Use Arduino for Projects

Advanced View Arduino Projects List

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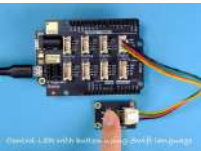
1. [Flora- an interactive flower](#) Hello everyone.....Today I have taken something out of my flower garden....We all know,plants have their own lives,they can feel just as we feel..but they can't express it...But what happens if a flower gains the ability to interact with you? Imagine a flower sitting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

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

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

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

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

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

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

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

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

10. [Automatic Food Dispenser From Arduino](#) Howdy Readers, Dispensers for pets are expensive and this fact is known to all of pet owners But as there is a saying there is always one or other solution to each of problems! In this instructables we will go through detailed step by step...... Listed under: [Other Projects](#)
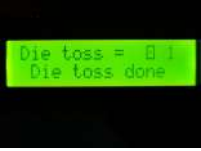
11. [The Next-Gen Deck](#) By Marcel's Workshop I spend a lot of time on Genealogy with subscriptions to many services.To make it efficient I copy, paste and refresh pages often from one database to another.I use 3 monitors so I can go from screen to screen to compare data,...... Listed under: [Other Projects](#)

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

13. **IOS App for Adafruit Feather NRF52832** The Adafruit Feather nRF52832 has a BLE (Bluetooth Low Energy) functionality that has a lot of potential to be used in many different projects. In this Instructable, I will be stepping through a project where I created an iOS application that would receive data sent…… Listed under: Other Projects

14. **PixelBrite** I originally started this project because I wanted to recreate the scene in the movie the Close Encounters of the Third Kind where the humans are communicating with the Mothership via a huge color organ. So I glued various bits of software together and made…… Listed under: LED Projects

15. **Analog Read Serial using Arduino** This example shows you how to read analog input from the physical world using a potentiometer. A potentiometer is a simple mechanical device that provides a varying amount of resistance when its shaft is turned. By passing voltage through a potentiometer and into an analog input on…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

16. **Arduino Cable Tracer** Instantly diagnose the type and integrity of USB cables with this Arduino Cable Tracer. Suitable to trace USB A, Mini, Mico, and USB-C cables this is very useful to identify the exact wiring configuration and also diagnose broken connections. Step 1: Gather the Materials and…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

17. **Hack a voice changer to add an Arduino input** Another quick hack. I purchased a voice changer because I was looking for something cheap that could be hacked into an voice input device. Basically I wanted to animate a skull when I spoke. Added bonus, now the skull puppet would also have a scary…… Listed under: Projects, Sound – Audio Projects

18. **DIY Arduino Remote Control and Lego RC Vehicle!!** UPDATE (8/29/13): Thank you readers for your enthusiasm and kind remarks regarding this project! It has been a tremendous journey since I started this project back in March, but I am very glad with the resulting product and the excitement with which it has been received…… Listed under: How To – DIY – Projects, Robotics – Automation Projects, Sensor – Transducer – Detector Projects

19. **Cyborg Crafts: Sense Like a Cat With Whiskers – Sensory Extension Puppet** I adopted a cat a couple of weeks ago (Figure 2&3). To celebrate, I wanted to make a cat whisker sensory extension puppet that looks like my cat! This project will show you how to create a computationally enriched puppet that has whiskers. The Puppet…… Listed under: Sensor – Transducer – Detector Projects

20. **3-dimensional Star Cluster using an Arduino** This instructable will guide you through the process of making your very own star-cluster from LEDs and acrylic. I made this piece for my electronics final project at college and had access to a machine shop. This instructable assumes that you have access to similar…… Listed under: Home Automation Projects, LED Projects, Projects

21. **Gliderscore Timing Board** Gliderscore is a program developed by Gerry Carter that not only scores a model plane flying competition, but provides timing for the various flying tasks One feature of Gliderscore Timer is that it outputs a Serial ASCII string that contains the countdown time, the group…… Listed under: Clock – Timer Projects

22. **Matrix sound machine: Generative music with a particle system using Arduino** This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Creating emergent patterns that can be converted into sounds fascinates me. So this is my first experiment in building an arduino platform for…… Listed under: Projects, Sound – Audio Projects

23. **Ardubuino (an Arduboy Compatible Clone)** Arduboy is an open source credit card size gaming console that has an active community not only on its software where alot of people develop their own game for the platform but also on its hardware where there are also alot of people came up with their own…… Listed under: Game – Entertainment Projects

24. **Lite Brite LED clock using an Arduino** Lite Brite pegs look like LED's don't they? That's what I though the other day after working on an LED cube for a few hours. I happened to see my daughter's Lite Brite sitting there, and I looked at the pile of LED's on my…… Listed under: Clock – Timer Projects, LED Projects, Projects

25. **Cheapest Plug & Play Room Automation Setup** Their are many people who are struggling to make projects that are needed for their daily needs. One of the major example is none other than room automation. Even though many of the room automation setup cost a little bit higher can't we make it…… Listed under: Other Projects

26. **The tweiger counter** The following steps will enable you to build your own tweiger-counter! It searches in current twitter messages sent around the globe for the words like nuclear, calculates a sliding window average and pushes it to the arduino that will click for every incoming tweet like…… Listed under: Calculator Project Ideas

27. **Sensors in Phone and Arduino Serial Communication** Sensors are one of the crucial things when it comes to building projects/robots. Many a times the sensor might be not available locally or it might take too long to ship. Smart phone have most of the basic sensors like proximity, accelerometer, light, magnetometer, gyroscope,…… Listed under: Sensor – Transducer – Detector Projects

28. **DIY 3D Controller using an Arduino** Make a 3D interface using an six resistors, aluminum foil, and an Arduino. Take that, Wii. Update: a much more thorough explanation of this project is available from Make Magazine. It might be easier to follow their instructions, and I think their

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

29. [Analog Fabric Joypad using an Arduino](#) How to make an "analog" input device from fabric and a few other necessary materials. "Analog" in parenthesis because, although it is made up of 4 analog inputs, the only analog transition between the directions (up, right, down and left) comes from the buffering material...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

30. [Arduino Game Controller for Both PC and Android](#) In this instructables session we are going to see . How to make your joystick . Which is compatible for PC, Laptop , Smart Phone . By Using UnoJoy Libary. With this libary we can convert a arduino uno into USB game Controller . People...... Listed under: [Game – Entertainment Projects](#)

31. ["12 Thumbs" R/C LEGO Dragster](#) Impressed by these two LEGO® Dragster sets, a 250 pieces LEGO®TECHNIC Dragster 8847 (released in 1983) and a 391 pieces Top Fuel Racing 5533 (released in 1999). These two Dragsters inspired me to build my own LEGO® dragster, the "12 Thumbs". The name "12 Thumbs" came after I...... Listed under: [Other Projects](#)

32. [Perimeter Wire Using Matched Filter](#) Do you want to build a robot that is in an invisible enclosure? Or have you wondered how the robotic lawn mowers stay in their garden?In this Instructable I will show you how you can easily build a perimeter loop yourself.This perimeter loop uses a...... Listed under: [Robotics – Automation Projects](#)

33. [An Arduino Powered (Scale) Speed Trap](#) After a break of around two decades I've recently started building a model railway. One of the issues I've faced is trying to work out how fast I should be running the trains so that their speed reflects reality given the scale at which they...... Listed under: [Metering – Instrument Projects](#), [Projects](#)

34. [Low Cost, Easy to Build and Use: Arduino Die Toss Simulator](#) In addition to gambling, dice (die - singular) are used in many board games, e.g., Backgammon, Monopoly, Yahtzee, Liar's Dice, Dungeons & Dragons, Trouble, etc. Common dice are usually white with black "pips". They are sometime known as d6 or D6. In this Instructable, the...... Listed under: [Other Projects](#)

35. [Strandbot – a solar & arduino powered R/C motorized Strandbeest](#) The Strandbot is a DIY upgrade for the Strandbeest originally designed by Theo Jansen. Strandbeests are amazing mechanical creatures that are able to move on their own using just a little bit of wind power. Unfortunately my tiny apartment is short on wind, so I...... Listed under: [Motor Projects](#), [Robotics – Automation Projects](#)

36. [Custom I2C Slave Sensor/device With Arduino](#) https://youtu.be/7uRn6D0kInY In this Instructable, I'll show you how I managed to create my own I2C controlled device that I can then connect to any microcontroller and interact with it over I2C. In my case, I'm using it to control an AC dimmer module from a...... Listed under: [Sensor – Transducer – Detector Projects](#)

37. [Make your own programmable thermostat for $66 with Arduino](#) This project will show you how you can create your own programmable thermostat with temperature probe, an LED readout and ability to remote control outlets. The core of this project is actually a driver for a 4 digit seven segment display. There are lots uses for...... Listed under: [Projects](#), [Temperature Measurement Projects](#)

38. [Online Thermometer using Arduino](#) One of the projects in Practical Arduino is the "Online Thermometer", which combines an Ethernet shield with a number of DS18B20 1-wire temperature sensors to allow you to read multiple temperatures and make the values accessible using a web browser. In that project I chose...... Listed under: [Temperature Measurement Projects](#)

39. [Arduino IoT Cloud ESP32 Alexa Voice Control Smart Home | IoT 2021](#) In this IoT project, I have shown how to make an IoT-based Home Automation with Arduino IoT Cloud & Alexa using ESP32 to control 4 home appliances with voice commands. If the internet is not available, then you can control the home appliances manually with...... Listed under: [Sound – Audio Projects](#)

40. [Self-balancing skateboard/segw*y project Arduino Shield](#) General purpose Arduino shield for self-balancing machines. Why did I make it? I previously made an Instructable in 2010 on how to build a self-balancing skateboard. http://www.instructables.com/id/Easy-build-self-balancing-skateboardrobotsegway-/ There are >500 comments on this and many express confusion setting up the balance sensors, software and electronics....... Listed under: [Development Board – Kits Projects](#)

