#) In this project, I made an infinity mirror based on a dodecahedron that reacts to sound . Step 1: Materials Essential materials: Arduino Uno3mm thick 100x50cm MDF2mm thick 100x50cm plexiglass3 meter WS2812B LEDstrip 60 LEDs/mSound Detection Sensor Module 3-PINThin electric wire (10ish meter total)BreadboardPerfboard/stripboardSimple rectangular..... Listed under: [LED Projects](#)
626.  [Arduino light seeker](#) First of all, I'm from Switzerland so please excuse my english mistakes. Here is one of my first little project I did with my Arduino Uno. It's is just a little light seeker. The servo turns towards the light. Step 1: The wiring Here is..... Listed under: [Ideas](#), [Other Project Ideas](#)
627.  [The MicroSlice | A tiny Arduino laser cutter](#) A few years ago I saw an Instructable where Groover had used a pair of DVD-RW drives to make a pocket laser engraver. Inspired by the idea, driven by the recent purchase of a full-sized 50 watt CO2 laser cutter, and roused by the launch of the Microcontroller contest I took..... Listed under: [CNC Machines Projects](#)
628.  [Arduino Trumpet](#) This project emulates a trumpet by playing notes using the three buttons (valves). This is easy to make and fun to play with, though it can only play one octave and no sharps/flats. Step 1: Code Load this into your Arduino: int speaker = 9;..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
629.  [Wally – IR Detection Robot using Arduino](#) My First ever Robot. It tracks objects using Infra-red sensors, and has basic AI that follows and avoid objects. I will describe the how I made this robot, and upload some videos. Version 1 (16 Dec 2011): —————The components used ————— I actually planned this..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
630.  [Secret Compartment Chess Set](#) I play chess pretty poorly and have always wanted to get better, but I don't even own a chess set. I decided I wanted to make my own set, but with a twist. I have made a chess board with a secret drawer that is..... Listed under: [Game – Entertainment Projects](#)
631. [Arduino Projects on a breadboard \(no serial com\)](#) Intro: If you've got an Arduino Uno and want to start duplicating projects without having to buy an Uno every time... get ready to live! This instructable will show you how to move your projects (that do not require serial communication) onto a breadboard for..... Listed



under: [Development Board – Kits Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)

632.



[Arduino Prototyping Shield on the cheap](#) Breadboards are very handy, but sometimes I just want to connect one IC or some LEDs and resistors to the controller. My simple solution was to cannibalize a cheap Breadboard to get two expandable PrototypingShields with some additional features. What I used: Breadboard (~3\$) 2..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)

633.



[Clapper LED Candle](#) Three years ago I saw "My New Flame" by MORITZ WALDEMEYER, INGO MAURER UND TEAM 2012 at the museum gift shop, and feel in love with the idea. I hoped to recreate something mesmerizing, enjoyable, functional and interesting to watch, but with a slight twist. I certainly couldn't..... Listed under: [LED Projects](#)

634.



[Automatic Camera Shutter Switch](#) The best part of haunted houses and amusement park rides is getting to see pictures of your friends screaming in terror. To get these kinds of pictures requires perfect timing. The best way to get this is with an electronic control circuit. So in this..... Listed under: [Video – Camera – Imaging Projects](#)

635.



[Interfacing Any Arduino With a Cellphone](#) When using an Arduino, it may result quite annoying to not be able to use it just because you do not have a computer available. Maybe the Windows or Mac OS isn't compatible, you don't have any computer at all or you just want more..... Listed under: [Phone Projects](#)

636.



[No-Solder Arduino Breadboard Shield](#) The goal of this instructable is to make a no solder arduino breadboard shield like this one: Step 1: You will need Parts list: Super glue*Mini breadboard size 4.5x3.5 cmArduino pin headers** * Hot glue wont cut it** Normal female pin headers can also..... Listed under: [Development Board – Kits Project Ideas](#), [Ideas](#)

637.



[Tweety Button using Arduino](#) Welcome to my first Instructable! This is for something I've coined the "Tweety" or, Tweety-Button. The concept is simple, you're on your computer and the inspiration to Tweet is welling up inside. Chrome is being slow today, and you want to get those 140 characters..... Listed under: [Ideas](#), [Radio Project Ideas](#)

638.



[Solar Powered WiFi Weather Station V2.0](#) This Instructable is a continuation of my earlier weather station project. It was quite popular on the web, people around the globe made their own by following it and given valuable feedback for improvement. By taking consideration of the comments and Q&A section of my earlier project,..... Listed under: [Solar energy_project Ideas](#)

639.



[Timelapse Panning controller for GoPro Cameras](#) This instructible will show you how I built (and you can also build) an Arduino Timelapse Panning controller for GoPro cameras. There are obviously some refinements that can be made to the design, but in general I am very happy with the results that I've..... Listed under: [Video – Camera – Imaging Projects](#)

640.



[Wii Nunchuck as general purpose controller via Arduino board](#) Background: I made a self-balancing electric skateboard which is steered using a Wii Nunchuck by either using the thumb joystick on the top or by tilting it left or right, depending on which of the two buttons on the end are being pressed. A simplified..... Listed under: [Ideas](#), [Other Project Ideas](#)

641.



[Interactive Touchless Light](#) Hi everyone! I'd like to share the project I have been working on here. I got inspired to experiment with capacitive touch sensing through a project in my university. I found out about this technology through instructables and used the things I learned here and..... Listed under: [LED Projects](#)

642.



[High-Low Binary LED Arduino Game](#) This is a pretty simple game: The Arduino shows a number in binary on the green LEDs. You then guess whether your green number is bigger than the computer's number. The Arduino shows its number on the red LEDs. If you were right, you will..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)

643.



[Pong Playing Flexible Screen on a Shirt](#) This is my Halloween costume for the year 2013. It's been in the works for about a year and has taken quite a few man hours to create. The screen is 14 by 15 pixels, so, pretty low resolution but it can still do some..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#)

644.



[Arduino Flash game streamer](#) its a simple project that uses the a ethernet shield server to give a advanst web page with flash games on it. Step 2: The code::: you can download this code at the end: load up the ethernet server example and delete the code for..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

645.

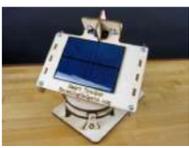
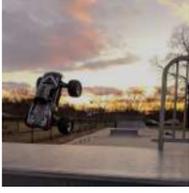


[Handheld Gaming Console | Arduboy Clone](#) A few months ago I came across Arduboy which according to its official website is a miniature 8-bit game platform that makes it easy to learn, share and play games online. It is an open source platform. The games for the Arduboy are made by the users..... Listed under: [Game – Entertainment Projects](#)

646.



[Arduino Bracket](#) When you are tinkering around with your Arduino and a breadboard you might want to make yourself an "Arduino Bracket". Nothing more than header pins and a piece of wire, the "Arduino Bracket" keeps wiring neat and tidy, and lets you easily disconnect your Arduino..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)

647.  [Dual Axis Tracker V2.0](#) Way back in the year 2015 we designed a Simple Dual Axis Tracker for use as a fun student or hobby project. It was small, noisy, a little complicated, and provoked a lot of really weird community comments. That being said, three and a half years later..... Listed under: [Security – Safety Projects](#)
648.  [Sky on the Wall \(Mood Lighting-IR remote\)](#) I love LED and stars, and after saw another instructables about star constellation and some mood lighting that was very inspired and I decided I wanted to take that idea and want to create some mood lighting with some skies component such as stars, and..... Listed under: [Home Automation Projects](#), [LED Projects](#)
649.  [3x3x3 LED PVC Light Cube using Arduino](#) This 3X3X3 ft. LED PVC cube is the ultimate in mood light fun! An LED (light emitting diode) will burn longer than traditional bulbs so that you can enjoy your giant light for a LONG LONG time. Build it and see! Step 1: WARNING!!! THIS PROJECT..... Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
650.  [Punch Activated Mario Question Block Lamp](#) The Super Mario games were my childhood. I've always wanted to have some of the props in the games, and now that I have the tools to do it, I decided to start making them. The first up of that on my list is the..... Listed under: [LED Projects](#)
651.  [Frameless Laser Harp](#) We are a generation that love sound and light – can't do without them really. Our most preferred time of day is night, or what we would call evening. We are particularly well acquainted with technology; doesn't hurt these days. Our prerequisite for everything is..... Listed under: [Game – Entertainment Project Ideas](#), [LED Projects](#)
652.  [Battery Reconditioner using an Arduino](#) So if you are like this Lazy Old Geek, you have a lot of rechargeable batteries lying around. I wrote another Instructable with some battery tips. <http://www.instructables.com/id/Rechargeable-Battery-Tips/> Amongst these batteries, I have a lot that no longer work or don't work very well. So I..... Listed under: [Battery Projects](#), [Projects](#)
653.  [Pitch follower using the tone\(\) function using Arduino](#) This example shows how to use the tone() command to generate a pitch that follows the values of an analog input Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 9 through a..... Listed under: [Projects](#), [Sound – Audio Projects](#)
654.  [Arduino Chessclock](#) I could not find instructions on a good Arduino chess clock so instead I built my own which I will describe here. Step 1: Parts list [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 " radius="20 " border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] here are the..... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#)
655.  [A New Way to Arduino Control an RC Car](#) I've done some work with Arduino controlled cars, but the ones I've worked on have always been slow and methodical. This is great when learning arduino, but I wanted something a bit more...fun. Enter the RC car. RC cars are literally designed to be as..... Listed under: [Car Projects](#)
656.  [Laser Triggered Countdown](#) This is a simple arduino based project that consists of a laser tripwire that, when triggered, will begin a countdown sequence on red, orange and green LEDs. I designed this to be an easy project for someone learning how arduinos work (like me). This is..... Listed under: [Calculator Projects](#), [LED Projects](#)
657.  [Smart Heart Monitor](#) No longer will you have to pay hundreds of dollars for a heart rate monitor! The Smart Heart Monitor will be able to do all of your cardiac measuring needs for you! The Smart Heart Monitor measures the user's heartbeat using an LED and a..... Listed under: [Medical – Health based Projects](#)
658.  [ESP8266 VGA Pong](#) In this Instructables I will show how to build a reproduction of the the classic game Pong for a VGA monitor, using a ESP8266 and few other components. This game is made possible by the EspVGAX library recently published on GitHub by Sandro Maffiodo (aka Smaffer) and, as far as I know, this is the first..... Listed under: [Game – Entertainment Projects](#)
659.  [Functional Lit Costume Goggles for Mr Freeze](#) Egads! LED Goggles you can see through (surprisingly well, too)! They pulse subtly, making them so cold and dehumanizing. They were totally perfect for the character I was going after - Mr Freeze. It was my first time really playing with LEDs and Arduinos, so..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
660.  [Basic Arduino Tutorials : 01 Blinking LED](#) In this instructable, I'm going to show you how to make a simple circuit/code with an arduino, which will make an LED connected to it flash from off to on, with 1-second intervals, as shown below. This is a very easy, basic idea, however it..... Listed under: [LED Projects](#)
661.  [WIRE CUTTING MACHINE](#) Hello friends I have made a Automatic wire cutting machine using Arduino nano controller board. Basically there are 3 process level of this machine like 1) first process is Input Input like wire length and wire quantity provided by pressing push button also the real..... Listed under: [Motor Projects](#)
662. [How to make a runaway cookie box using Arduino](#) Eat too many cookies? These are some guidelines for how you can add a few security features to an ordinary box of cookies - or at least have a fun toy. The runaway cookie box will roll away when objects approach it and sound an..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)



663. [Phone Controlled Mood Lighting](#) Dorm rooms are notorious for their dreadful lighting, so I wanted to make a cool alternative light source for my room at school. I made it phone controlled so there would be an easy and wireless way to change the color of the lighting. The..... Listed under: [LED Projects](#), [Phone Projects](#)