41. [DIY Arduino Wireless Motion Alarm System](#) Hello everybody hope you're doing well, in this instructable I'm going to show you how to make a wireless motion alarm system, this device consists of a transmitter and a receiver. So essentially it is a pretty simple and basic wireless motion alarm system with...... Listed under: [Wireless Projects](#)

42. [How to control LED's with Processing and Arduino](#) The other day I was confronted with an interesting problem, I needed to control a series of lights from an interaction on a computer screen and it had to be as inexpensive as possible. I instantly thought of an Arduino. It had everything that I needed,...... Listed under: [LED Projects](#), [Projects](#)

43. [PECS Communication Board](#) The Picture Exchange Communication System, or PECS, allows people with little or no communication abilities to communicate using pictures. People using PECS are taught to approach another person and give them a picture of a desired item in exchange for that item. By doing so,...... Listed under: [Phone Projects](#)

44. [Arduino Waveform Generator Shield](#) Waveform generators (also called function generators) are useful for testing and debugging circuits. They can be used to test the frequency response of electronic components like op amps and sensors or to characterize and troubleshoot audio effects boxes and pedals. This

waveform generator shield is...... Listed under: [Projects](#), [Radio Projects](#)

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45.   [DIY Flex sensor using Sugru and graphite powder (Resistencia flexible usando Sugru y polvo de grafito)](#) Este es el primero de 5 instructables que surgieron del Instructables & Sugru build night (and day en nuestro caso) que hicimos en el Laboratorio de Juguete, el 20 de julio del 2013: una Resistencia Flexible o Flex Sensor hecha con Sugru y polvo de grafito:...... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#)

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46.   [Remote Control Arduino Car](#) A great introductory project for those diving into the IoT and Arduino platform. Working with motors and an IR sensor helps newbies understand various components and sensors compatible with the Arduino. Using the remote control, you will be able to control the robot's movement allowing...... Listed under: [Car Projects](#)

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47.   [7-segment Display Using Swift Language](#) You could always see 7-segment displays around you used to display digits, like in timer, clock, etc. In this mission, you are going to learn how it works and display numbers on it. Let's start. Step 1: What You Will Need The parts you will...... Listed under: [Clock – Timer Projects](#)

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48.   [Arduino Audio DAC Options](#) DAC is short for Digital to Analog Converter. In this article we play around the code Michael Smith created for a PWM based DAC. I modified his code so that other DAC options could be tried. I compare the 8-Bit PWM DAC with the R2R...... Listed under: [Projects](#), [Sound – Audio Projects](#)

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49.   [Laser Shooting Game](#) This laser game is a simple project that utilizes an Arduino mini. All target boards have an Arduino, sensors, and servo control ports. Shooting the target center triggers the servo and the board falls flat. Step 1:What you need [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14 "...... Listed under: [Game – Entertainment Projects](#)

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50.   [Laser Tag "Free for All" Circuit Playground Express and ESP8266](#) This is an easy way to make your boards into a fun laser tag game to play with friends. we combined both boards as described in the pictures. Supplies For this project you will need IR remotes, shoe laces, circuit playground express, ESP8266, battery case...... Listed under: [Game – Entertainment Projects](#)

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51.   [Clock Two – Single digit clock using Arduino](#) Time for another instalment in my irregular series of clock projects. (Or should that be "Time for another instalment in the series of irregular clock projects"?) In contrast with the extreme "blinkiness" of Clock One, in this article we describe how to build this single-digit...... Listed under: [Clock – Timer Projects](#), [Projects](#)

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52.   [GRBL Based Coil Winder From Water Pipe](#) When I was working on the Toy Magnetic Levitation project with a solenoid coil, I thought to myself, why didn't I make a coil winder. So I took my times to build a simple coil winder based on GRBL firmware and it was made from PVC pipes...... Listed under: [Other Projects](#)

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53.   [Your Image on an Arduino! – TFT LCD Screen Guide](#) Have you ever heard of TFT LCD screens? They are great ways to display information from your Arduino, or display pictures. The Arduino team just released an official TFT LCD screen with their new Robot at Maker Faire 2013. It's very easy to get started...... Listed under: [Video – Camera – Imaging Projects](#)

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54.   [Electronic Arrow Spine Tester](#) This Instructable describes the construction of an electronic archery arrow spine tester. An arrow spine tester measures the stiffness of arrows. This helps an archer to construct arrows of uniform specifications which will shoot consistently. Traditional arrow spine testers measure arrow stiffness, or spine, by...... Listed under: [Other Project Ideas](#)

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55.   [3D Printed Kitchen Scale Using an ESP8266](#) Hello everyone ! Today I'm going to show you how I built this little kitchen scale during this lockdown ! It can measure weights up to several kilograms, has an included battery, a nice display and can even be turned into a connected scale thanks...... Listed under: [Temperature Measurement Projects](#)

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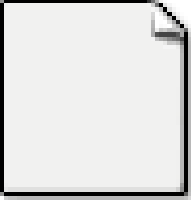
56.   [EDISON Radio](#) This project is bases on the internet radio by Ed Smallenburg. He did an awesome job in creating a working internet-based radio. He shared his coding and hardware on the world wide web so that people like you and me can learn from it. He...... Listed under: [Radio Projects](#)

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57. [Multiplexing 7 Segment displays with Arduino and Shift Registers](#) In this instructable, I will be teaching the basics of multiplexing 7 segment displays using an Arduino and a couple of shift registers. This project is well suited for displaying numerical information or if you want to control a bunch of LEDs. For beginners, like me,...... Listed under: [Calculator Projects](#), [LCD Projects](#)

58.   [Halloween Pop-Up Prop](#) https://youtu.be/nJx_GmmiR7A This was my first animated Halloween prop. I found this witch at the local hardware store. It was meant to hang up by a cord and if someone came close to it, an infrared sensor would trigger the prop. The prop has LED eyes...... Listed under: [Other Projects](#)

59.   [DIY 3D Laser Scanner Using Arduino](#) Maker Alessandro Grossi sent us this great DIY build for a 3D scanner built using a laser, a DSLR, and an Arduino controller. Allesandro is a Mechanical Engineer, holding a Ph.D. in product design. His day job involves helping designers and manufacturing firms develop and...... Listed under: [How To – DIY – Projects](#), [Projects](#)

60.   [Halloween Animated Knights](#) About a week or so after Halloween last year (pre-COVID), I happened to be in Home Depot and back in a far corner bin were several Halloween items very heavily discounted. They were just trying to get rid of them as fast as they could....... Listed under: [Other Projects](#)

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

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

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

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

65.   [CO2 Monitoring As an Anti-Covid19 Measure](#) [](#), January 2021 Here, we propose an open-source, portable, autonomous, cheap and easy-to-use device to monitor and record the concentration of CO_2 in ambiant air in real-time. Using CO_2 as a proxy for respiratory aerosols, the device can help define best practices regarding the ventilation...... Listed under: [Temperature Measurement Projects](#)

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

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

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

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

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

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

72.   [ARDUINO with XBEE- WIRELESS SETUP DEMO](#) This video describes how to configure two Series 1 XBEEs using Arduino UNO board.The ways of making 2 way communication is also tested on Wireless mode. Overview The Xbee shield allows an Arduino board to communicate wirelessly using Zigbee. It is based on the Xbee module...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

73.   [Magic Dome](#) Francisca Molero Luque, Dolores Martín Cabrera and Laura Mejía Ospina, students of 'Creative Electronics', a Beng Electronics Engineering module at the University of Málaga, School of Telecommunications. We decide to make as final project a derivation of Interactive Geodesic LED Dome. Supplies - NeoPixel Digital RGB LED...... Listed under: [LED Projects](#)

74.   [Super Simple Arduino Powered Roomba Scheduler](#) Like most people I was skeptical about getting a robotic vacuum cleaner, so as a trial run I thought I would buy the now obsolete iRobot Roomba 530 which was heavily discounted (they're still available in Australia, showing how behind the times we are). Of...... Listed under: [Robotics – Automation Projects](#)

75.   [LED Chaser Game](#) Hello, my name is Vigas Balachandran and on this instructable, I will be presenting my final project. For this project, I have created a LED chaser game. In this game, the LEDs will be flashing in consecutive order. On the serial monitor on the arduino,...... Listed under: [LED Projects](#)

76.   [Arduino String Case Change Functions Code](#) The String case change functions allow you to change the case of a String. They work just as their names imply. toUpperCase() changes the whole string to upper case characters, and toLowerCase() changes the whole String to lower case characters. Only the characters A to...... Listed under: [Development Board – Kits Projects](#), [Projects](#)

77.   [DIY: ARDUINO SOUND SENSOR SYSTEM](#) I have a major problem when it comes to talking on the phone or playing video games with my friends - I often get loud (that's quite an understatement). Since I live with my parents, this often triggers my mother and she usually ends up...... Listed under: [Sensor – Transducer – Detector Projects](#)

78.   [Blink LED using Arduino](#) This example shows the simplest thing you can do with an Arduino to see physical output: it blinks an LED. Circuit To build the circuit, attach a 220-ohm resistor to pin 13. Then attach the long leg of an LED (the positive leg, called the...... Listed under: [LED Projects](#), [Projects](#)

79.   [Yogy – The Arduino Powered Robot Made For Kids](#) In this Instructable I will show you how to make a cute and kid friendly Obstacle Avoiding Robot I like to call Yogy. Yogy gets his name from the Yoghurt tub body he is made from. I am a sucker for seeing the best in...... Listed under: [Robotics – Automation Projects](#)

80.   [Arduino Safe With Multivibrator Changeable 4-digit Combination](#) This instructable will explain how to wire, code, and build a functioning DIY arduino safe with multivibrator changeable 4-digit combination. Well what does that mean? A arduino safe with multivibrator changeable 4-digit combination is a functioning safe with a changeable password/combination, it features a series...... Listed under: [Security – Safety Project Ideas](#)