664. [Smartphone Controlled RC Car Using Arduino](#) This Instructable shows how to make a Smartphone controlled Arduino Robot Car. Update on 25th Oct 2016 Step 1: Youtube Video Link <https://youtu.be/cC2crT941wQ> Step 2: Parts and Tools Required 1. 4WD Robot Chassis kit2. Arduino Uno 3. LM298 H bridge Module 4. Bluetooth Module HC-05..... Listed under: [Phone Projects](#)



665. [The Twittering Office Chair using Arduino](#) The Twittering office chair "tweets" (posts a Twitter update) upon the detection of natural gas such as that produced by human flatulence. This is part of my commitment to accurately document and share my life as it happens. For more in depth theory, please see..... Listed under: [How To - DIY - Project Ideas](#), [Ideas](#)



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



667. [Arduino controlled automated blinds with Web UI](#) This instructable is a detailed guide on how to build an automated controller to run a motor that can operate the opening and closing of blinds. The controller enables the blinds to open and close based on a schedule, room temperature and out door luminosity..... Listed under: [Ideas](#), [Internet - Ethernet - LAN Project Ideas](#)



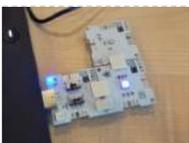
668. [Sensor Stations Network for Lighting and Security Control](#) With this sensor stations network configured in a master/slave mode, you will be able to do lighting and security control in your home. These sensor stations (Node01, Node02 in this project) are connected to a master station (Node00) connected to your local wifi network. I..... Listed under: [Security - Safety Projects](#)



669. [Fix a fried Arduino Mega](#) Sometimes you may do something stupid, other times it is totally inexplicable but as a result of whatever events, the green power light on your Arduino stopped coming on. In my case it turned out to be a burned out voltage regulator. This inscrutable is..... Listed under: [Ideas](#), [Interfacing\(USB - RS232 - I2c -ISP\) Project Ideas](#)



670. [RGB Temperature Indicator \(with XinaBox\)](#) This is officially my first Instructables article, so I'm going to admit that I am using this opportunity right now to try it out. Get a feel of how the platform works, the whole user experience side of it. But while I am doing that,..... Listed under: [Temperature Measurement Project Ideas](#)



671. [Accelerometer Dice with 123D Circuits](#) This is the project that got Autodesk's CEO Carl Bass a little extra attention from the TSA on his way to MakerFaire Tokyo. Here's an article about that... We made this as way to demo a few things you can do with our apps, 123D Circuits and 123D Design : Design..... Listed under: [LCD Projects](#), [Metering - Instrument Projects](#)



672. [Temperature-controlled USB fan using Arduino](#) As summer is coming, I bought a USB fan from HuaQiangBei, Shenzhen. However, when I focus myself on work(or game), I could hardly notice its existence. If I can teach it how to think and execute its duty without my order, that will be more..... Listed under: [Ideas](#), [Interfacing\(USB - RS232 - I2c -ISP\) Project Ideas](#), [Temperature Measurement Project Ideas](#)



673. [LED Jigsaw Puzzle Light \(Acrylic Laser Cut\)](#) I have always enjoyed the various acrylic laser-cut night lights that others have made. Thinking more about these I thought that it would be great if the night light could also double as a form of entertainment. With this in mind I decided to create..... Listed under: [LED Projects](#)



674. [Time Delay Lock Box](#) Note from the author: In an effort to get this ready in time for the safe and secure challenge, I have had to make a few compromises to my box, but that doesn't mean you have to! I have left my original ambitions in the..... Listed under: [Clock - Timer Projects](#)



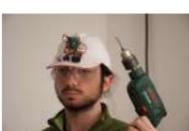
675. [Better LED as light sensor](#) As a result of the questions from lekirst on this ible of my hand: [LED-as-lightsensor-on-the-arduino/](#) and the cleaner code made by hansc44 at: [Arduino-Use-LED-as-a-light-sensor/](#) it was time to come with a better ible. So here it is. (I didn't solve lekirst's problems yet so she probably is open for suggestions) What is..... Listed under: [LED Projects](#), [Sensor - Transducer - Detector Projects](#)

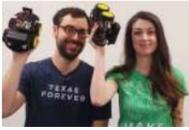
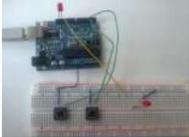
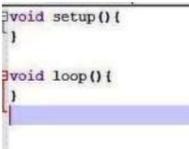


676. [Arduino Mega-ISP Shield](#) Use this shield to re-burn the bootloader for any arduino. You can always make one on a breadboard, but having a shield is great. This is great for people who works with lots of arduinos. You can also use it with AVRDUDE. I will have..... Listed under: [Interfacing\(USB - RS232 - I2c -ISP\) Projects](#), [Projects](#)

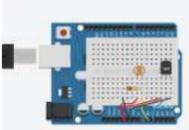
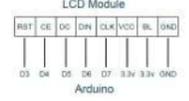
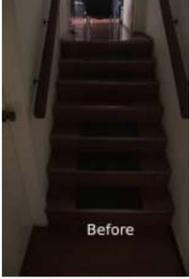


677. [Eye Guardian: Sound Triggered Eye Protection](#) Eye Guardian is an Arduino powered, High-Decibel continuous sound triggered eye protection wear. It detects heavy equipment sound and lowers protective eye goggles while the equipment is in use. Outline In the first step, I will explain the Inspiration&Idea behind this project. Next, I will..... Listed under: [Sound - Audio Project Ideas](#)

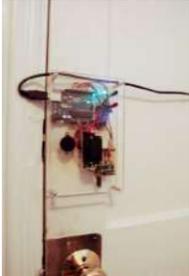
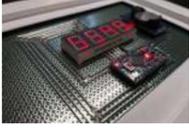


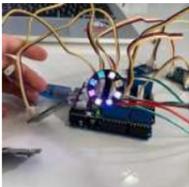
678.  [DIY Mario Kart Balloon Battle Robots](#) There are some projects where you make a functional thing or practical thing. There are some projects where you make a beautiful thing. And then there are projects like this where you decide to slap a razor blade and balloon on some robots and battle..... Listed under: [Robotics – Automation Projects](#)
679.  [5X5 dot matrix on Arduino](#) With this you just type the text you want on your computer and your 5x5 dot matrix shows the message. Used: ~25 leds ~Arduino uno ~5x 100ohm resistor ~and a bit of scripting It took me a while to figure this all out but in..... Listed under: [LED Projects, Projects](#)
680.  [Arduino Noise Machine Jacket](#) As a project for one of my college classes, we were asked to create something using the Arduino. After a few different ideas, I settled on putting an Arduino noise machine into a suit jacket. It uses parts of the jacket to make function, so..... Listed under: [Home Automation Project Ideas, Ideas, Sound – Audio Project Ideas](#)
681.  [Valentines PCB Heart](#) With Valentines Day approaching I thought it would be nice to make a project for the people who are special in my life; I thought the people of instructables would probably like it too! I've designed a ~100mm x 100mm or ~4in x 4in PCB..... Listed under: [LED Projects](#)
682.  [Input Pullup Serial using Arduino](#) This example demonstrates the use of INPUT_PULLUP with pinMode(). It monitors the state of a switch by establishing serial communication between your Arduino and your computer over USB. Additionally, when the input is HIGH, the onboard LED attached to pin 13 will turn on; when LOW, the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas, Projects](#)
683.  [The Ultimate Light Switch](#) The goal of this instructable is to explain how I made a wifi-connected light switch (also called remotes further). The goal of these remotes is to turn on and off several wifi-connected relays. The relays are not explained in this instructable. They are explained in..... Listed under: [LED Projects](#)
684.  [Self Sufficient Arduino Board](#) This is a self sufficient Arduino board, which is powered by harnessing solar power and using a 9V rechargeable battery. It is perfect for anyone who is interested in doing Arduino projects that do not require a computer or any power supply. You can take..... Listed under: [Development Board – Kits Project Ideas, Ideas](#)
685.  [Arduino PWM enabled high power shield or non-shield on the cheap](#) Micro controllers are great, but have you ever wanted to control something bigger then, lets say an LED? If you have, look no further (unless you want more then 0.6Amps for 4 channels, or 2.4Amps for 1 channel), unless you don't mind spending more money..... Listed under: [PWM Projects](#)
686.  [Joy Slippers Version 2 using Arduino](#) These slippers have 4 analog pressure sensors embedded. They can be used to feed Up, Down, Left and Right values into your computer replacing your mouse, joystick... Visit the JoySlippers website >> <http://www.joyslippers.plusea.at/> This Instructable improves upon the previous version <http://www.instructables.com/id/Joy-Slippers/>. It will show you..... Listed under: [Game – Entertainment Project Ideas, Ideas](#)
687.  [Easy Very Low Power BLE in Arduino Part 3 – Nano V2 Replacement – Rev 3](#) Update: 7th April 2019 – Rev 3 of Ip_BLE_TempHumidity, adds Date/Time plots, using pfoApp V3.0.362+, and auto throttling when sending dataUpdate: 24th March 2019 – Rev 2 of Ip_BLE_TempHumidity, adds more plot options and i2c_ClearBus, adds GT832E_01 support Introduction This tutorial, A Redbear Nano V2 Replacement, is..... Listed under: [Arduino Programmer Projects](#)
688.  [How to Program the Vexlorer Using Arduino](#) This instructable will be about using arduino to control the revell vexlorer. Later you can add as many sensors you want. If you don't have most of the parts already this will cost you about \$200 dollars. Most of the electronic bits you can find..... Listed under: [How To – DIY – Project Ideas, Ideas](#)
689.  [LOG Arduino Sketches 101](#) So this Lazy Old Geek (LOG) gets bored sometimes and wants something to do. Actually, sometimes I get tired of trying to solve hardware problems, which are sometimes software problems. So I decided to do a tutorial on Arduino sketches. What is a Sketch? I'm..... Listed under: [Arduino Programmer Projects](#)
690.  [Arduino Controlled Bell Tower or Carillon](#) This is a set of musical bells which are driven by solenoids and controlled by an Arduino microcontroller. There are 8 bells covering one octave. The bells are controllable from a PC, or the tower can stand alone and play pre-programmed melodies. Check out the..... Listed under: [Ideas, Sound – Audio Project Ideas](#)
691.  [RGB Backlight + MSGEQ7 Audio Visualizer](#) Welcome to my Instructables on how to build a RGB LED backlight for e.g. the back of your TV or desk. The Schematic itself is very simple since the WS2812 LED Strips are very easy to interface with e.g an Arduino Nano. Note: that you do not have to use the..... Listed under: [Sound – Audio Project Ideas](#)
692.  [Arduino All-in-One Getting Started Guide](#) An all-in-one tutorial to getting started with the Arduino open-source electronics prototyping platform. This guide is meant for the beginner but should be also be useful to you if you already tinker with electronics but want to get started with the Arduino. I'll cover: -..... Listed under: [How To – DIY – Project Ideas, Ideas](#)
693.  [DIY Cycle Speedometer](#) This project came to my mind when doing my MEM (Mechanical Engineering Measurement) project, a subject in my B.tech. The idea is to measure the angular velocity of my bicycle's wheel. Thus knowing the diameter and the all time mathematical legend the pi(3.14) the speed can be..... Listed under: [Metering – Instrument Projects](#)

694.  [Occupational Therapy Dexterity/Cognitive Aid](#) The Need: Occupational Therapy Device Occupational therapy is used in treating Traumatic Brain Injury during many phases of recovery and rehabilitation. As the patient's condition improves, occupational therapy helps them regain skills ranging from basic self-care, to complex cognitive skills such as memory and problem solving. Occupational therapy can..... Listed under: [Medical – Health based Projects](#)
695.  [How To Make Two Daft Punk Outfits with Helmets using Arduino](#) For my 30th Birthday I decided to have a D-Themed costume party, my girlfriend Kylie and I decided that we would go as Daft Punk. The costumes were quite involved to make, but we had lots of fun and they looked great! We used a..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
696.  [Ever Blooming Mechanical Tulip](#) Everlasting flower for your everlasting love. A perfect not-only Valentine's day gift to your loved one. This mechanical tulip will bloom into any color possible with just gentle touch of your hand. Its six petals will slowly open and light up. When petals are closed..... Listed under: [Development Board – Kits Projects](#)
697.  [Charlieplexed row of LED lights, for the Arduino](#) This is my instructable on charlieplexing a LED row/string with the arduino. I noticed that there weren't many instructables on charlieplexing using an arduino, so i made this. I tried to keep the project simple, but that didn't work very well. The soldering is complex,..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#)
698.  [Rav Vast LED Drum Light](#) This project is a small, battery-powered LED ring that fits perfectly inside of your Rav Vast drum. It uses color-changing RGB LEDs and a microphone that allows you to change the color or pattern with changes in volume. You don't need any special skills for the construction..... Listed under: [LED Projects](#)
699.  [Core2duino Updated with Arduino](#) This instructable will show you how to build an Arduino shield that adds another Atmega168/328 on top of your Arduino, giving you an extra complete set of I/O pins to use. That's 12 PWM pins, 12 Analog pins, 4 external interrupts, or 40 Digital pins..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
700.  [Bike taillight with a twist using Arduino](#) Let's face it. Taillights are boring. At best they go 'blink blink - look at me! I'm blinking - woohoo' all the time. And they're always red. Very creative. We can do better than that, maybe not much, but still better than just 'blink blink'..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)
701.  [Mounting a Smapler v0002 step by step](#) A Smapler is a circuit dedicated to the production of generative sound created by David Cuartielles and Ino Schlaucher from BlushingBoy.org. The Smapler v0002 -aka Singapore edition- is nothing but an Arduino shield to be used for playing funky stereo sounds. As an extra add-on..... Listed under: [Development Board – Kits Projects](#)
702.  [Multicolour LED Icosahedron](#) A while ago I made a large 20 sided Die. Numerous people wanted me to build them one and since the most difficult part of the project was getting the cutting angles just right, I decided to make another which would allow for more accurate assembly..... Listed under: [LED Projects](#)
703.  [How-to build MACKRA a serb variant using Arduino](#) Project MACKRA was started after I saw the many problems with pre-built robotic platforms e.g. size, programability, mobility, need for batteries,PRICE, and most being dedicated to a single microcontroller. the goals of the MACKRA project were to do the following: 1.create a cheap, and easy..... Listed under: [Ideas](#), [Robotics – Automation Project Ideas](#)
704.  [Arduino holder](#) Good news, everyone! I just started with the arduino and right at the very beginning I felt that I needed some sort of base to put the arduino on. I was reading one article from ladyada (<http://www.ladyada.net/images/arduino/bumperplace.jpg>) and she was using some rubber bumpers on..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
705.  [Tide and Weather Clock](#) Although you can buy analog tide clocks that have a single hand indicating whether the tide is high or low or somewhere in between, what I wanted was something that would tell me at what time low tide will be. I wanted something I could glance at..... Listed under: [Clock – Timer Projects](#)
706.  [Poduino Case](#) The 'Poduino Case'. A protective case for your Arduino (with breadboard work area): I just received my Arduino Duemilanove and breadboard today. After some careful thought, I realized there is no way this thing could possibly survive daily life on my desk. I saw some..... Listed under: [Development Board – Kits Projects](#)
707.  [Ardu-pong! the Arduino based pong console](#) A while back the instructables robot made a post on Facebook about some guys who played pong on an Arduino (<http://wayneandlayne.com/projects/video-game-shield/games/#pong>) but after looking around, i saw that everyone who did this was only worried about making it work. and often resulted as a very hard..... Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)
708.  [Arduino magnetic stripe decoder](#) This instructable shows how to use some freely available code, an arduino, and a standard magnetic stripe reader to scan and display the data stored on magnetic stripe cards such as credit cards, student IDs, etc. I was inspired to post this after reading the..... Listed under: [Ideas](#), [Other Project Ideas](#)

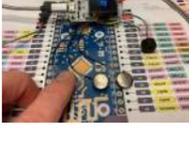
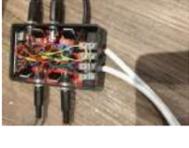
709.  [LCD Temperature Shield Assembly Instructions](#) These are assembly instructions for the LCD Temperature Shield with buzzer that i am going to be selling soon. Please note, all the photos are my own, but are of one of my Prototype stage boards, and are subject to change, the production boards WILL..... Listed under: [LCD Projects](#)
710.  [Arduino Datalogger](#) In this tutorial, we're going to make a simple data logger using Arduino. The point is to learn the very basics of using Arduino to capture information and print to the terminal. We can use this basic setup to complete a range of tasks. To..... Listed under: [Arduino Android](#)
711.  [Use the STONE touch screen to make a music player Project introduction](#) I've had an AC692N developer board at home for a long time, and now I want to make a music player that works with the STONE serial touch screen. The following functions need to be implemented: 1. Play MP3 files in the USB flash drive..... Listed under: [Sound – Audio Project Ideas](#)
712.  [Catching Your Breath](#) We are nation of obsessive counters: of pulse, steps, followers and calories. Most of these numbers mean little as physiology cannot be reduced to these metrics. But we try and I wondered how do we count a breath? Remember the cinematic days before hospital demise..... Listed under: [Medical – Health based Projects](#)
713.  [Steampunk Compass using Arduino](#) Having built a few puzzle box games recently, and having some components left over I thought I would build a functional Steampunk Compass. Based around a Arduino Duemilanove this is a really quick and simple build. Taking reading from a digital compass the Arduino controls..... Listed under: [Clock – Timer Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)
714.  [EARTH SAVER: Autonomous Material Sorter using Arduino](#) This Arduino project was part of an Association of Mechanical Engineers (ASME) contest to create an Autonomous Material Sorter. The sorter was to sort four glass bottles, four plastic bottles, four Tin cans, and four Aluminum cans. There were requirements such as size of the..... Listed under: [Ideas](#), [Other Project Ideas](#)
715.  [Light and Water Reactive Raincoat](#) This semester at college, I am in a class called Computing and Craft which is about incorporating circuitry and micro-controllers and craft to bring our projects to the next level. For our first big project, I decided to make a raincoat the reacted to light and water..... Listed under: [Home Automation Project Ideas](#), [Security – Safety Projects](#)
716.  [Dutch 8x8 Word Clock](#) I know that I am not the first to make a word clock, using an Arduino. Still it was always something on my 'to do' list to make a Dutch one. For a different project I've bought a 'colorduino / rainbowduino / funduino' a long..... Listed under: [Clock – Timer Projects](#)
717.  [Simple Arduino Traffic Lights](#) Have you ever made a city out of Legos? I know i have built many of them but they all missed something... Traffic lights! So i decided to make my very own traffic light setup from my arduino board. Step 2: Get the components I..... Listed under: [Arduino Car Project Ideas](#), [Ideas](#)
718.  [Arduino 101](#) To get started with Arduino, you'll need some basics. In this tutorial, we'll go beyond a little blinky light and teach you about: VariablesInput and Output pinsSensors and reading dataMapping resultsFunctions In another tutorial, I'll cover classes and why we might use them. But, we..... Listed under: [Arduino Programmer Projects](#)
719.  [Gravitational force Mater using Arduino](#) I have a late 80's VW and the gauge cluster has 5 dummy LED locations underneath the other warning lights. Well I was tired of the m not doing anything, so I decided to do something about it. I came up with the idea to..... Listed under: [Ideas](#), [Metering – Instrument Project Ideas](#)
720.  [VORONOI HEART LAMP](#) Hi makers, we are here again with a beautiful and stylish lamp Project. VORONOI HEART LAMP. In this project, we benefited from epoxy resin material and 3D printer. <https://youtu.be/0SoN9cphUrl> Step 1: What Is VORONOI ? In mathematics, a Voronoi diagram is a partitioning of a..... Listed under: [LED Projects](#)
721.  [Getting your Nokia 5110 LCD up and running on an Arduino](#) We purchased one of these very cheap, very cool 84x84 LCD backlit screens off of eBay a couple of weeks ago. It's a very nice product for adding visual elements to your projects at a very low price. We paid £3.89 for the screen and..... Listed under: [Electronics News Updates](#), [Phone Projects](#)
722.  [Motion Activated Automatic LED Stair Lighting With Arduino](#) I built this Arduino based automatic LED light controller for a set of poorly lit stairs in our new home. The stairs are quite dangerous - especially at night - but not any more thanks to the Motion Activated Automatic LED Stair Lighting with Arduino..... Listed under: [LED Projects](#)
723.  [Hidden light control using Arduino](#) I've bought recently some cheap dual axis magnetic sensors at SureElectronics (<http://www.sureelectronics.net/goods.php?id=944>), I've tried first to use them as straight compass. Annoying problem : it's impossible to

accurately compensate the tilt of the sensor without using a gyro sensor. On the other end, if you stay on..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)