81.   [NeoPixel Ancient Oil Lamp](#) In this Instructable, we will describe how to turn a "retro" oil lamp into a NeoPixels based rechargeable lamp with colorful light effects. Supplies Arduino nano 12 bits NeoPixel ring Micro USB 5V 1A TP4056 Lithium battery charger module 3.7V 9800mAh Lipo Li-polymer Battery Rotary...... Listed under: [Other Projects](#)

82.   [Analog Write with 12 LEDs on an Arduino Mega](#) This example fades 12 LEDs up and the down, one by one, on an Arduino Mega board. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect the longer, positive legs of (anodes) 12 LEDs to digital pins 2-13 through 220 ohm current limiting resistors. Connect...... Listed under: [LED Projects](#), [Projects](#)

83.   [Arduino: Portable Two-Axis Stepper Control](#) https://youtu.be/r_2DXRlM29s In a previous tutorial we have seen how to run two stepper motors synchronously from a given start position to a defined destination using an Arduino and a very simple "user interface". That user interface was restricted to some microswitches and LEDs, both installed on a...... Listed under: [Motor Projects](#)

84. [Digital/Analog Clock – Arduino + PaperCraft](#) In this instructable we will be recreating a clock inspired by Alvin Aronson's original design. When I first saw this clock I was very impressed by how clean an elegant the design was I immediately wanted to recreate this effect. I hope some of you feel…… Listed under: [Clock – Timer Projects](#)

85. [Wordclock – No Special Tools Required! Easy to Build](#) Hi makers, do you want to own a wordclock?There are a lot of nice instructions all over the web, but You've no access to a 3D printer and cnc machines to cut, laser or millYou don't want to waste time and nerves fiddling with itsy-bitsy partsYou…… Listed under: [Clock – Timer Projects](#)

86. [Arduino Hello World Blink Code](#) This is a basic example how arduino works. In this arduino projects you'll see how arduino control LED on for 1 second and off for 1 second repeatedly. Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED…… Listed under: [LED Projects](#), [Projects](#)

87. [Autonomous Autonavigation Robot using Arduino](#) This is a step by step guide to build an autonomous navigation robot. We use the Arduino microcontroller to control this robot. We have two different programs for this robot. The first enables the robot to drive around and avoid anything that gets in its…… Listed under: [Projects](#), [Robotics – Automation Projects](#)

88. [2 Bit Adder Binary and Decimal Calculator](#) By: Sonya Singh Computer Engineering Step 1: Project Overview Have you ever dreamed of building a 2-bit adder calculator, which can display the results in both binary and decimal? Well, look no further - Through this guide, your dreams have finally come true! Not only…… Listed under: [Calculator Projects](#)

89. [AAA Robot (Autonomous Analog Arduino)](#) The AAA Robot is a perfect robot for beginners. It is versatile, easy to build, and discusses many of the topics roboticists need to learn, including but no limited to transistor switches, motor driving nad analog sensors. This Instructable includes step-by-step instructions on how to…… Listed under: [Robotics – Automation Projects](#)

90. [How to Motorize a Camera Slider (Battery Powered)](#) When making videos with a tripod fluid head, there aren't that many movements you can do. You've got tilt and pan - so basically either a vertical movement or a horizontal movement. Both of these have one common characteristic: the camera stays in pretty much…… Listed under: [Video – Camera – Imaging Projects](#)

91. [An Arduino Thermometer with Digital Display](#) This is a project for Arduino to make a Thermometer with Digital Display, aimed at beginners. Arduino measures the voltage on a TMP36 Temperature sensor, converts the Voltage to Degrees Celcius and Displays the value on an LOL shield display. Objectives: * Learn how to…… Listed under: [LED Projects](#), [Temperature Measurement Projects](#)

92. [Arduino Activated Light Catcher Arcade Game](#) This pandemic time has been rough for us all, as it confined us in our homes thus not enabling the opportunity to go outside and meet with family and friends to engage in fun activities of all sorts, such as going to your nearby arcade…… Listed under: [Game – Entertainment Projects](#)

93. [Cell phone text using an Arduino](#) Arduino text'in. Key Features: 24 relays controlled by 4 I/O lines! Cell phone text using your Arduino. This project hacks a cell phone to text using normally open relays. After investigating cellular modules on the internet I decided it looks not only rather pricy, but…… Listed under: [Phone Projects](#), [Projects](#)

94. [PAD HERO (Guitar Hero Using Arduino)](#) A group of three students present you PAD HERO, our Arduino based Guitar Hero game. This project was submitted to 'Creative Electronics', a Beng Electronics Engineering module at University of Málaga, School of Telecommunications (https://www.uma.es/etsi-de-telecomunicacion/). The aim of this Project was to replicate the popular…… Listed under: [Game – Entertainment Projects](#)

95. [Thermal Camera](#) Have you ever had the desire to see what can not be seen? I never had the ability to see in thermal infrared, and it is rather cool to be able to see in the thermal infrared part of the electromagnetic spectrum. Unfortunately, most thermal…… Listed under: [Temperature Measurement Projects](#), [Video – Camera – Imaging Projects](#)

96. [Location Tracking "Weasley Clock"](#) As with so many other people, I've always been a massive Harry Potter fan. One of the coolest magical items in the series was almost certainly the Weasley family clock that had a hand for each family member, and moved to reflect their location. I…… Listed under: [Clock – Timer Projects](#)

97. **Arduino FM radio receiver shield** This Instructable will show you how to build your own FM radio receiver shield to be used with an Arduino board. The radio chip we are going to be using is the AR1010 on a breakoutboard found at Sparkfun or Electrokit and there will be code to get…… Listed under: **Projects**, **Radio Projects**

98. **Arduino/ESP32 Capacitive Touch Sensor** Adding touch interfaces to your projects might seem difficult at first, but it really isn't. In this Instructable I'll show you how to do it using an Arduino or ESP32 development board. What you will need: an Arudino* or ESP32 development boarda wiresome tinfoilsome sticky…… Listed under: **Sensor – Transducer – Detector Projects**

99. **Classroom Pencil Protection Machine** HEY KID, GIVE ME BACK MY PENCIL! As a teacher, one problem I face every day is losing my pencils. Now pencils don't just disappear, they walk away in the hands of my middle school students. I know this may not seem like a big…… Listed under: **CNC Machines Projects**

100. **ArrDrownHo! – Easily convert AVR to Arduino** Cap'n ArrDrownHo! is the lovechild of Ardweeny and Boarduino and he's here to commandeer your AVR ships. ArrDrownHo! inherits pros of both and cons of neither. Pick up an AVR chip and start prototyping instantly on a breadboard! Want to replace that costly Arduino in your project with a…… Listed under: **Development Board – Kits Projects**

101. **Kaosduino: Create your own kaosillitaor using Arduino** This project is a part of experiments done while doing an artist in residence at Instructables. You can see the other projects here. Inspired by Korgs Kaossilator I took it upon myself to build an opensource version of it. This way people can design new ways…… Listed under: **Projects**, **Sound – Audio Projects**

102. **Splash! Water Droplet Photography** I have been shooting water drops for a while now…. since 2017. I still remember how excited I was when I got water drops bounce from the surface with my first setup I made with Littlebits… With these setups (Mark I and Mark II) I…… Listed under: **Video – Camera – Imaging Projects**

103. **Whiteboard Erasing Robot using Arduino** My entry for the Microcontroller contest is a whiteboard cleaning robot. The goal of this project was to create a robot which could erase written text on a whiteboard completely autonomously, i.e. no human interface. The processes involved in this project included devising a method…… Listed under: **Robotics – Automation Project Ideas**

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

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

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

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

108. **3D Printed Spirometer** Spirometers are the classical instrument to perform the parsing of air as it is blown out of your mouth. They consist of a tube that you blow into that records the volume and speed of one breath which are then compared to a set of…… Listed under: **Metering – Instrument Projects**

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

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

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

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

113.   [14band Graphical Equalizer](#) Here comes a simple Graphic Equalizer showing 14 audio bands from 60Hz up to 16kHz. It consist of a PCB based on MSGEQ7 and ESP dev board. Since a MSGEQ7 chip recognizes 7 bands only and an ESP dev board gives us a chance to...... Listed under: [Other Projects](#)

114.   [The Raspberry Pi – Arduino Connection](#) The Pi is a fine little computer board, though not nearly as good as the Arduino when it comes to I/O capabilities. The beautifully-engineered Gertboard is a plug-in add-on that neatly overcomes this deficiency by giving the Pi access to an ATMega328, but it's a very...... Listed under: [Development Board – Kits Projects](#)

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

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

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

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

119.   [Living Pixels – Imagine Technology Has Life](#) Seeing smart home products being more common in our lives, I've started to think about the relationship between people and these products. If one day, smart home products become an indispensable part of everyone's life, what attitudes should we take to coexist with them? How...... Listed under: [Other Projects](#)

120.   [DIY Arduino Bluetooth Controlled Car](#) Hello friends! My name is Nikolas, I am 15 years old and I live in Athens, Greece. Today I will show you how to make a 2-Wheel Bluetooth Controlled Car using an Arduino Nano, a 3D printer and some simple electronic components! Make sure to watch...... Listed under: [Bluetooth Projects](#)

121.   [Sending and Receiving String via UDP using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to send and receive text strings via the UDP protocol (Universal Datagram Packet). You'll need another device to send to and from. The Processing sketch included at the end of the code will...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

122. [Mr. Indecision – a small felt version of yourself that turns its head and looks at you using Arduino](#) This is a tutorial on how to use 123D Catch to get a 3D scan of your whole body. Once you have the scan or "catch" the tutorial will take you through a technique to clean it up and manipulate it ready for 123D Make.......
Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)