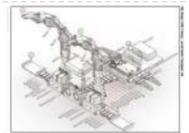
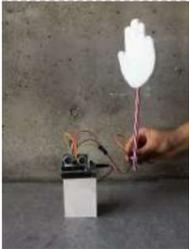
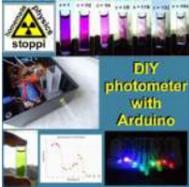
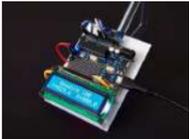
724.  [Arduino Powered Mushroom Environment Control](#) This is my first Arduino project aimed at helping me with my other hobby which is growing oyster and shiitake mushrooms indoors. In a nutshell, the controller takes in two temperature readings, 1 Humidity reading and 1 Co2 reading and triggers a set of four..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
725.  [Motion Control Slider for Time Lapse Rail](#) This instructable explains how to motorize a time lapse rail using a step motor driven by an Arduino. We will mainly focus on the Motion Controller that drives the step motor assuming you already have a rail you want to motorize. For example when dismantling a machine..... Listed under: [Motor Projects](#)
726.  [Diorama, Bat in the cave using Arduino](#) The purpose of this instructable is to outline our development of this bat in the cave as well as provide instructions and tips for future engineers hoping to complete a similar project or use components of our project in theirs. The goal of this project..... Listed under: [Motor Projects](#), [Sensor – Transducer – Detector Projects](#)
727.  [Keyfob Deadbolt using an Arduino Board](#) The key to my apartment never worked quite right because it is a copy of a copy of a copy. I am fairly certain that the dead bolt is original to the building and the property manager seems to have lost the original key years..... Listed under: [Home Automation Projects](#), [Projects](#)
728.  [LED Candle – Lights, Flickers, Blows Out, Smokes, and Smells](#) About This Candle & How to Read This Instructable Here's my take on a LED candle that offers the full experience of a real candle. Start to finish. Be sure to watch the YouTube video below! Background: I bought my first Arduino about 3 years ago with..... Listed under: [LED Projects](#)
729.  [Arduino Frequency Detection](#) As a follow up to the Arduino Audio Input tutorial that I posted last week, I wrote a sketch which analyzes a signal coming into the Arduino's analog input and determines the frequency. The code uses a sampling rate of 38.5kHz and is generalized for..... Listed under: [Sensor – Transducer – Detector Project Ideas](#), [Sound – Audio Project Ideas](#)
730.  [Clock, Amplifier and a Little Amount of Wood...](#) The beginning of the project came from an idea, an inspiration from a video posted on the Internet on the YouTube channel "I like to do things" ... Then came the need to make a stand for one of my monitors that housed a clock,..... Listed under: [Clock – Timer Projects](#)
731.  [Arduino LifeClock](#) This unique clock reminds you to appreciate every single day, by displaying your current age in days (or weeks) on a seven segment display. Step 1: You Will Need Electronics: Arduino Pro Mini 5V (or any other arduino with >= 12 GPIO Pins)4 Digit 7..... Listed under: [Clock – Timer Projects](#)
732.  [HRV \(Home Air Exchanger\) Arduino Controller With Air Economizer](#) HRV Arduino Controller with Air Economizer So my history with this project is I live in Minnesota and my circuit board fried on my LifeBreath 155Max HRV. I didn't want to pay the \$200 for a new one. I always wanted something with an air..... Listed under: [Home Automation Projects](#)
733.  [DIY Cheap and Sturdy Laser Engraver](#). In this instructables I will show you how I made my own DIY laser engraver for very cheap. Also most of the parts are either salvaged from old things or are very cheap. This is a very interesting project for any electronics hobbyist. This engraver..... Listed under: [LED Projects](#)
734.  [Wireless Bell System](#) The problem that fix this project is the following: at the high school where I work, the class-change bell doesn't sound loud enough everywhere and sometimes it causes some problems. Install a new wired class-change bells or buy a wireless bell system isn't possible by..... Listed under: [Wireless Projects](#)
735.  [Dutch 8x8 Neopixel Word Clock](#) A friend introduced me to neopixels (WS2812) programmable LED's. That would be great for my word clock, so I re-did the clock. It is very much a mixup with a slightly different size and code. The 8x8 WS2812 modules are also cheaper than the colorduino,..... Listed under: [Clock – Timer Projects](#)
736.  [Portal 2 Turret – Master Turret Control](#) This project is an extension or remix of my original Portal Turret on Instructables (Portal-2-Turret-Gun). It can also be used as a cheap controller to control anything that uses the nRF24L01 radio chip. The LCD screen is particularly useful when customizing. <https://youtu.be/8gPdS2TPBI> (It turns out..... Listed under: [Metering – Instrument Projects](#)
737.  [Cooperative Multitasking on Arduino – With Pretty Blinky Lights!](#) In my first Instructable Motion Activated Automatic LED Stair Lights with Arduino I mentioned the use of "Cooperative Multitasking". So what is it and why is it helpful? This Instructable attempts to answer the "what is it" and "why is it helpful" question with a simple example..... Listed under: [Other Projects](#)
738. [Ring of Fire \[REMIX\]](#) <https://youtu.be/KemcS6kQ0rk> After building some of these: <https://www.instructables.com/id/Matrix-LED-Light/> i've decided to bring the candle onto another level. While the first one looks good, it does look a little bit too much like the original. Nothing against the first design. It looks cool and

- modern. My new..... Listed under: [Sound – Audio Projects](#)
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739.  [For Newbies at Arduino Programming: Telling the Direction of Fire in 3 Seconds WITH PIXEL LIGHTS!](#) During my high-school sophomore year, the 3rd floor of our house lighted on fire due to a short circuit. Fortunately, my family was away on vacation for Christmas. But if we were home, wouldn't it be crucial to tell the direction of fire quickly so..... Listed under: [Arduino Programmer Projects](#)
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740.  [The Chug-O-Meter](#) Isn't it nice when you can hit two birds with one stone? That's exactly what we've done as we approach both Arduino Day and Saint Patrick's Day with our version of the Chug-O-Meter! We absolutely loved what the circuit.io team did with their Chug Meter..... Listed under: [Metering – Instrument Projects](#)
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741.  [Voice Controlled Smart Key Holder](#) Are you the kind of person who's not good with managing keys and always have to try each key for every other lock? Well don't worry, just grab a little bit of motivation and your maker tools to innovate your very own voice controlled smart..... Listed under: [Sound – Audio Project Ideas](#)
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742.  [Smart Coffee Table](#) We are in the joy of making a project that has been in our mind for a long time and sharing with you. Smart Coffee Table. Because this table is really smart. It illuminates your environment according to the weight of your drink. <https://youtu.be/VUw4Wb8COo8> Step..... Listed under: [Home Automation Projects](#)
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743.  [Oceania Midi Controller \(for Make Noise 0-Coast and Other Synths\)](#) In the past few years, a number of synthesizer manufacturers have been releasing "desktop semi-modular" instruments. They generally take the same form factor as the Eurorack modular synthesizer format and most are probably intended as a gateway drug into the world of modular. (As addictions..... Listed under: [Sound – Audio Project Ideas](#)
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744.  [IoT Based Fingerprint Attendance System Using Evive \(Arduino Based Embedded Platform\)](#) Now, you can easily track attendance and clock working hours with the help of this easy and fun to make DIY fingerprint scanner! We'll be using ThingSpeak to store and retrieve the data. All you require is a cardboard piece, some colored paper, a fingerprint..... Listed under: [Memory – Storage Projects](#)
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745.  [Temperature and Servos](#) Two other tutorials I have written step you through the basics (Arduino 101) and how to create a really basic data logger (Arduino Datalogger - simple). This tutorial will step through how to attach servo motors, and use temperature sensor to move it! The premise..... Listed under: [Temperature Measurement Project Ideas](#)
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746.  [Ultrasonic Theremin \(Teach Sound\)](#) <https://youtu.be/i9N0bSRXOZ8> The Ultrasonic Theremin is an Arduino project that uses a cheap theremin to teach sound waves. By changing the distance of my hand to the device, I am changing the frequency of the sound waves. Also, moving a potentiometer changes the amplitude of the..... Listed under: [Sound – Audio Project Ideas](#)
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747.  [Ultrasonics Based Positioning System](#) All the versions of ultrasonic radars I have found for arduino devices (Arduino - Radar/Ultrasonic Detector, Arduino Ultrasonic Radar Project) are very nice radars but all of them are "blind". I mean, the radar detects something but what is it detecting? So I propose myself to..... Listed under: [GPS Based Project Ideas](#)
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748.  [Robotic Rat](#) Hello! My name is David, I am a 14-year-old boy living in Spain and this is my first Instructable. I have been building robots and fixing old computers for some time now and my robotics teacher told me that it was good time to start..... Listed under: [Robotics – Automation Project Ideas](#)
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749.  [Simple Garage Door Hack](#) After being accidentally locked out of my house on more than one occasion, I decided that there had to be better way to entering my home that did not involve breaking and entering (and without hiding a key outside somewhere). On taking a look at..... Listed under: [Security – Safety Project Ideas](#)
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750.  [Motion Sensing Under Bed Lighting](#) Ever tried to get out of bed quietly at night only to trip over something and wake up the whole house? Motion sensing night lights installed discreetly under your bed provide low-level light bright enough to guide you around those stray LEGO bricks but dim..... Listed under: [LED Projects](#)
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751.  [DIY Mini CNC Laser Engraver.](#) <https://youtu.be/ZeAug4SNUSI> This is an Instructables on how I Remixed my old CNC Laser engraver and made a Stable version of an Arduino based Laser CNC engraver and thin paper cutter using old DVD drives and using 250mW laser. Old Version of My CNC :<https://www.instructables.com/id/Mini-CNC-Laser-Wood-Engraver-and-Paper-Cutter/> Old..... Listed under: [CNC Machines Projects](#)
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752.  [How to Make a Picoballoon](#) <https://youtu.be/KjPzfLEluY> What is a picoballoon and why would I want to build it?! I hear you ask. Let me explain. You all probably know what a HAB (High Altitude Balloon) is. It's a bunch of weird electronics stuff connected to a balloon. There are soooo many tutorials regarding..... Listed under: [Battery Projects](#)
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753.  [The Ultimate Guide to Building a Quadcopter From Scratch](#) This project started all the way back when I was in 6th grade and completely new to electronics, when I thought to myself, "Hey, let's build a drone....it shouldn't be that hard.....right?" Yea, guess what, it's hard. Almost 4 years later, this project is coming..... Listed under: [Drone](#)
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754.  [Ikea Kids Kitchen Lights Mod](#) For my daughters second birthday, we decided to get her a kitchen set. But I really wanted to make what we got her special and after being inspired by what some awesome makers had done with the Ikea Duktig Kitchen, we decided to get one..... Listed under: [LED Projects](#)

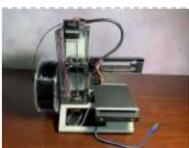
755.  [DIY Arduino-Compatible Clone](#) The Arduino is the ultimate tool in the Maker's arsenal. You should be able to build your own! In the early days of the project, circa 2005, the design was all through-hole parts and communication was via a RS232 serial cable. The files are still available, so you can..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
756.  [Security Check RFID System Based on Arduino and RS485 Data Bus](#) In this DIY guide I will show you how to make your own security check system based on Arduino! You can use this system in areas with security guards (e.g. warehouses, malls, open areas). Every guard will have a personal RFID card with a unique..... Listed under: [Security – Safety Project Ideas](#)
757.  [YouTube Subscriber Counter Bubble Machine](#) <https://youtu.be/qsFZ6o-1S0E> The idea was born after being selected to expose at Maker Faire Lille, a giant event around Science, inventions and the Do-It-Yourself mindset. I wanted to build something that makes visitors want to subscribe to my YouTube channel YouLab.I quickly though about a real..... Listed under: [Motor Projects](#)
758.  [Interactive Dandelion](#) <https://youtu.be/BhkrQ5O1Rk> This project shows how to make an interactive picture of a dandelion. It starts as a yellow flower with LED's for petals then changes into a white dandelion clock, which can be blown on to make the seeds disperse. It is based on a..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
759.  [Advantech Builds Gaming SBC powered by AMD's Ryzen V1000](#) Advantech announced a new gaming and lottery board, the DPX-E265. The gaming board is based on AMD's Ryzen V1000, which features a 4x DP++ ports, 2x SATA, plus M.2, PCIe x16, and PCIe x4 expansion. Prior to the DPX E265, in February of this year..... Listed under: [Sound – Audio Project Ideas](#)
760.  [Arduino TFT Interfacing Basics](#) TFT touchscreens are the amazing graphical interface which can be used with microcontrollers such as Atmel, PIC, STM, as it has a wide color range, and good graphical ability and a good mapping of pixels. Today, we are going to Interface 2.4 inch TFT LCD..... Listed under: [LCD Projects](#)
761.  [ABUSED HARD DRIVE BECOMES POV CLOCK](#) We all know that there's not much to do with an old hard drive. Once you render the platters unreadable and perhaps harvest those powerful magnets, there's not much left of interest. Unless, of course, you turn the whole thing into a persistence-of-vision clock. At least..... Listed under: [Clock – Timer Project Ideas](#)
762.  [DIY Arduino Mini Laser Engraver](#) Hello Guys Whatsup, In this instructable, I am making an Awesome mini laser engraver from old DVD writers. It's an amazing machine. You can use this laser engraver machine to make any kind of design, logo, art on the surface like WOOD, MDF, PLYWOOD, VNYL..... Listed under: [LED Projects](#)
763.  [Persistence of Vision \(PoV\) Display Using Arduino](#) Time for a fun-filled, easy-peasy Japan-easy to make a project! Today, we're going to show you how to make an LED POV Display. POV, an acronym for the persistence of vision, is a kind of optical illusion in which a visual image seems to persist..... Listed under: [LED Projects](#)
764.  [Arduino Based Wireless \(RF\) Weather Station Network](#) In this DIY guide I will show you how to make your own wireless weather station! My communication protocol will allow you to have up to 10 sensor stations in your wireless network, but you can change and extend it up to 254 stations! The..... Listed under: [Wireless Projects](#)
765.  [Game of Thrones Light Up Map](#) Spoiler! Winter is definitely coming. But make this cool Game of Thrones light up map for a Spring project. The map lights up with a flame effect revealing the sigil of the remaining house in power. What do I know, make it with the sigil..... Listed under: [Game – Entertainment Project Ideas](#)
766.  [PasswordPump Passwords Manager](#) This is v1.0 of the PasswordPump, a USB device that manages credentials for up to 254 accounts. Credentials (account names, usernames and passwords) are stored ONLY on the device itself, on two removable EEPROM chips using military grade encryption (AES-128). They are not stored in..... Listed under: [Security – Safety Projects](#)
767.  [UCL-Embedded – Arduino Door Lock](#) This project was created by Daniel Månsson [], Flemming Andersen [flem781a] and Mikkel Pavia [mikk24b9] as an exam project at the school University College Lillebælt. As a part of one of our electives, during second semester, in automation engineering, we were tasked with creating an..... Listed under: [Security – Safety Project Ideas](#)
768.  [Retro Speech Synthesis. Part : 12 IoT, Home Automation](#) https://youtu.be/Mwtr3u_uS0M This article is the 12th in a series on home automation Instructables documenting how to create and integrate an IoT Retro Speech Synthesis Device into an existing home automation system including all the necessary software functionality to enable the successful deployment within a domestic environment. Picture..... Listed under: [Home Automation Project Ideas](#)
769.  [Desktop Gigapixel Microscope](#) <https://youtu.be/mKXoA6zDu98> In optical microscopes, there is a fundamental trade-off between field-of-view and resolution: the finer the detail, the smaller the region imaged by the microscope. One way to overcome this limitation is to translate the sample and acquire images over a larger field-of-view. The basic..... Listed under: [Video – Camera – Imaging Projects](#)
770.  [Rory the Robot Plant](#) Rory is a funny looking robot in the form of a plant, interact with some inputs by sensors, play music and detect any human movements around, in addition, to snap photos when you order it too. It's also caring about a small plant inside the..... Listed under: [Robotics – Automation Project Ideas](#)
771.  [Extremely Sensitive Cheap Homemade Seismometer](#) Step 1: Demonstration of Sensitivity <https://youtu.be/HwmOgygAbw> On the video you can see the manufacturing process and the sensitivity of shocks Step 2: Components Otherwise, the seismometer itself consists of two parts, a mechanical tremor detector, and an electronic part that turns these tremors into electrical..... Listed under: [Home Automation Project Ideas](#)

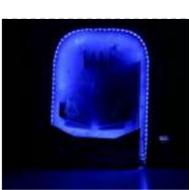
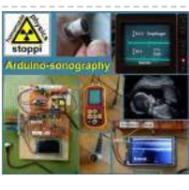
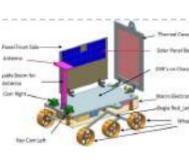
772.  [ESP32 Capacitive Touch Input Using "Metallic Hole Plugs" for Buttons](https://youtu.be/qQG8SdMgj8I) <https://youtu.be/qQG8SdMgj8I> As I was finalizing design decisions for an upcoming ESP32 WiFi Kit 32 based project requiring three button input, one noticeable problem was that the WiFi Kit 32 does not possess a single mechanical pushbutton, yet alone three mechanical buttons, for input. However, the..... Listed under: [Wifi - WLAN Projects](#)
773.  [Electronic Magic 8 Ball and Eyeball](https://youtu.be/e5p-RsFV5iA) <https://youtu.be/S2ajD3oJD34> <https://youtu.be/uaUTn9RBmPg> I wanted to create a digital version of the Magic 8 Ball... The body of this is 3D printed and the display has been changed from an polyhedron in blue dye to a small OLED controlled by a random number generator programmed..... Listed under: [Battery Projects](#)
774.  [Play Songs\(MP3\) With Arduino Using PWM on Speaker or Flyback Transformer](#) This is my first instructable, I hope you will Like It!! Basically, In this Project I have used the Serial Communication between my Arduino and my Laptop, to transmit music data from my laptop to the Arduino. And using the Arduino TIMERS to play the..... Listed under: [Sound – Audio Project Ideas](#)
775.  [ESP32 NTP Temperature Probe Cooking Thermometer With Steinhart-Hart Correction and Temperature Alarm](https://youtu.be/72ekCautalQ) <https://youtu.be/72ekCautalQ> Still on the journey to complete an "upcoming project", "ESP32 NTP Temperature Probe Cooking Thermometer With Steinhart-Hart Correction and Temperature Alarm" is an Instructable showing how I add an NTP temperature probe, piezo buzzer and software to my capacitive touch Instructable "ESP32 Capacitive Touch..... Listed under: [Temperature Measurement Project Ideas](#)
776.  [Stroboscopic Fountain](#) For our SIDE project, a year long project that we do for Ms. Berbawy's Principles of Engineering class, we decided to make a stroboscopic fountain. The stroboscopic effect, pioneered by Harold Edgerton, makes objects appear as though they are moving in slow motion. How does..... Listed under: [LED Projects](#)
777.  [Arduino Powered, Sensor Controlled Fading LED Light Strips](https://youtu.be/mzeA3yxu_lg) <https://youtu.be/jH2gEoB5x1w> I recently had my kitchen updated and knew that lighting would 'lift' the look of the cupboards. I went for 'True Handleless' so I have a gap under the work surface, as well as a kickboard, under cupboard and on the top of..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
778.  [Arduino Bluetooth Camera](#) Today you can hardly surprise anyone with a mobile phone with a camera, wireless gadgets and other technical advances. Thanks to the Arduino platform, millions of people have discovered the wonderful world of electronics and programming. 100,500 instructions were written on how to exchange data..... Listed under: [Bluetooth Projects](#)
779.  [Self Irrigating Planter \(with Moisture Sensor\)](#) The problem we picked was - Growing plants in limited space by amateurs. Many people would like to grow plants (basic vegetables, herbs for the kitchen, etc) but do not have enough space in their house to do so. They also may not have the..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
780.  [Arduino Controlled Robotic Arm W/ 6 Degrees of Freedom](#) I am a member of a robotics group and each year our group participates in an annual Mini-Maker Faire. Beginning in 2014, I decided to build a new project for each year's event. At the time, I had about a month before the event to put something together..... Listed under: [Robotics – Automation Project Ideas](#)
781.  [Simple Arduino RGB LED Cube \(3x3x3\)](https://youtu.be/raGzxHcS7NA) <https://youtu.be/raGzxHcS7NA> I've been looking into LED Cubes and noticed that most of them were either too complicated or too expensive. After looking at a lot of different cubes, I finally decided that my LED Cube should be: easy and simple to build, affordable, every stylish and extravagant..... Listed under: [LED Projects](#)
782.  [Esplora X M5Stack](#) This instructables show how to combine Arduino Esplora and M5Stack to make a NES game console. Step 1: What Is Arduino Esplora? Arduino Esplora is an Atmega32U4 AVR microcontroller board. It is unique Arduino boards, because it built-in various input sensors out-of-the-box, including a joystick,..... Listed under: [Game – Entertainment Project Ideas](#)
783.  [Doggo Walking Light](#) Walking a dog in the dark comes with the safety risk of motorists who don't see you walking, we've had a few close shaves with drivers turning quickly into or backing out of driveways or when crossing road intersections. So why not illuminate your favorite..... Listed under: [LED Projects](#)
784.  [Using a LED Matrix As a Scanner](https://youtu.be/9F9EUaXhj5M) <https://youtu.be/9F9EUaXhj5M> Ordinary digital cameras work by using a large array of light sensors to capture light as it is reflected from an object. In this experiment, I wanted to see whether I could build a backwards camera: instead of having an array of light sensors,..... Listed under: [LED Projects](#)
785.  [Turn a Commodore 64 Into an IOS Bluetooth Keyboard](#) This instructable describes how to turn a Commodore 64 computer into a bluetooth keyboard. It involves programming a micro controller with the Arduino IDE and constructing a circuit board. Supplies you'll need (some are optional): Commodore 64 with keyboard (remove mother board, it is not..... Listed under: [Bluetooth Projects](#)
786.  [Model Railway Layout With Automated Passing Siding \(V2.0\)](#) This project is an update of one of the previous model railroad automation projects, The Model Railway Layout with Automated Siding. This version adds the feature of coupling and decoupling of the locomotive with the rolling stock. The operation of the railway layout is as follows:..... Listed under: [Motor Projects](#)
787.  [Vacuum Fluorescent Display Watch](#) That whole project started a while back with an hackaday article from 2014 in which [Johngineer] build the 'ChronodeVFD', a wristwatch made from an old soviet vacuum fluorescent display. It kind of triggered the 'shut up and take my money' reflex in me, but as it wasn't..... Listed under: [LCD Projects](#)
788.  [Motion Follow Animatronics Eyes](https://youtu.be/Ep9fWQiFmoM) <https://youtu.be/Ep9fWQiFmoM> This Arduino project uses an Optical Flow Sensor (ADNS3080) to capture movement. Then translate the data to move servo's making it look as eyes are following moving object. This is not an easy build. It requires

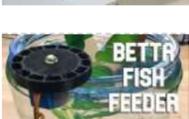
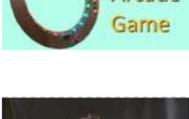
3d printing, soldering, some general technical understanding and..... Listed under: [LED Projects](#)