123.   [Water Surface Lamp](#) This Instructable will show you how to make an atmosphere lamp that lights up just like making little waves on the water surface. It can be placed on your table, shelf, or bedside to create a harmonious atmosphere, bringing an absorbing experience to the user....... Listed under: [Other Projects](#)

124.   [Arduino Beginner and Basic Electronics Kit Primer](#) I learned that one of my nieces had an interest in programming. She was working with robotics at high school and has a summer internship where they had Arduinos. I think she was able to borrow an Arduino to experiment with at home but every...... Listed under: [Development Board – Kits Projects](#)

125.   [Gyroscope Platform/ Camera Gimbal](#) This instructable was created in fulfillment of the project requirement of the Makecourse at the University of South Florida (www.makecourse.com) tep 1: Materials List In order to begin the project, you first have to know what you'll be working with! Here are the materials you...... Listed under: [Video – Camera – Imaging Projects](#)

126.   [Automatic Hand Sanitzer for Your Car](#) https://youtu.be/IYw2ApjvN8I The United States of America currently holds 20% of the infected individuals with the COVID-19 virus. Considering the ongoing pandemic, an automatic hand sanitizer would result in a decrease of viral spread when placed in the center dash, whenever travel is necessary using a...... Listed under: [Car Projects](#)

127.   [Scintillino – an Arduino-based quick&dirty scintillation counter](#) Have you ever wondered about the radiation levels around you? Well today you can build your very own detector that measures ionizing radiation and displays data in real-time on an LCD (and also your computer if you want). The visual design, as seen below, is...... Listed under: [Calculator Projects](#)

128.   [Simple Inexpensive Wireless With Any IR Remote, Including No Longer Used Ones](#) I hope you will find this Instructable interesting and useful. It is only three (3) steps long, plus an introduction. If you do find this article helpful, even if it is relative to when you see it some months or years old, please be kind...... Listed under: [Wireless Projects](#)

129.   [Arduino Quadruped Robot Stalker](#) Arduino Quadruped Robot - Stalker I am going to build an Arduino Quadruped Robot. As usual, I will share my source code and show as many pictures as possible, to help those of you who are also building Quadruped robots. The way I do things might not...... Listed under: [Projects](#), [Robotics – Automation Projects](#)

130.   [Inverter Aurora ABB (Power One) Web Monitor (WIM) With Esp8266](#) Autonomous centraline with an esp8266 that grab and store data from inverter and show charts and various data of production and can send notification email if there are some problems. It is a quite user-friendly browser based monitoring solution, It's allows to track energy produced on a solar power plant in a simple and intuitive fashion....... Listed under: [Other Projects](#)

131.   [Dimmer using an Arduino](#) This example shows how to send data from a personal computer to an Arduino board to control the brightness of an LED. The data is sent in individual bytes, each of which ranges in value from 0 to 255. Arduino reads these bytes and uses...... Listed under: [LED Projects](#), [Projects](#)

132.   [Mystery Beeping Prank](#) The Mystery Beeping Prank is a device hidden in a hollowed out book that beeps intermittently at different frequencies. I made this because I am surrounded by a lot of incredibly creative people who have a penchant for pranking one another, and this seemed like...... Listed under: [Game – Entertainment Projects](#), [Sound – Audio Projects](#)

133.   [3D Printed Mini CNC Machine](#) Introduction! https://youtu.be/VwgZXWHkp14 Hi Friends Welcome to the DiY Projects Lab insctructable , I hope you all are well, so today we are going to learn how to make your own 3D Printed CNC machine. It is a prototype module, but once you build it you...... Listed under: [CNC Machines Projects](#)

134.   [Brainwaves Bend a Fork](#) In the 1970's, a psychic named Uri Geller introduced spoon-bending using his mental powers and became famous for it. Well, I don't claim to be a psychic, but I thought it would be fun to be able to bend a spoon or fork using my...... Listed under: [Motor Projects](#)

135. [Arduino Controlled Catapult](#) I recently had the idea to create a catapult, But not just any kind of catapult, an electronic catapult! I wanted something I could just sit it down hit some buttons and watch it do its thing without being to big. This is what I...... Listed under: [Other Projects](#), [Projects](#)

136.   **Emoticon Helmet using Arduino** The Internet has become a pretty good mask to portray yourself as anything you want. This includes hiding your true emotions when posting facebook statuses, IMing someone, or sending emails (like telling you're boss they are awesome when they are really a jerk). But what…… Listed under: Game – Entertainment Project Ideas, Ideas

137.   **Arduino Eye Strain Alarm** With the COVID quarantine moving life online, I now spend many hours looking at my computer screen. Whether I'm doing school virtually, connecting with friends and family, or working on projects, all of these things keep me looking at my screen, as I am doing…… Listed under: Other Projects

138.   **How to Make a Tactile Feedback Compass Belt** Have you ever wondered how migratory birds manage to have such an amazing sense of direction despite being so generally clueless? They can sense the Earth's magnetic field with what is basically a compass built into their body. Wouldn't it be cool to feel what…… Listed under: Metering – Instrument Projects, Sensor – Transducer – Detector Projects

139.   **Arduino Liquid Crystal Displays** I had initially planned to do an LCD tutorial a little further down the line, but there was very high demand for it, and I already had a circuit assembled for testing the new LCD that element14 sent me to evaluate. So, this seemed like…… Listed under: LCD Projects, Projects

140.   **GameBoy 5110 – Arduino Handheld Game Console by 3D Printing** During the COVID-19 crisis, how to spend a lot of quarantine time at home? In addition to improving cooking skills and doing sports, game lovers can also make their own unique GameBoy game console! The blue backlit LCD screen of the Nokia 5110 is used…… Listed under: Game – Entertainment Projects

141.   **Interfacing Electronic Circuits to Arduinos** Interfacing Electronic Circuits to Arduino In this instructable I use an example of interfacing an Arduino to an ARINC 429 transceiver in order to demonstrate the general process of interfacing an Arduino to electronic circuits so you can use these techniques on your own designs……. Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

142.   **Gandalf's Magic Staff** Who wouldn't want Gandalf's Magic Wizard Staff? Turns out Gandalf had various staffs and either lost, broke or upgraded them frequently! This provides us with multiple staff designs and there are plenty of methods of constructing your own Magic Gandalf Staff depending upon your resources…… Listed under: Other Projects

143.   **Analog Clock And Temperature sensor On An Oscilloscope using Arduino** Scopeclock is an easy to use hardware to make your X-Y capable analog oscilloscope more useful .Using this simple to use hardware you can convert your analog oscilloscope into a scope clock.This project was me and my friend kshitij gupta at CEDT nsit under the…… Listed under: Clock – Timer Projects, Projects, Sensor – Transducer – Detector Projects, Temperature Measurement Projects

144.   **How to make A light-up distance sensor** In this instructable, I will show you how to make a sensor that will light up more lights the closer you are to it. Step 1: Placing The Electronics This step will show you where and how to place the electronics on the breadboard Materials:…… Listed under: Sensor – Transducer – Detector Projects

145.   **Arduino Based Self Balancing Bot** Hey everyone what's up! https://youtu.be/0KDyb7F0C_8 So here's my 3D Printed Self-balancing robot which is powered by an Arduino nano board and has an MPU6050 to get the accelerometer and gyro readings to balance itself using the PID function. This robot setup itself is almost 3D…… Listed under: Robotics – Automation Projects

146.   **Home Automation (or Robot Butler called Geoffrey) – iPhone controlled, arduino based** Being able to control everything from your pocket has long been a dream shared by many. Previously we've had universal remotes that can both control our TVs and radios, then we had wireless wall sockets. Both great things, but how likely is it that you're…… Listed under: Home Automation Projects, Phone Projects, Robotics – Automation Projects

147.   **Save data of temperature and humidity on MySQL with Arduino Uno and Wifly** Hello guys, i make this instructable for the people that liked the electronics and the botanic, with this you have the data about the temperatura and the humidity of your orchard and register this in a data base MySQL. For this proyect you need some…… Listed under: Home Automation Projects, Internet – Ethernet – LAN Projects, Projects, Temperature Measurement Projects

148. **Make a Digital Photo Album by ESP32** Last week I made an electronic photo album that I could place on my work desk to show some photos. I can take a look at relaxing when I'm tired at work. Previously I have implemented the display of pictures in which the format is…… Listed under: Other Projects

149.   [ESP32 TTGO WiFi Signal Strength](#) In this tutorial we will learn how to display a WiFi network signal strength using ESP32 TTGO board. Watch the video! https://youtu.be/dHsG1XZqR9E Step 1: What You Will Need TTGO ESP32WiFi connectionVisuino program: Download Visuino Step 2: Start Visuino, and Select the Arduino TTGO T-Display ESP32 Board…… Listed under: [Wifi - WLan Projects](#)

150.   [Arduino String Addition Operator Code](#) You can add Strings together in a variety of ways. This is called concatenation and it results in the original String being longer by the length of the String or character array with which you concatenate it. The + operator allows you to combine a…… Listed under: [How To – DIY – Projects](#), [Projects](#)

151.   [DIY Programming Cable Using Arduino Uno – Baofeng UV-9R Plus](#) Hey Everyone, this is a simple guide on how to convert your Baofeng UV-9R (or plus) Headphone / ear piece cable into a programming cable using an Ardunio UNO as a USB Serial Converter. [DISCLAIMER] I do not take any responsibility in any damage caused…… Listed under: [How To – DIY – Projects](#)

152.   [Gut Check a Tweeting and Facebooking Fridge using Arduino](#) I have a problem, I'm trying to lose weight but I love snacking late at night. And no one knows that I even do it. That being one of my biggest hurdles, I figured why not include all my social media friends and followers in…… Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)

153.   [Baby Eats, Alternative Video Game Controller](#) This Instructables will teach you how to make the alternative controller to play my short game, Grogu Eats, on itch.io! This Instructables will be very basic up until the soldering. If you want to make this project, I recommend looking at soldering tutorials when you get…… Listed under: [Game – Entertainment Projects](#)