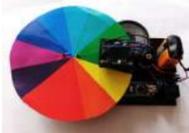
789.  [CNC Arduino Plant Growing Machine](#) <https://youtu.be/Sidcq555B-8> I designed a CNC Arduino Plant Watering machine for my local high school science and engineering fair. I ended up getting second place in the maths and engineering category, won \$200 from the Missouri Society of Engineers, and was invited to compete in an..... Listed under: [CNC Machines Project Ideas](#)
790.  [DIY ARDUINO BLUETOOTH CONTROLLED CAR](#) 😊 Hello, Guys! In this instructable tutorial, I'm going to make an Arduino nano based smartphone (Bluetooth) controlled car. All we know that Arduino is an excellent prototyping platform, principally because it uses a friendly programming language and there are a lot of extra incredible components..... Listed under: [Bluetooth Projects](#)
791.  [Mirolu Networked LED Matrix Display for Digital Signage](#) Digital signage can be useful at events to inform visitors about upcoming panels, changes in the schedule or dynamically provide information. Using LED Matrix displays for that makes the messages readable even from far away and is an eye catching feature. Features include: 2 Lines..... Listed under: [Arduino Battery Project Ideas](#)
792.  [Wipy: the Overly Motivated Whiteboard Cleaner](#) https://youtu.be/_uObXbdwi4w Introduction Did you ever get tired of cleaning the whiteboard? Have you ever wondered how much your life would improve if a robot could do this for you? You now have the chance to make this a reality with Wipy: the overly motivated whiteboard..... Listed under: [Robotics – Automation Project Ideas](#)
793.  [BotTender](#) <https://youtu.be/p6wJBZe1YVg> BotTender, a bartender assistant that pours the perfect shot! BotTender is an autonomous robot that is designed with the aim of automatising bars. It is placed on top of the bar and detects the shot glasses in front of it. Once the glasses are..... Listed under: [Battery Projects](#)
794.  [Magic Feeler](#) https://youtu.be/_IEu2h-2iWs The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. A Project by: ShuChuan Yao, Jeongwoo Jang, Zijie Tan Arduino UnoServo Motors x4fishing wirespins (cotton buds stem, thread rod, toothpick)Gyro Sensor9V BatteryPretty Scarf/Bandanna Do you ever..... Listed under: [Battery Projects](#)
795.  [Slapstick](#) <https://youtu.be/g1-p7gsNzpk> The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. <https://icd.uni-stuttgart.de> The Idea Exam period is coming. And you already feel sleepless and hopeless. You want to study, but you've lost your motivation. And it's crucial that..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
796.  [The Moral Compass](#) The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program and was brought to you by Vanessa Costalonga, James Hayward and Christo van der Hoven. Have you ever doubted the choices that you make? Have you ever..... Listed under: [Motor Projects](#)
797.  [Pc-Privacy – Arduino Automated Privacy for Your Computer](#) If you live with other people or have your own office you might be familiar with the problem of people randomly appearing in your room while you are working on confidential data or just have some weird stuff open on the 2nd Screen from hours..... Listed under: [Security – Safety Project Ideas](#)
798.  [Arduino Digital Clock Synchronized by the 60Hz Power Line](#) This Arduino based digital clock is synchronized by the 60Hz power line. It has a simple and inexpensive common anode 4 digit 7 segment display which shows hours and minutes. It uses a cross over detector to detect when the incoming 60Hz sine wave crosses..... Listed under: [Clock – Timer Project Ideas](#)
799.  [DIY LED-photometer With Arduino for Physics or Chemistry Lessons](#) Liquids or other objects appear colored because theyreflect or transmit certain colors and in turn swallow (absorb) others. With a so-called photometer, those colors (wavelengths) can be determined, which are absorbed by liquids. The basic principle is simple: with a LED of a certain color..... Listed under: [LED Projects](#)
800.  [Arcade Button MIDI Keyboard](#) This is a version 2.0 of one of my first forays into Arduino and DIY MIDI programming. I've developed my skills in prototyping and design so I thought it would be a good demonstration of process and progression. With a more informed design process I..... Listed under: [Development Board – Kits Projects](#)
801.  [Tilt Compensated Compass](#) https://youtu.be/PY_17f5RByI This instructable explains how to make a tilt compensated compass using an Arduino UNO R3, an LCD display, and an IvenSense MPU-9250 multi-chip-module that contains an MPU-6050 accelerometer / gyro and an AK8963 magnetometer within the same package. The LCD simultaneously displays the Heading..... Listed under: [LCD Projects](#)
802.  [Automatic Gate Slider Under \\$100](#) Over the summer, my dad motivated me to look into buying a gate automation system and setting it up. So I started my research and looked into package solutions on AliExpress and local vendors. The local vendors were offering complete solutions including installation for >..... Listed under: [Home Automation Projects](#)
803.  [Animated Word Clock](#) Build your own Word Clock with an animated display. This is a simple project uses an Arduino Nano, Color LEDs and includes a stylish 3D Printed Case. The Word Clock has three animated patterns- Matrix style - Typewriter Style - Rainbow Color The three buttons..... Listed under: [Clock – Timer Projects](#)
804.  [Temperature Controlled Vaccine & Insulin Cooler](#) Keeping cool saves lives In the developing world, vaccines are the front line of defense against dangerous illnesses such as Ebola, Influenza, Cholera, Tuberculosis and Dengue to name a few. Transporting vaccines and other life-

saving materials such as insulin and blood require careful temperature control..... Listed under: [Temperature Measurement Project Ideas](#)

805.  [New Wireless IOT Sensor Layer for Home Environmental Monitoring System](#) This Instructable describes a lower-cost, battery-powered wireless IOT sensor layer for my earlier Instructable: LoRa IOT Home Environmental Monitoring System. If you haven't already viewed this earlier Instructable, I recommend reading the introduction for an overview of the capabilities of the system which are now extended..... Listed under: [Wireless Projects](#)
806.  [Arduino RC Robot](#) <https://youtu.be/ytwDgwwSEc0> Description A durable, 3D printed, remote controlled Arduino based robot with several hundred meters range. A modular quick-connect motor scheme lets you rapidly prototype different robot designs without any tools. Perfect for robotics education for kids. Whats it all about? So you've just started..... Listed under: [Robotics – Automation Projects](#)
807.  [EqualAir: Wearable NeoPixel Display Triggered by Air Pollution Sensor](#) <https://youtu.be/WUYE5HS9Gtc> The aim of the project is to make a wearable t-shirt that displays an evocative graphic when air pollution is above a set threshold. The graphic is inspired by the classic game "brick breakers", in that the car is like a paddle which spits..... Listed under: [Sensor – Transducer – Detector Projects](#)
808.  [DIY RGB-LED Glow Poi With Remote Control](#) Introduction Hello Everyone!This is my first guide and (hopefully) the first one in a series of guides on my quest to create an open-source RGB-LED visual poi. To keep it simple first, this is going to result in a simple led-poi featuring remote control via..... Listed under: [LED Projects](#)
809.  [Arduino-controlled DIY Coffee Roaster](#) In this Instructable we will have a look at modifying a hot-air popcorn machine to turn it into a fully automatic and temperature-controlled home coffee roaster. Roasting coffee at home is surprisingly simple, and even something as basic as a frying pan can do the..... Listed under: [Other Projects](#)
810.  [Low Cost Bioprinter](#) The goal of this project is to develop a low-cost bioprinter to make bioprinting more accessible to research institutions. Currently, low-end bioprinters cost approximately \$10,000 while high-end bioprinters cost approximately \$170,000. In contrast, our printer can be built for approximately \$375. Supplies: Parts: Ramps 1.4: <https://www.amazon.com/HiLetgo-Control-Printer-Su...Arduino...> Listed under: [CNC Machines Projects](#)
811.  [Super Stylish Automatic Cat Feeder](#) <https://youtu.be/uVHh2rHcWi4> Jojo is a super handsome cat.I love him in every aspect, except he keeps waking me up everyday 4am in the morning for his food, so it's time to get an automatic cat feeder to save my sleep. However, he is so handsome that..... Listed under: [Motor Projects](#)
812.  [Raft Bird Repeller](#) In this project I will show you how to build a solar-powered Raft Bird Repeller that will get rid of those pesky birds that poop on your raft. Step 1: Intro https://youtu.be/Z9JdDufT_Ss If you have ever been on a raft, you know just how relaxing..... Listed under: [Solar energy projects](#)
813.  [Motion Tracking Face](#) <https://youtu.be/Nqh3Ej8qfTU> Meet Chartreuse! Chartreuse's face follows you when you walk by. When she sees you, her eyes turn yellow and she gets a happy expression in her eyes. As you walk away, her eyes change to blue and she sadly turns away. Chartreuse is powered..... Listed under: [LED Projects](#)
814.  [Project Small Car](#) This car was made as a creative activity for students from Erasmus project. The Small Car celebrated big succes. So I've decided to share this small, unassuming and yet very educative project with community. It's ideal to entertain students, for instance during public open day..... Listed under: [Car Projects](#)
815.  [Steam Linked Display Shelf](#) Back Story My brother has Funko POP figures that represent his characters that his friends play most often in video games. We thought that it would be cool if they had a display case that would have LEDs in it to represent their status on..... Listed under: [LED Projects](#)
816.  [Arduino Water Cycle Diorama](#) <https://youtu.be/JqdOQ7wjEsQ> We'll be making a diorama presenting the water cycle, using Arduino and some motors to add movement and lighting. It has a school feel - because it is actually a school project! The presentation scenario is this: The sun rises in the morning [One..... Listed under: [Other Projects](#)
817.  [Rug With Sensors/ RF Communication With Arduino Micro](#) I recently finished the installation Equally diverse, which is made of a series of lamps that react to the sensors placed in a rug underneath the lamps.Here is how I made the rug with pressure sensors.I hope you will find it useful. 😊 Step 1:..... Listed under: [Sensor – Transducer – Detector Projects](#)
818.  [Home Presence Simulator and Security Control Device](#) This project allow us to simulate presence and to detect movements in our home. We can configure a network of devices installed in differents rooms of our home all of them controlled by a main device. This project combines these features on a single device (PICTURE 1):..... Listed under: [Security – Safety Projects](#)
819.  [Old Man and the Arduino GPS](#) So this Lazy Old Geek (L.O.G.) hasn't been able to do an Instructable for a few years. At 70 years old, the brain doesn't work as well as it used to and it's hard to focus on big projects let alone try to write about..... Listed under: [GPS Based Projects](#)
820.  [Tim's Cybot Arduino NANO Remote Control](#) This project is to create an Infrared Remote Control to control the Original Cybot received with the magazine Ultimate Real Robots, started back in 2001. Reason for making the remote:(a little history) Before the issue of the parts for the IR handset, Cybot was put..... Listed under: [Other Projects](#)

821.  [Condensation Risk Evaluator](#) Hi everyone, I work as a builder even though I've been always really interested in new technologies. I've learned a little about 3d printing, Arduino and electronic issues reading a lot. I visit this web regularly so I would like to make my little contribution..... Listed under: [Other Projects](#)
822.  [Adaptable Sun Visor Cap](#) The project conducted as part of the Computational Design and Digital Fabrication seminar in the ITECH masters program. The sun blinds you and you have no hand free? No problem anymore... Here you can find all the important information to build your own adaptable sun visor cap..... Listed under: [Other Projects](#)
823.  [A Complete Beginner's Guide to SMD Soldering](#) <https://youtu.be/tERQQ0S8aJI> Alright so soldering is pretty straightforward for through-hole components, but then there are times when you need to go tiny *insert ant-man reference here*, and the skills you learnt for TH soldering just dont apply anymore.Welcome to the world of Surface Mount Device (SMD)..... Listed under: [Other Projects](#)
824.  [PKE Meter Geiger Counter](#) <https://youtu.be/VS8IQ5SYb7U> I have been wanting to build a Geiger counter for a long time to complement my Peltier Cooled Cloud Chamber. There is (hopefully) not really much useful purpose in owning a Geiger counter but I just love the old Russian tubes and thought it would..... Listed under: [Other Projects](#)
825.  [Tabletop Pinball Machine Using Evive- Arduino Based Embedded Platform](#) Another weekend, another exciting game! And this time, it's none other than everybody's favorite arcade game - Pinball! This project will show you how to make your very own Pinball machine easily at home. All you'd need are components from the evive Starter Kit, some..... Listed under: [Game – Entertainment Projects](#)
826.  [Arduino Decoration](#) There's a lot of night lamps outside, but they can't customize to your favorite color. So, this project is to make a night lamp that you can choose your favorite color. Step 1: Step One: Electronics Needed Here are the electronics you need to make..... Listed under: [Other Projects](#)
827.  [Body-ultrasound Sonography With Arduino](#) My hobby and passion is to realize physics projects. One of my last work is about ultrasonic sonography. As always I tried to make it as simple as possible with parts you can get on ebay or aliexpress. So let's take a look how far..... Listed under: [Sound – Audio Projects](#)
828.  [The "Flute" of Imitation](#) <https://youtu.be/Cy4meKH5UAY> <https://youtu.be/Xb691A9sYRc> As one of the top ten common instruments played worldwide, the amount of beginners studying the flute comes in quite a quantity. While The "Flute" of Imitation does not train one's breath control, the "instrument" concentrates on the fundamental fingerings, crucial to familiarize..... Listed under: [Other Projects](#)
829.  [IoT Lunar Rover Raspberrypi+Arduino](#) <https://youtu.be/mcdEGQTxE88> This project is inspired by the Indian moon mission Chandryaan-2 Which will take place in September 2019.This is a special mission because they are going to land on the spot where no one has every landed before.So to show my support i decided to..... Listed under: [Solar energy project Ideas](#)
830.  [IoT Mouse-Friendly Live Trap](#) <https://youtu.be/LA21193Wel4> This is a trap to capture the mice without hurting them, so you can release them outside. If the proximity sensor detects the mouse, the Servo motor will close the door. You will receive an instant message and/or an Email, to inform you that..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
831.  [HAVE FUN WITH BICOLOR MATRIX 32x32](#) Today I will share following topics base on a bicolor matrix led 32x32: D.I.Y a bicolor led matrix 32x32.How to control led board above with NodeMCU ESP8266 via B.A.M method.Introduce and share my code for some cool real time clock projects with this bicolor led..... Listed under: [Other Projects](#)
832.  [10 Million YouTube Subscribers Award LED PCB](#) <https://youtu.be/WhDgftYFQ5g> Summary This PCB (Printed Circuit Board) resembles the YouTube Play Button award that is given out to creators for reaching certain milestones such as 100,000, 1 million, and 10 million subscribers. When the switch is turned on, the user can scroll through 5 different..... Listed under: [LED Projects](#)
833.  [Making Your First Printed Circuit Board – Getting Started With PCBWAY \[PART 1\]](#) If you are into electronics, PCBs (Printed Circuit Board) are some of the most common things you will see. These boards make our lives easier by eliminating all those connecting wires and breadboards. If properly designed, it will reduce the size of your device and..... Listed under: [Electronics News Updates](#), [Medical – Health based Project Ideas](#)
834.  [Key Safe](#) <https://youtu.be/NLhxGI8CpGc> During weekdays, I seldom bring my key out, but this causes difficulty when my mother left the house. By having no other choices, my mom has to leave the key inside the cabinet beside the door, which has no guarantee of whether the key..... Listed under: [Security – Safety Projects](#)
835.  [Iron Man's Arc Reactor That Pulses With Your Heart Beat](#) <https://youtu.be/bnX99E5VdHI> There are lot of DIY arc reactors out there that look pretty cool. Some look realistic too. But why build something that just looks like that thing and does not do anything. Well, this arc reactor is not going to protect your heart using..... Listed under: [Medical – Health based Projects](#)
836.  [CloudyData – ESP8266 to Google Sheets Made Simple](#) I've been looking for cloud data storing for a long time during last years: it is interesting to monitor data from any kind of sensor, but it is more interesting if these data are available everywhere without any storage difficulty such as using SD cards..... Listed under: [Other Projects](#)