154.   [Personal Space Defender](#) A simple and elegant way to help keep your personal space bubble from being invaded by close talkers and overly huggie people.   This is a stolen or borrowed idea from Phillip Torrone of Adafruit, who mused about something like this on an episode of…… Listed under: [Sensor – Transducer – Detector Project Ideas](#)

155.   [How to Display Images on OLED Using Arduino](#) Hello there fellow learners, in one of our previous blog on OLED, we learnt how to wire and code OLED. We also learnt to display simple text using Arduino code. So today in this blog, we will learn how we can use images and custom bitmaps to…… Listed under: [LED Projects](#)

156.   [Arduino led pendulum](#) Step 2: Putting up the wires Strip both ends of wires -insert one end of each wire into sockets numbered -Gnd(black wire in my case)-this will be the common ground connection - 13 (green wire in my case) - 12 (yellow wire in my case) -…… Listed under: [LED Projects](#), [Projects](#)

157.   [Arduino Text I/O for Real World Applications](#) Quick Start This tutorial will take you through the steps you can use to successfully process Real World text I/OYou should avoid using any Serial methods in your loop() code and any code it calls. (see below) Install the SafeString library (V3+) from the Arduino Library Manager…… Listed under: [Other Projects](#)

158.   [Photoresistor Arduino Midi Theremin](#) I call it the C041D-2020 I made this during the second COVID lockdown in UK, from ideas borrowed from about 5 other projects I found here on Instructables and also on Youtube. As you can see from the video it makes acidy noises by covering the…… Listed under: [Security – Safety Projects](#)

159.   [Adafruit Flora NeoPixel LED Ring Headphone mod](#) Wearable Arduino mod for your headphones. Non-invasive procedure for headphones that don't have room inside the drivers or you don't want to hack apart your high end cans. Adafruit just put out a tutorial for adding pattern blinking LED lights to headphones. This instructable takes it…… Listed under: [Sound – Audio Projects](#)

160.   [How to Create an Animatronic Dragon Model](#) ROOAAARR!! Before you learn how to train your dragon, you need to first obtain a dragon, and there's no better way than to make it yourself! This guide will explain the steps I took to create a scale model animatronic dragon, and in doing so…… Listed under: [Other Projects](#)

161.   [Candy Tossin Coffin using an Arduino](#) When you flip a switch, the coffin lid opens and a smiling red eyed ghost arises. The ghost flings some candy, pushes the switch back and returns to rest. Then, the coffin lid closes. Step 1: Major parts include: 4.5 rpm motor #155821 Jameco.com 1.8…… Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)

162.   [The BookMinder: a Bookend Meeting Countdown Device](#) Since more and more of us are working from home, we are all increasing our engagement with our screens (looking at you, Zoom meetings). For myself, when I am taking a break from my computer screen I end up doing other things in my apartment...... Listed under: [Other Projects](#)

163.   [Arduino Controlled Solar Fountain](#) A fountain can make a nice decorative fixture for your garden. But it isn't always easy to run a power cord out to where you want it. So I decided to run it on solar power. The system is controlled by an Arduino. This allows...... Listed under: [Solar energy projects](#)

164.   [DIY RGB Tube Lights](#) DIY RGB Tube light is a multi functional tube light which can be used in photography, light painting photography, film making, gaming, as a VU meter and more. The tube light can be controlled by Prismatik software or by a push button. These tub lights...... Listed under: [How To – DIY – Projects](#)

165.   [Arduino HVAC Servo Thermostat or Controller](#) Welcome to my 'green' instructable! I am going to show you how to use an Arduino, two servo motors a temperature sensor and some metal (or wood) to make a digital thermostat for a through-wall HVAC unit. According to CB Richard Ellis (a major real...... Listed under: [Arduino Motor Project Ideas](#), [Ideas](#)

166.   [Arduino Photocell Theremin Synth (glitchamin)](#) You know theremins, right? Those cool-looking boxes with antennae that produce noise without being touched? They are played by the likes of Jimmy Page of Led Zeppelin, and present in the soundtracks of countless films. Well, with this instructable, I will show you how to...... Listed under: [Solar energy projects](#)

167.   [The Youtube Subscriber Counter](#) Hey! Today i'm gonna share with you one of my lastest quarantine projects, i'm talking about this awesome NodeMCU based Youtube Subscriber and View counter! It's a pretty simple project that can be done in an hour or less so let's get started! Supplies NodeMCULCD 16x2 with...... Listed under: [Other Projects](#)

168.   [Teclado MIDI Super Simple – Super Simple MIDI Keyboard](#) Este tutorial te lleva paso a paso por la construcción de un teclado MIDI de una octava, programable via arduino gracias a su conector de 6 pines. Vas a necesitar: Componentes: 1 Atmega328p con el bootloader de Arduino 1 Zócalo de 28 patas 1 Cristal...... Listed under: [Sound – Audio Projects](#)

169.   [Arduino Music and Game Box](#)   https://youtu.be/HSzkWiIn1L0 This project was a special gift to my son Eyal, for the birth of his younger brother Itamar. It basically lets you play four games: Simon game Reaction time game Free play (baby-mode) Music mode - plays the Super Mario brothers, by Reyboz (Thanks!) The...... Listed under: [Game – Entertainment Projects](#)

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

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

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

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

174. [3d Maze Game Using Arduino](#) Hello friends , so today we are going to make a maze game using ARDUINO UNO. As Arduino Uno is the mostly used board it is very cool to make games with it. In this Instructable lets make the maze game which is controlled using...... Listed under: [Game – Entertainment Projects](#)

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

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

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

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

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

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

181.   [Using Ninjutsu Hand Signs (Naruto) to Unlock a Safe](#) https://youtu.be/z772hGGNcqg Naruto is a Japanese manga series written and illustrated by Masashi Kishimoto.It tells the story of Naruto Uzumaki, a young ninja who seeks recognition from his peers and dreams of becoming the Hokage, the leader of his village. One of the most important parts…… Listed under: [Security – Safety Projects](#)

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

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

184.   [Self Balancing Unicycle](#) Following the popularity of our self balancing scooter and the SciChair we decided to try something a little edgier, the Self Balancing Unicycle. This project reuses a lot of stuff from our previous projects, using an arduino as the brains behind the scenes. Step 1:…… Listed under: [Game – Entertainment Projects](#), [Motor Projects](#)

185.   [Make a Motorised Pan and Rotate Camera Slider](#) Supplies The parts list for this build is quite lengthy, but a lot of these components you may having lying around if you do have an old 3D printer. The 3D printer I've used to print some of the plastic components and housings is a Creality…… Listed under: [Video – Camera – Imaging Projects](#)

186.   [My Arduino Ping Display Robot](#) Goals Hello all. I hope to please share a little robot that I have just finished building. There are many Ping Boat, perhaps with a tutorials and display less so without pretension, will illustrate what I could do. I gave myself the goal of realizing…… Listed under: [LCD Projects](#), [Projects](#), [Robotics – Automation Projects](#)

187. [A Gentle Introduction to Arduino for Scratch Users](#) There are lots of people who are very comfortable with the Scratch programming environment but want to try something with Arduino to Blink Lights, Sense Buttons, Run Servos or whatever. They may find the C programming environment in Arduino IDE - Sketch, a bit too…… Listed under: [Other Projects](#)

188.   [Easy Zoom Quit Button](#) This Zoom emergency quit button lets you exit out of your meeting in an instant. It is simple to make and requires very little electronics experience. I built this because I was always searching around for the quit button on the bottom of the screen...... Listed under: [Other Projects](#)

189.   [Arduino-controlled RGB LED Infinity Mirror](#) Update 11/22/2013: Thanks to everyone who voted for this project in theMicrocontroller Contest! It was one of three first-prize winners. Update 9/17/2013: Thanks to everyone who voted for this project in the Arduino contest (I was one of ten "second prize" winners)! If you want to try...... Listed under: [LED Projects](#)

190.   [How to Build Your Own DigiDice | Electronic LED Dice](#) https://youtu.be/urZDkpSwVQo Here is an Instructable on how to build a digital dice that uses LEDs as well as an Arduino Nano to generate random numbers and display them in vibrant colours. The housing is fully 3D printed and some circuits have to be custom made....... Listed under: [LED Projects](#)

191.   [Visual Network Threat Level Indicator v2 using Arduino](#) By popular request this is a new wireless version of the Visual Network Threat Level Indicator. This uses a Roving Networks WiFly RN-XV Module to do 802.11 WiFi along with an Arduino to display the threat level on your network. Network monitoring is very important in todays...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

192.   [Create a Choice-based Text Adventure Game With Tinkercad Circuits](#) One of my fondest childhood memories is visiting my grandparent's house and reading my uncle's old collection of "Choose Your Own Adventure" books. While I always got stuck playing text-based computer adventure games with finnicky commands, I was hooked to the simplicity and variety of...... Listed under: [Game – Entertainment Projects](#)

193.   [A cardboard televisor (with arduino and LEDs)](#) Recently I saw a documentary about the history of the television. And to my surprise they showed that there existed a mechanical television before the well known CRT televisions. Those mechanical televisions or televisors were pretty smart and simple. A CRT is simply an electron beam that...... Listed under: [LED Projects](#)

194.   [Disney Magic Band Scanner](#) This is a Magic Band Scanner. It is inspired by the Magic Band Scanners that can be found at Walt Disney World. It is used at the entrances to all the parks and rides with the FastPass system. I designed and built this as a...... Listed under: [Other Projects](#)

195.   [Arduino Target Practice](#) A quick demo video for your pleasure. This is an instructable for a target practice system for airsoft and nerf weapons. The system has been designed to test a shooter's reaction times and accuracy. Sam and I have been meaning to do this project for a...... Listed under: [Game – Entertainment Projects](#), [Projects](#)

196.   [Laziness Monitor](#) Build an affordable monitoring setup!This project will help you easily get indications on how much time your are sitting in the couch watching TV. This project will have time intervals in which you will get light indications from the board after X time has passed,...... Listed under: [LCD Projects](#)

197.   [Make your own Custom Electronic Widgets, like my Arduino LED Day/Night Widget](#) This is just a brief run down on how easy it has become to make your own circuits complete with your own PCB's. Have you ever wanted to make something custom that suits your needs? Of course you have!! For me it really started when...... Listed under: [LED Projects](#)

198.   [Virtual Color Mixer using Arduino](#) This example demonstrates how to send multiple values from the Arduino board to the computer. The readings from three potentiometers are used to set the red, green, and blue components of the background color of a Processing sketch or Max/MSP patch. Software Required Processing or Max/MSP...... Listed under: [How To – DIY – Projects](#), [Projects](#)

199.   [Daft Punk LIVES ON! My Guy Manuel Helmet](#) WHAAAAT??? DAFT PUNK CALLED IT QUITS ??? Daft Punk may have retired but that doesn't have to mean that you have to stop having fun with their inspiration! Here is my second dedicated project to that musical duo. This project was pretty tough to pull...... Listed under: [Other Projects](#)

200.   [Happy Birthday Song Using Arduino Uno](#) Hello friends welcome back to "Techno-E-solution" in todays article I'll show "How to play Happy Birthday Song Using Arduino & Buzzer" in few steps. Most of the peoples are from technical background so I decide to wish that peoples means my besties in techy style...... Listed under: [Other Projects](#)

201. [Led Slot Machine Costume using Arduino](#) This Instructable will walk you through my process of making a Slot Machine costume with addressable leds controlled with an arduino!   Step 2: Lets Get started Picture set up: I found my slot picture online that the best graphic that when enlarged would stay…… Listed under: [Arduino LED Project Ideas](#), [Game – Entertainment Project Ideas](#), [Ideas](#)

202. [Arduino Keyboard Message Code](#) When the button is pressed in this example, a text string is sent to the computer as keyboard input. The string reports the number of times the button has been pressed. Once you have the Leonardo programmed and wired up, open up your favourite text…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

203. [IR Calculator](#) Hey, welcome to my first instructable where I will be helping you create a calculator. It's basically made up of a 16x2 LCD, with an Arduino UNO that you can use in order to make quick calculations from far distances. I know, it doesn't make…… Listed under: [Calculator Projects](#)

204. [Color Injection Lamp – Jumbo Size](#) I love this concept very much because kids like it very much. Now a days kids are always in mobile for study then for play and then for entertainment. Already i develop few projects with lights with arduino and Android. When i see through net…… Listed under: [Other Projects](#)

205. [Visual Computer Stress Meter using an Arduino](#) Have you ever wanted to, without going out of your way to clock your processor, see how much stress your computer is under? With this project you will have a simple bar graph that constantly shows how much stress your computer is under. If the…… Listed under: [Metering – Instrument Projects](#), [Projects](#), [RTOS – OS Projects](#)

206. [F1 – Rider](#) F1(Formula One) Rider is a low-budget car. Aspiring people with inspiring speeds. The Rush of excitement is pressing accelerate. A fast Requires a sharp mind. Some cars are meant to fuel our passion. Better Ride is an outcome of a better ride. No hour feels…… Listed under: [Car Projects](#)

207. [Bluetooth Weather Lamp](#) This was a 2 hour project I whipped up in order to learn how to use a new Bluetooth LE 4.0 module I picked up at redbearlab.com, called a BLE Mini. I've since thought of several much simpler ways (and more dependable) to accomplish the…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [LED Projects](#)

208. [LED Fader – With or Without Arduino](#) Have an awesome project in mind using some LEDs. In that project I will be using some LED Fading Effect and few LED Chaser Circuits. But before jumping onto that, I thought I should create a short tutorial and show you guys how to fade…… Listed under: [LED Projects](#)

209. [Necomimi Arduino Cat Ears](#) They are so dang cute. If you have ever seen the cool promo for the Necomimi Neurowear wearable set of cat ears that respond to brainwaves, you would want a set too. But it seems they may be vaporware since it hasn't materialized on the…… Listed under: [Game – Entertainment Project Ideas](#), [Ideas](#)

210. [Measuring Refrigerant Gases Sound Speed Using Arduino and App Inventor 2](#) The purpose of this Instructable is to build a portable device that can measure the speed of sound in refrigerant gases and use this data to identify them. The speed of sound in an ideal gas is related to two characteristics of the gaseous substance, its molecular…… Listed under: [Sound – Audio Projects](#)

211. [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](#)

212. [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](#)

213. [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](#)

214. [Eggbot](#) https://youtu.be/hdoy4-F4xgI 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](#)

215. [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](#)

216. [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](#)

217. [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](#)

218. [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](#)

219. [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](#)

220. [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](#)

221. [Mario 64 Cake Timing Light Game](#) https://youtu.be/nFIlqSWAj8E 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](#)

222. [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](#)

223. [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](#)

224. [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](#)

225. [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](#)

226. [88888: the Electronic Smile Counter](#) This progject 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](#)

227.   [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](#)

228.   [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](#)

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

230.   [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](#)

231.   [USB Freeform using an Arduino](#) This is a project in attempting to improve it predecessor "Freeform Arduino" by putting it in an enclosure and having it serve the similar purposes as "Palm Arduino Kit" and "Palm Arduino II" which I can carry it in my pocket and be available to…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

232.   [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 virtualy, 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](#)

233.   [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](#)

234.   [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](#)

235.   [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](#)

236.   [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](#)

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

238.   [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](#)

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

240.   [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](#)

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

242.   [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](#)

243.   [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](#)

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

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

246.   [Arduino stoplight web server](#) At the place I work, we use xymon to monitor of our servers. All of the services monitored are important, but we wanted a separate indicator to simply show the overall health of the most critical systems. Furthermore, we came up with the following criteria:...... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

247.   [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](#)

248.   [Bounce Back!](#) Responsive Pneumatic Envelop (A useless machine) Mockingly inspired by the blowfish, Bounce Back builds on state of the art bubble wrap shipping envelops by only inflating its bubbles when frightened by rough handling. Inversely, when the package is not being shuck, it will not inflate...... Listed under: [Other Projects](#)

249.   [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](#)

250.   [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](#)

251.   [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](#)

252. [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](#)

253.   [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](#)

254.   [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](#)

255.   [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](#)

256.   [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](#)

257.   [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](#)

258.   [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](#)

259.   [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](#)

260.   [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](#)

261.   [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](#)

262.   [ATtiny85 – Spectrum Analyzer on RGB Led Matrix 16×20](#) 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](#)

263.   [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](#)

264.   [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](#)

265. [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](#)

266. [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](#)

267. [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](#)

268. [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](#)

269. [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](#)

270. [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](#)

271. [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](#)

272. [Touch Sticky Note using Arduino](#) This piano-liked thing is what I called touch sticky note. I Use a piece of sponge as the paper, and put 8 x 8 LEDs under the sponge. Whenever I touch the touch screen, the related LED will turn on, and this is how I…… Listed under: [Ideas](#), [Sensor – Transducer – Detector Project Ideas](#)

273. [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](#)

274. [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](#)

275. [Automatic Irrigation System (Arduino) With Usb Type DC Submersible Water Pump](#) This mini project is involved to use Arduino to control submersible watre 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](#)

276. [Android & Arduino Controlled Projector Screen](#) This is my first time using Arduino, or any microcontroller. I'm glad it worked out so well but my wife may not be, due to the stacks of microcontrollers that will being showing up on our doorstep soon for future projects. Any feedback or questions…… Listed under: [Arduino Android](#), [Projects](#)

277. [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](#)

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

279.   [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](#)

280.   [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](#)

281.   [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](#)

282.   [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](#)

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

284.   [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](#)

285.   [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](#)

286.   [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](#)

287.   [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](#)

288.   [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](#)

289.   [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](#)

290.   [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](#)

291. [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](#)

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

293.   [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](#)

294.   [Gas Detector](#) Let's create a simple Gas Detector connectable to WiFi. The gadget would offer: web UI including gauges for LPG, CO, Smoke simple data handler returning values in JSON capable of regularly sending data to ThingSpeak server and obviously triggering laud alarm if threshold of dangerous...... Listed under: [Sensor – Transducer – Detector Projects](#)

295.   [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](#)

296.   [Synchronized 2-Axis Motion With Variable Speed (Arduino + LEDs + 28BYJ-48)](#) https://youtu.be/IiEz_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](#)

297.   [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](#)

298.   [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](#)

299.   [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](#)

300.   [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](#)

301.   [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](#)

302.   [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](#)

303.   [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](#)

304. [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](#)

305.   [7-Segment NeoPixel Clock With Countdown Timer](#) https://youtu.be/H4J4Cl4Dduc In this Instructable, my twin brother, Sunyecz06, 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](#)

306.   [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](#)

307.   [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](#)

308.   [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](#)

309.   [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](#)

310.   [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](#)

311.   [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](#)

312.   [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](#)

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

314.   [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](#)

315.   [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](#)

316.   [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](#)

317. [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](#)

318.   [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](#)

319.   [The useless but mazing QR-clock using Arduino](#) I got this idea for a while but I never had the chance to try it out. Friday, a workmate gave me a LCD shield for Arduino and I thought that was the right time to build a clock that comunicate the time through QR-codes. Of course, it's...... Listed under: [Clock – Timer Project Ideas](#), [Ideas](#)

320.   [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](#)

321.   [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](#)

322.   [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](#)

323.   [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 <> // Updates should (hopefully) always be available...... Listed under: [Other Projects](#)

324.   [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](#)

325.   [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](#)

326.   [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](#)

327.   [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](#)