837.  [Weather-station With Arduino, BME280 & Display for Seeing the Trend Within the Last 1-2 Days](#) Here on instructables weather stations have already been introduced. They show the current air pressure, temperature and humidity. What they lacked so far was a presentation of the course within the last 1-2 days. This process would have the advantage that you can not only..... Listed under: [Other Project Ideas](#)
838.  [Secure IOT With AWS and Hornbill ESP32 Using Arduino](#). Security of connected devices is of paramount concern. There are several possible ways to make the devices secure. One of the most essential and widely used options is to use end to end encryption. The widely used Transport Layer Security (TLS) version 1.2 is the..... Listed under: [Other Projects](#)
839.  [ISS Globe- Blinks When the ISS Passes Overhead](#) <https://youtu.be/CFkH0GL3vdY> Howdy! If you are interested in astronomy and always look up at the stars and not down at your feet, you'll surely know the ISS. The ISS or The International Space Station revolves around the earth around 16 times per day. Being an aerospace..... Listed under: [Other Projects](#)
840.  [VFD Alarm Clock](#) IV-27M Alarm Clock Project date: March 2019 – May 2019 Overview After the successful completion of the XIV Nixie Clock which was Direct/Static Driven, I was keen to start work on a new clock which was based on the Multiplexing(Dynamic) or "MUX" principle of operation,..... Listed under: [Clock – Timer Projects](#)
841.  [Totally Lit – Programmable RGB LED Acrylic Sign](#) <https://youtu.be/AcvpgUQGPn4> Been playing around with the laser cutter/engraver, and really fell in love with engraving in to clear acrylic and shining a light source from the edge. The thickness of the acrylic being used is a .25" sheet, which cuts really cleanly by the laser..... Listed under: [LED Projects](#)
842.  [Portable Luxmeter](#) This project is about making portable luxmeter. It can be used in schools, where children can measure different kinds of light sources.Functions: 1. measure intensity of light in lux. 2. calculate solar irradiation from lux to watts/m2 (factor 112) 3. charging battery using USB port..... Listed under: [Battery Projects](#)
843.  [DIY Arduino Starter Kit Shield](#) In this guide I will show you how to make your own Arduino learning shield. This learning shield can be useful at schools, universities and to everyone that want to start dealing with the Arduino. With this shield you will learn how to read the..... Listed under: [Other Projects](#)
844.  [Dev Board Breadboard](#) This Instructables show how to create a tailor-made breadboard for dev board. Step 1: Current Breadboard Breadboard (solderless breadboards) is a very import component for prototyping of electronics. It can help you test the circuit before soldering it. Since the connection not require soldering, after..... Listed under: [Other Projects](#)
845.  [Portable Arduino Bot](#) Over the years, I have built many robotic projects and most of it run by an Arduino so let me explain a little bit about this amazing technology. Arduino is a microcontroller board, has up to 14 digital input/output pins (of which 6 can be..... Listed under: [Robotics – Automation Projects](#)
846.  [The E.M.F.Meter](#) Hello, fellow Makers! In this instructable, I will be discussing my newest and most versatile tool for education: the E.M.F. Meter. This instructable will be covering a lot of steps involving Arduino and Raspberry Pi software. Although resources will be provided, please make sure you..... Listed under: [Metering – Instrument Projects](#)
847.  [Betta Fish Feeder](#) I'm setting up a betta fish tank and wanted to make an automatic fish feeder so he never misses a meal. I've seen other DIY fish feeders that just shake a container but I wanted to be able to precisely control how much food he'll..... Listed under: [Motor Projects](#)
848.  [Cyclone\(Arduino LED Game\)](#) In this tutorial, I will teach you how to create an LED game with very little code or experience! I had this idea for a while and finally got around to creating it. It's a fun game that reminds us all of the arcade games..... Listed under: [Game – Entertainment Projects](#)
849.  [Cat Whisker Sensory Extension Wearable \(2.0\)](#) This project is a continuation and reimagining of my former colleague's (metaterra) "Whisker Sensory Extension Wearable". The purpose of this project was to focus on the creation of novel, computationally-enriched "sensory extensions" that allow for augmented-sensing of the natural world. My major effort with this..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
850.  [How to Make an Arduino Weather Station With DHT11 Temperature and Humidity Sensor](#) Recently I started playing around with DHT11 Temperature and Humidity sensor, at that time around, I had an idea to make a small yet effective Weather Station, so in this project inscrutable, we will use the DHT11 sensor from the previous tutorial and turn it..... Listed under: [Sensor – Transducer – Detector Projects](#)
851.  [DIY Smart Dustbin With Arduino](#) Here we will make a Smart Dustbin by using arduino and ultrasonic sensor.I hope you guys enjoy learning this project. Supplies: Arduino UnoUltrasonic SensorServo MotorDustbin Step 1: Preparing the Opening Take a plastic sheet and cut fraw a circle with the help of dustbin and..... Listed under: [Home Automation Projects](#)
852.  [DIY Givi V56 Motorcycle Topbox Light Kit With Integrated Signals](#) <https://youtu.be/xtSzXwfG3HA> As a motorcycle rider, I'm all too familiar with being treated like I'm invisible on the road. One thing I always add to my bikes is a top box which usually has an integrated light. I recently upgraded to a new bike and bought..... Listed under: [Wireless Projects](#)

853.  [Color Instrument](#) This a simple Arduino/3D printing project about colors and sounds. I made this device or as I call it 'color instrument' for activity for kids. It's fun and it's a good conversation starter about physics of colors and sound. The most interesting fact about colors,..... Listed under: [Other Projects](#)
854.  [Air Quality Sensor: Concept to Production](#) This is the full documentation of the Autodesk University Air Quality Sensor project. Attendees at several events have participated in assembling their own air quality sensor over the past several months. The Concept to Production page will give you more information on how you can use Fusion..... Listed under: [Sensor – Transducer – Detector Projects](#)
855.  [TTGO T-Watch](#) <https://youtu.be/gSs7gNcs25Q> This instructables show how to start playing with TTGO T-Watch. Step 1: What Is TTGO T-Watch? TTGO T-Watch is watch shape ESP32 based development kit. 16 MB flash and 8 MB PSRAM both are top specification. It also built-in a 240x240 IPS LCD, touch..... Listed under: [Clock – Timer Projects](#)
856.  [FM Radio](#) <https://youtu.be/oNqWfiP2yg0> Recently, I came across RDA5807 module which is an FM Radio Tuner in a very tiny package. It is very cheap and uses I2C protocol for communication which means that only two wires will be required to talk to the IC. Less wiring! My mom used..... Listed under: [Radio Projects](#)
857.  [Cowboy Toy – Arduino Laser Target](#) In the lesson I will show you how I made a toy on arduino that will suit beginners. If you start working with sensors, then this toy will suit you as a homemade product. Step 1: Watch the Video <https://youtu.be/WQGvIEtyMRw> Step 2: Material: - plywood..... Listed under: [Other Projects](#)
858.  [Bicycle Speedometer Display](#) What Is It? As the name suggests, in this project you will learn how to create a display for your bike that consists of both a speedometer and an odometer. Indicating real time speed and distance travelled. The total cost of this project comes to around 15 USD (not including the..... Listed under: [LCD Projects](#)
859.  [Alexa Controlled Dog Feeder](#) This is our dog Bailey. She's part Border Collie and Australian Cattle Dog so sometimes she's smarter than her own good, especially when it comes to telling time and knowing when she should be eating dinner. Typically, we try to feed her around 6 PM..... Listed under: [Medical – Health based Projects](#)
860.  [Crocodile Solar Pool Sensor](#) This instructable shows how to build a rather special pool sensor measuring the pool temperature and transmitting it via WiFi to Blynk App and to a MQTT broker. I call it the "Crocodile Solar Pool Sensor".It uses the Arduino programming environment and an ESP8266 board (Wemos..... Listed under: [Solar energy projects](#)
861.  [Monster Catcher Night Light](#) <https://youtu.be/iJaVelyJZwk> This nightlight doubles as a trap to catch monsters under the bed! Before you go to sleep at night, place it under your bed and it will catch any monster under there. It even keeps a light on all night to make sure new..... Listed under: [Other Projects](#)
862.  [Escape Room Decoder Box](#) Escape Rooms are awesomely fun activities which are highly engaging and great for teamwork. Have you ever thought about creating your own Escape Room? Well with this decoder box you can be well on your way! Even better have you thought about using escape rooms..... Listed under: [Other Projects](#)
863.  [Weather Based Music Generator \(ESP8266 Based Midi Generator\)](#) Hi, today I'll explain how to make your own little Weather based Music generator. It's based on an ESP8266, which is kind of like an Arduino, and it responds to temperature, rain and light intensity. Don't expect it to make entire songs or chord progressions..... Listed under: [Sound – Audio Projects](#)
864.  [MAX7219 LED Dot Matrix Assembly and Testing](#) <https://youtu.be/DLC6FyxNayo> A Dot-Matrix Display is a display device which contains light emitting diodes aligned in the form of matrix.This Dot matrix displays are used in applications where Symbol, Graphic, Characters, Alphabets, Numerals are need to be displayed together in static as well as Scrolling motion.Dot Matrix Display..... Listed under: [LED Projects](#)
865.  [Popsicle Stick Robotic Arm](#) <https://youtu.be/bP358pV-vVY> Here's how to build a simple robotic arm with a gripper using popsicle sticks, an Arduino, and a few servos. Supplies: Feel free to use similar materials or whatever you already have. (e.g. cardboard instead of popsicle sticks) Materials: 14 Popsicle Sticks4 Micro Servos..... Listed under: [Robotics – Automation Projects](#)
866.  [B-Safe, the Portable Safe](#) <https://youtu.be/7b1sMp4J7ck> The problem Imagine this: You wake up one morning and the weather is real good. You want to go to the beach.Because you don't live too close to the beach, you take your car. To pay for the parkingat the beach, you use your..... Listed under: [Security – Safety Projects](#)
867.  [Arduino MIDI Chiptune Synthesizer](#) Relive the fun of early computer game music with an authentic 8-bit chiptune synthesizer, which you can control over MIDI from the comfort of any modern DAW software. This simple circuit uses an Arduino to drive an AY-3-8910 programmable sound generator chip (or one of its many..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
868.  [Infinity Gauntlet Controlled Home Automation](#) <https://youtu.be/-H7YejeUWbl> In my previous project i have made an infinity gauntlet that control a light switch. I wanted to use six stones and each stone can control appliance, door lock, or lighting.So, I made a home automation system using infinity gauntlet. In this project I used..... Listed under: [Home Automation Projects](#)
869.  [WIFI JOYSTICK](#) Today I will share how to make a WIFI JOYSTICK from an ESP8266 and 4 ways industrial joystick. It can be integrated into the factory's automation system or be used for smart home control. The mentioned control systems are PLCs and the specific case that..... Listed

under: [Wifi - WLAN Projects](#)