328.   [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](#)

329.   [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](#)

330. [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](#)

331.   [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](#)

332.   [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](#)

333.   [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](#)

334.   [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](#)

335.   [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](#)

336.   [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](#)

337.   [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](#)

338.   [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](#)

339.   [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](#)

340.   [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](#)

341.   [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](#)

342.   [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](#)

343. [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](#)

344. [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](#)

345. [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](#)

346. [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](#)

347. [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](#)

348. [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](#)

349. [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](#)

350. [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](#)

351. [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](#)

352. [$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](#)

353. [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](#)

354. [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](#)

355. [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](#)

356. [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](#)

357.   [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](#)

358.   [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](#)

359.   [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](#)

360.   [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](#)

361.   [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](#)

362.   [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](#)

363.   [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](#)

364.   [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](#)

365.   [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](#)

366.   [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](#)

367.   [Arduino Basics: Working One LED](#) I've been encountering lots or Arduino projects but generally most are on intermediate and advanced level and only a few basic instructions on how to start with Arduino. This project I made were actually inspired by this example on the Arduino page, but a much…… Listed under: [Arduino LED Project Ideas](#), [Ideas](#)

368.   [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](#)

369.   [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](#)

370.   [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](#)

371.   [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](#)

372.   [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](#)

373.   [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](#)

374.   [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](#)

375.   [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](#)

376.   [The LED Strip Jellyfish Costume with Arduino & LPD8806 Led Strips](#) It all started when I saw a BBC documentary in 2002 about deep waters of the ocean. There was a biolimunescent jellyfish in the documentary, probably of the species "ctenophores" that grabbed my attention so in the later years I decided use it as a Halloween costume……. Listed under: [LED Projects](#)

377.   [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](#)

378.   [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](#)

379.   [Arduino-l3dgecomm – Integrating L3DGEWorld and Arduino](#) L3DGEWorld is a tool for monitoring and interacting with networks and computer systems. Within a 3D world, entities bounce, spin, scale and otherwise change. These entities all represent an entity in another context - be it a server, phone, router or other monitorable device. The…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Projects](#), [Projects](#)

380.   [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](#)

381.   [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](#)

382. [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](#)

383. [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](#)

384. [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](#)

385. [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](#)

386. [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](#)

387. [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](#)

388. [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](#)

389. [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](#)

390. [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](#)

391. [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](#)

392. [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](#)

393. [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](#)

394. [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](#)

395. [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](#)

396. [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](#)

397. [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](#)

398. [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](#)

399. [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](#)

400. [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](#)

401. [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](#)

402. [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](#)

403. [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](#)

404. [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](#)

405. [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](#)

406. [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](#)

407. [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](#)

408. [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](#)

409.   [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](#)

410.   [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](#)

411.   [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](#)

412.   [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](#)

413.   [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](#)

414.   [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](#)

415.   [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](#)

416.   [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](#)

417.   [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](#)

418.   [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](#)

419.   [Create Interactive Electronic Instruments with MaxMSP](#) This Instructable is part 3 in an Intro to MaxMSP series I've just finished teaching atWomen's Audio Mission in San Francisco. Part 1 is an introduction to MaxMSP and MIDI, part 2 is intermediate Max and Audio, and this Instructable is all about interfacing MaxMSP with hardware. I...... Listed under: [Other Projects](#)

420.   [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](#)

421. [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](#)

422. [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](#)

423. [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](#)

424. [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](#)

425. [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](#)

426. [Touch Sensitive Interactive Music Instrument DIY / Windows Version](#) https://youtu.be/_xEfiFxLKto "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](#)

427. [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](#)

428. [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](#)

429. [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](#)

430. [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](#)

431. [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](#)

432. [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](#)

433. [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](#)

434. [12×12 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](#)

435. [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](#)

436. [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](#)

437. [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](#)

438. [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](#)

439. [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](#)

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

441. [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](#)

442. [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](#)

443. [*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](#)

444. [Arduino Fingerprint Lock](#) There is a short video for this Arduino fingerprint lock here: http://v.youku.com/v_show/id_XNjIxNzQyNzY4.html I live in a small apartment in Shenzhen with my wife and baby, 5 months old. Sometimes, I need to go out, for example, to go downstairs to buy candy or diapers for my...... Listed under: [Security – Safety Projects](#)

445. [Electronic Connect Four (arduino)](#) Authors: Kelly Bodeman - [](#) Jack Whelan - [](#) (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](#)

446. [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](#)

447. [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](#)

448. [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](#)

449. [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](#)

450. [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](#)

451. [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](#)

452. [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](#)

453. [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](#)

454. [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](#)

455. [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](#)

456. [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](#)

457. [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](#)

458. [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](#)

459. [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](#)

460. [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](#)

461.   [Sonic Illustrations](#) Sonic Illustrations was technically born around 2013. Back then Istarted 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](#)

462.   [DIY Studio Light/ Light Box](#) Hey Everyone what's up. This is my DIY Studio Light Project https://youtu.be/AfNryfslxTc 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](#)

463.   [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](#)

464.   [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](#)

465.   [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](#)

466.   [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](#)

467.   [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](#)

468.   [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](#)

469.   [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](#)

470.   [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](#)

471.   [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](#)

472.   [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](#)

473. [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](#)

474.   [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](#)

475.   [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](#)

476.   [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](#)

477.   [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](#)

478.   [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](#)

479.   [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](#)

480.   [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](#)

481.   [SIMON SAYS BOX](#) Authors: Jackelyn Garcia- [](#) Hector Villalobos- [](#) Allan Hambly- [](#) (For more questions contact us at our emails above) Here is the YouTube video for our project: https://youtu.be/_aWlVS0qf_Q Acknowledgements: California Maritime Academy (ET Department) Professor Chang-Siu Erin Cole Gage Sturgeon Jack Whelan The Idea: The…… Listed under: [LCD Projects](#)

482.   [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](#)

483.   [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](#)

484.   [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](#)

485.   [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](#)

486. [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](#)

487.   [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](#)

488.   [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](#)

489.   [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](#)

490.   [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](#)

491.   [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](#)

492.   [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](#)

493.   [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](#)

494.   [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](#)

495.   [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](#)

496.   [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](#)

497.   [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](#)

498.   [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](#)

499. [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](#)

500.   [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](#)

501.   [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 partypeople. One is having a stroke or something because…… Listed under: [LED Projects](#)

502.   [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](#)

503.   [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](#)

504.   [DIY Arduino Smart Digital Scale | ESP8266 + HX711](#) Hello to everyone, today I am here to show you a very insteresting 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](#)

505.   [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](#)

506.   [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](#)

507.   [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](#)

508.   [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](#)

509.   [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](#)

510.   [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](#)

511.   [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](#)

512.   [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](#)

513. [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](#)

514. [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](#)

515. [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](#)

516. [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](#)

517. [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](#)

518. [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](#)

519. [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](#)

520. [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](#)

521. [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](#)

522. [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](#)

523. [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](#)

524. [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](#)

525. [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](#)

526.	[How to Make Smart Obstacle Avoiding Robot Using Arduino Uno](#) https://youtu.be/tnwTlMyOL_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](#)

527.	[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](#)

528.	[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](#)

529.	[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](#)

530.	[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](#)

531.	[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](#)

532.	[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](#)

533.	[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](#)

534.	[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](#)

535.	[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](#)

536.	[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](#)

537.	[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](#)

538.	[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](#)

539.   [How to Teach an Online Circuits Class With Tinkercad](#) https://youtu.be/50l3fREv0Qo 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](#)

540.   [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](#)

541.   [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](#)

542.   [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](#)

543.   [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](#)

544.   [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](#)

545.   [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](#)

546.   [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](#)

547.   [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 deliever a DIY...... Listed under: [Robotics – Automation Projects](#)

548.   [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](#)

549.   [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](#)

550.   [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](#)

551. [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](#)

552.   [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…… Listed under: [Sound – Audio Project Ideas](#)

553.   [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](#)

554.   [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](#)

555.   [Arduino Volume Control](#) ArduinoUNO with volume control, pause/play button, and LCD display: This tutorial will show you how to set up an arduinoUNO 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](#)

556.   [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 UnoLCD ScreenMCP23017 serial port expander2 pushbuttonsLEDs of differing…… Listed under: [Game – Entertainment Projects](#)

557.   [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](#)

558.   [Arduino Home Irrigation System With a 7 Segment Display](#) https://youtu.be/Iu4rbQRmRWo In this instructable we are building a home irrigation system based on an arduino uno. I know there are tons of similiar 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](#)

559.   [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](#)

560.   [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](#)

561.   [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](#)

562.   [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](#)

563.   [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](#)

564.   [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](#)

565. [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](#)

566. [Arduino RC Car Wheel](#) This is an Instructable of my Arduino RC car Wheel in which I took a cheap RCcar 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](#)

567. [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](#)

568. [Arduino Based USB Paper Gesture Mouse](#) Please vote for me in the conests 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](#)

569. [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](#)

570. [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](#)

571. [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](#)

572. [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](#)

573. [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](#)

574. [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](#)

575. [Line Follower Robot – Arduino Mega/uno – Very Fast Using Port Manipulation](#) Line follower robot is a useful robot that is used in ware houses, 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](#)

576. [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](#)

577. [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](#)

578.   [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](#)

579.   [Eve, the Arduino Chatbot](#) Hello DIYrs, 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](#)

580.   [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](#)

581.   [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](#)

582.   [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](#)

583.   [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](#)

584.   [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/6b43IbccmZ0...... Listed under: [LED Projects](#)

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

586.   [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](#)

587.   [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](#)

588.   [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](#)

589.   [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](#)

590. [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](#)

591.   [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](#)

592.   [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](#)

593.   [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](#)

594.   [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](#)

595.   [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](#)

596.   [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](#)

597.   [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](#)

598.   [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](#)