870.  [Save Water & Money With the Shower Water Monitor](#) Which uses more water - a bath or a shower? I was recently thinking about this question, and I realized that I don't actually know how much water is used when I shower. I know when I'm in the shower sometimes my mind wanders, thinking..... Listed under: [Other Projects](#)
871.  [Inverted Pendulum: Control Theory and Dynamics](#) <https://youtu.be/xwXPipYmJ9A> The inverted pendulum is a classic problem in dynamics and control theory that is generally elaborated in high-school and undergraduate physics or math courses. Being a math and science enthusiast myself, I decided to try and implement the concepts that I learned during my classes to..... Listed under: [Other Projects](#)
872.  [Arduino Magnetometer](#) What are we building? Humans can't detect magnetic fields, but we use devices that rely on magnets all the time. Motors, compasses, rotation sensors, and wind turbines, for example, all require magnets for operation. This tutorial describes how to build an Arduino based magnetometer that..... Listed under: [Other Projects](#)
873.  [Arduino Watch Core](#) <https://youtu.be/IFRq-LM5flQ> This instructables show how to use a square color display and Arduino dev board build a watch core. This will cover the topics of dev board selection, display selection, extra modules selection, UI design, performance tuning and power saving. Note: I have prototyped some..... Listed under: [Clock – Timer Projects](#)
874.  [Arduino Fireflies](#) <https://youtu.be/S8C5a9tcbgk> One of the things I look forward to with summers in Pennsylvania are fireflies in my backyard. I recently taught myself Arduino programming for the purpose of making this simple project. It's a great program to start with and is easy enough for any..... Listed under: [Other Projects](#)
875.  [Unsafe Noise Level Alert System](#) The Oshman Engineering Design Kitchen (OEDK) is the largest makerspace at Rice University, providing a space for all students to design and prototype solutions to real-world challenges. To serve this purpose, the OEDK houses a number of power tools and large machinery that produce loud,..... Listed under: [Security – Safety Projects](#)
876.  [How to Make a Self-Watering IoT Planter With a Mason Jar and an ESP32!](#) Introduction: On one of my weekly pilgrimages to Lowes (as any devout Kansan does), I found a sad little plant in the Gardening Department: a Janet Craig Compacta. The poor little guy looked lonely and dehydrated. We clicked right away and immediately I knew I..... Listed under: [Home Automation Projects](#)
877.  [The Brachistochrone Curve](#) <https://youtu.be/1BdO8J0iynY> The brachistochrone curve is a classic physics problem, that derives the fastest path between two points A and B which are at different elevations. Although this problem might seem simple it offers a counter-intuitive result and thus is fascinating to watch. In this instructables one will..... Listed under: [Other Projects](#)
878.  [RS485 – ARDUINO AND INDUSTRIAL DISTANCE SENSOR](#) I have in my hand a distance laser sensor with high precision and speed. It is used in industrial environments for object positioning or detection applications. According to technical documents, I found it can communicate with other devices via RS485. I spent the weekend to..... Listed under: [Sensor – Transducer – Detector Projects](#)
879.  [Flip-It! – the World's Dumbest Game?](#) <https://youtu.be/1QCvIQLj2JA> Origins: This is a game I developed over a couple of years 2018-2019 It was originally called "Stupid Flip" and came out of my interest in creating simple and fun interactive games that could also be used for teaching coding. This is about the..... Listed under: [Game – Entertainment Projects](#)
880.  [Alaska Datalogger](#) Alaska is on the edge of advancing climate change. Its unique position of having a fairly untouched landscape populated with a variety of coal mine canaries enables a lot of research possibilities. Our friend Monty is an Archaeologist who helps with camps for kids in..... Listed under: [Arduino Programmer Projects](#)
881.  [Arduino Watch](#) This Instructables show how to make a Arduino Watch from Arduino Watch Core. Step 1: Preparation Arduino Dev Board This time I am using Sparkfun Pro Micro 3.3 V 8 MHz dev board. Watch Display This time I am using a ST7789 1.3" IPS LCD. Lipo..... Listed under: [Clock – Timer Projects](#)
882.  [Motion Controlled Pong Video Game](#) i'm MrWaffelXD and today I want you to show how to make a motion controlled Pong game. In this guide you learn, how to programm your own Pong and how to make a distance-controller, which you can use by moving your hand. But first: What is..... Listed under: [Game – Entertainment Projects](#)
883.  [DIY Geiger Counter With an ESP8266 and a Touchscreen](#) <https://youtu.be/rmFnbVB5gCM> I designed and built a Geiger Counter - a device that can detect ionizing radiation and warn its user of dangerous ambient radiation levels with the all-too-familiar clicking noise. It can also be used when scouting for minerals to see if the rock you..... Listed under: [Other Projects](#)
884.  [E-dice – Arduino Die/dice 1 to 6 Dice + D4, D5, D8, D10, D12, D20, D24 and D30](#) <https://youtu.be/B-dnzLoZDlw> This is a simple arduino project to make a electronic die. It is possible to choose for 1 to 6 dice or 1 out of 8 special dice. Choice is made by simply turning a rotary encoder. These are the features: 1 die: showing..... Listed under: [Other Projects](#)
885.  [ARDUINO PH METER](#) In this project, we will be making a benchtop pH meter using the gravity analog pH circuit and probe from Atlas Scientific and an Arduino Uno. Readings will be displayed on a liquid crystal display (LCD). MATERIALS 1 - Arduino Uno1 - Gravity analog pH sensor1 - pH..... Listed under: [Other Projects](#)
886. [Simple Automated Point to Point Model Railroad Running Two Trains](#) Arduino microcontrollers are a great way of automating model railroad layouts due to their low-cost availability, open-source hardware and software and a large community to help you. For model railroads, Arduino microcontrollers can prove to be a great resource for automating their layouts in a..... Listed under: [Home Automation Projects](#)



887. [Berry Racer – a Game Programmed in Arduino and Played on a Custom PCB](#) <https://youtu.be/C8IPaMI1wTk> Berry Racer is a game that I came up with and programmed using Arduino's Software. The game is run on a Teensy microcontroller which is connected through a custom PCB (Printed Circuit Board) to a Screen, a Joystick, four buttons, and a piezo speaker..... Listed under: [Game – Entertainment Projects](#)



888. [Playing Chess Against Arduino](#) This project has been developed with the "Games" contest in my mind, I hope you'll like it and give your vote 😊 The idea of this project is quite simple. I want to simulate as many board games as possible using a simple electronic assembly..... Listed under: [Game – Entertainment Projects](#)



889. [Toast Talker](#) https://youtu.be/9jhreDmp_GM This Instructable started as my great interest in the TV show Toast of London. The British Matt Berry comedy that can now be found on Netflix has some superb voice overs that I wanted to accommodate in my morning toaster routine. In a running joke, he..... Listed under: [Sound – Audio Project Ideas](#)



890. [DIY Low Cost Air Hockey Table](#) <https://youtu.be/nLU8pFqxcTU> A professional air hockey setup is usually available only in arcades due to the sophisticated systems that are required to operate it. Our goal was to build a DIY air hockey table, bringing this gaming experience at home. By using commonly available materials we..... Listed under: [Game – Entertainment Projects](#)



891. [The 'Do More' Timer, Inspired by Casey Neistat](#) https://youtu.be/anUKywFO_I8 Summer, the lovely season when things happen. But sometimes we tend to forget the time. So to remind us the time left, I designed this Casey Neistat's 'Do More' DIY arduino driven timer which can be programmed to display the time left from..... Listed under: [Clock – Timer Projects](#)



892. [Upright Laser Harp](#) https://youtu.be/_1oTBekbUT4 Laser harps are musical devices with laser beam "strings." When the beam is blocked, a note is played by the instrument. Usually laser harps have the beams travel vertically in the shape of a fan or vertical lines. In this project, I built a..... Listed under: [Other Projects](#)



893. [Creating a Physical Game Controller](#) When the Nintendo Wii was launched players were encouraged, nay required, to leave the sofa and jump, dance, and jiggle in order to score points in their game of choice. While there is a steep learning curve in building for the Wii, it is easy..... Listed under: [Game – Entertainment Projects](#)



894. [3D Printed Arduino RC Airboat With Controller](#) This is a project that combines the knowledge of 3D printing and Arduino. It is a good beginners project for anyone interested in making their own RC boat or just interested in using 3D printing and Arduino for their own creations. Supplies: Look at step..... Listed under: [Other Projects](#)



895. [Magic Button 4k: the 20USD BMPCC4k Wireless Remote Control](#) https://youtu.be/_3tImJh9MJA Many people have asked me to share some details about my wireless controller for the BMPCC4k. Most questions were about the bluetooth control, so I'll mention a few details about that. I am assuming you are familiar with the ESP32 Arduino environment. This version..... Listed under: [Wireless Projects](#)



896. [Smart Power Strip With Cayenne Cloud](#) <https://youtu.be/uXSMAoU3B6Y> This instructable shows how you can build your own easy or simple DIY Internet-connected Smart Power Strip to control Electrical Appliances from remotely. You can also automate the daily repetitive task with scheduling feature, so the appliance will automatically be turned on and off on..... Listed under: [Other Projects](#)



897. [SteamPunk Radio](#) This project is without doubt the most complex I have undertaken, with sixteen IV-11 VFD tubes, two Arduino Mega cards, ten LED Neon light circuits, a servo, an electromagnet, two MAX6921AWI IC Chips, five DC power supplies, a HV power supply, two DC Volt meters,..... Listed under: [Radio Projects](#)



898. [FS-Touch Bed Levelling Tool](#) <https://youtu.be/RZ0BV73TAOc> Tired of trying to get the perfect levelled 3D printer bed? Frustrated with guessimating the proper resistance between nozzle and paper? Well, FS-Touch will help you measure this pinching force quantitatively and achieve quick and accurate bed levelling in no time. Features of this bed levelling(proper..... Listed under: [CNC Machines Projects](#)



899. [How to Setup Cheapduino Board \(smallest Arduino\)](#) When it comes to electronics projects, Arduino is definitely one of the most favorite choices of every enthusiast, and if you are Arduino fan like me, you too build all your projects on Arduino, so what if you have limited boards available to use? And..... Listed under: [Other Projects](#)



900. [\[DEPRECATED\] Arduino-Based Smart Glasses by a 13-year-old – Jordan Fung's Pedosa Glass](#) We have developed into Pedosa Innovation, a tech start-up founded by the developer of Pedosa Glass. We have continued to develop wearable technology, in addition to cloud infrastructure and STEM education programmes for kids in Hong Kong. Learn more at www.pedosa.org, or contact us at hello@pedosa.org. UPDATE:..... Listed under: [Other Projects](#)



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