599.   [ISS Pointer Robo](#) 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](#)

600.   [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](#)

601.   [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](#)

602.   [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](#)

603.   [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](#)

604. [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](#)

605. [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](#)

606. [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](#)

607. [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](#)

608. [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](#)

609. [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](#)

610. [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](#)

611. [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](#)

612. [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](#)

613. [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](#)

614. [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](#)

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

616. [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 ends AC/DC Adaptor GWS Mini Servo Double Side Servo arm Servo screw (1.7...... Listed under: [Other Projects](#)

617.   [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...... Listed under: [Game – Entertainment Projects](#)

618.   [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](#)

619.   [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](#)

620.   [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](#)

621.   [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](#)

622.   [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](#)

623.   [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](#)

624.   [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](#)

625.   [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](#)

626.   [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](#)

627.   [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](#)

628.   [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](#)

629. [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](#)

630. [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...... Listed under: [Clock – Timer Projects](#)

631. [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](#)

632. [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](#)

633. [HALO: Handy Arduino Lamp Rev1.0 W/NeoPixels](#) https://youtu.be/byTgKFtpxKo 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](#)

634. [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](#)

635. [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](#)

636. [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](#)

637. [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](#)

638. [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](#)

639. [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](#)

640. [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](#)

641. [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](#)

642. [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](#)

643.   [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](#)

644.   [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](#)

645.   [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](#)

646.   [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](#)

647.   [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](#)

648.   [Internet Speed Gauge](#) 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](#)

649.   [Simple Braille Writer (Speech to Braille)](#) 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](#)

650.   [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](#)

651.   [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](#)

652.   [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](#)

653.   [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](#)

654.   [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](#)

655. [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](#)

656.   [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](#)**

657.   [Arduino Ultra Mega Timers](#) 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](#)**

658.   [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](#)**

659.   [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](#)**

660.   [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](#)**

661.   [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](#)**

662.   [Make an Illuminated Rainbow Synthesizer With an Arduino!](#) 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](#)**

663.   [RGB Box Clock](#) 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](#)**

664.   [Arduino Lilypad Controlled NeoPixel Earrings](#) 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](#)**

665.   [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](#)**

666.   [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](#)**

667.   [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](#)**

668.   [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](#)**

669.   [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](#)

670.   [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](#)

671.   [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](#)

672.   [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](#)

673.   [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 ModulesChoice 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](#)

674.   [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](#)

675.   [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](#)

676.   [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](#)

677.   [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](#)

678.   [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 betterSolder, the thinner the better - I had…… Listed under: [Other Projects](#)

679.   [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](#)

680.   [(almost) Universal MIDI SysEx CC Programmer (and Sequencer…)](#) In the mid eighties synths manufaturers started a "less is better" process that led to barebones synths. This allowed the reduction of costs on the manufaturer side, but made the patching process tediuos if not impossible for the final user. Manufacturers themselfs and third party…… Listed under: [Arduino Programmer Projects](#)

681.   [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](#)

682.   **IoT Hydroponics – Using IBM's Watson for PH and EC Measurements** This instructable will show how to monitor EC, pH, and temperature of a hydroponics setup and upload the data to IBM's Watson service.Watson is free to get started with. There are paid plans, but the free plan is more than enough for this project. Step…… Listed under: **Other Projects**

683.   **DIY Miniature Solar Tracker** In this project I will show you how to create a solar tracker which like the name implies can follow the movement of the sun throughout the day. And at the end I will show you the energy harvest difference between a solar tracker mounted…… Listed under: **Solar energy projects**

684.   **Infinity Mirror With Ultra Sonic Sensors** This was my project for Hack Sioux Falls. I built it one weekend and it turned out a lot different than I thought it would. It was a lot of fun and there are a lot of variations on what you could have the Arduino…… Listed under: **Sensor – Transducer – Detector Projects**

685.   **Unicorn Horn With NeoPixel LEDs & Arduino Lilypad** Today I'm gonna make 3D Printed Unicorn Horn. I saw and did the project in Adafruit's website about a year ago but I could not find an opportunity to share it. It looks great when going out to the party and especially in the evenings……. Listed under: **LED Projects**

686.   **DIY Li-ion Capacity Tester !** When it comes to building the battery packs, Li-ion cells are one of the best choices without the doubt. But if you get them from old laptop batteries then you might want to do a capacity test before building the battery pack. So today I…… Listed under: **Battery Projects**

687.   **ESP8266 Temperature Controlled Relay** A friend of mine is a scientist who does experiments that are very sensitive to air temperature and humidity. The incubator room has a small ceramic heater but the heater's thermostat was not nearly accurate enough, only able to maintain the temperature within 10-15 degrees……. Listed under: **Temperature Measurement Projects**

688.   **ESP8266 LED Matrix Clock** ESP8266 LED Matrix Clock Simple LED matrix Clock based on the popular ESP8266 with Real Time Clock module and time synchronization over WiFi from an NTP server. NEW ! ESP32 version also available Step 1: Parts and Tools First let's see what we need. Parts: 6 x…… Listed under: **Clock – Timer Projects**

689.   **Morphing Digital Clock** A quick video about this project. I have since implemented a way to set timezone. Thanks to the work of the Arduino and ESP8266 community, this cool clock is a surprisingly easy to build! https://youtu.be/i0M6F4wRxGc Just two main components: Display (obviously) and a WiFi MicroController…… Listed under: **Clock – Timer Projects**

690.   **NeoMatrix 8×8 Word Clock** Are you fascinated with the passage of time? Do you want a stylish, modern and functional timepiece to add to your clock collection? The word clock is a one-of-a-kind time telling device, using a grid of letters to spell out the time. While you could…… Listed under: **Clock – Timer Projects**

691.   **ROOM MAPPING Arduino Robot With Unity 3D** This project uses an Arduino robot running a ESP-8266 Node MCU that communicates (and drives around) with a mobile phone. The phone is running an app made in the video game engine Unity 3D that does 3 things: 1.) The first scene allows you to…… Listed under: **Robotics – Automation Projects**

692.   **Noise Traffic Light – DIY 3D Printed** All people want to work in silence and It's important to have a good working environment. The silence leads to an efficient work. We did this project to reach this proposal. The noise traffic light consists of a 'traffic light' which controls the dB of…… Listed under: **Other Projects**

693.   **How Rotary Encoder Works With Arduino!** A rotary encoder is a great input device for any project such as a 3D printer's menu. So in this tutorial, we will learn how a rotary encoder works and how to use it with Arduino. So let's get Started! Step 1: Watch the Video…… Listed under: **Other Projects**

694. **Bluetooth Controlled Robot Car** were you always fascinated by RC cars ? Ever wanted to make one yourself ? controlled by your own smartphone ? ----> lets start https://youtu.be/iETSrpiCAn0 So, hey guys, here in this project i have tried to make a Bluetooth controlled car with the help of…… Listed under: **Bluetooth Projects**

695. [Low-Poly Iron Man With Wifi-Controlled LED Strips](#) This interactive wall art piece is approximately 39" tall and 24" wide. I laser cut the wood at Clemson University's Student Makerspace, then I hand-painted all the triangles and installed the lights on the back of it. This instructable will walk through how I made...... Listed under: [LED Projects](#)

696. [Binary LED Marble Clock](#) Now I think just about everybody has a binary clock and here's my version. What I enjoyed was that this project combined some woodwork, programming, learning, electronics and perhaps just a little artistic creativity. It shows time, month, date, day of week, temperature and humidity...... Listed under: [Clock – Timer Projects](#)

697. [Giant Retro Gamepad](#) So we decided to make a giant working gamepad... ¯_(ツ)_/¯ The basic idea was to use up some scrap wood and add some inexpensive electronics to make it functional while keeping the overall costs low. I already had most of the materials lying around my...... Listed under: [Game – Entertainment Projects](#)

698. [Study Better With a Smart Desk Lamp – IDC2018IOT](#) People in the western world spend a lot of time sitting. At the desk, driving around, watching TV and more. Sometimes, sitting too much can harm your body and harm your focusing abilities. Walking and standing up after a given time is crucial to perform...... Listed under: [LED Projects](#)

699. [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](#)

700. [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-Adafrui/ This solved part of my problems: how to...... Listed under: [Clock – Timer Projects](#)

701. [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](#)

702. [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](#)

703. [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](#)

704. [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](#)

705. [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](#)

706. [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](#)

707. [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](#)

708.   [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](#)

709.   [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](#)

710.   [*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](#)

711.   [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](#)

712.   [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](#)

713.   [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](#)

714.   [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](#)

715.   [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](#)

716.   [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](#)

717.   [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](#)

718.   [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](#)

719.   [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](#)

720.   [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](#)

721. [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](#)

722. [Spatial Synthesizer Kravox! Wireless, Motion- & Touch-Sensing](#) A New Kind of InstrumentI 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](#)

723. [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](#)

724. [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](#)

725. [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](#)

726. [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](#)

727. [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](#)

728. [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](#)

729. [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](#)

730. [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](#)

731. [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](#)

732. [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](#)

733. [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](#)

734.   [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](#)

735.   [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](#)

736.   [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](#)

737.   [D.I.Y SMART RGB MATRIX 8×16](#) In this project, I'll show you how to make your own 8×16 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](#)

738.   [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](#)

739.   [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](#)

740.   [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](#)

741.   [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](#)

742.   [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](#)

743.   [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](#)

744.   [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 box9V batteryBattery cable adapteruSD 1GBArduino UnoTFT Shield...... Listed under: [Other Projects](#)

745.   [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](#)

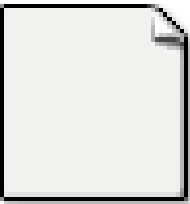746.   [Candy Claw Machine – Arduino Based Arcade Game](#) Eyes on the prize, Violet. Eyes on the prize! Get ready for a candy-grabbing face-off with your family and friends with this classic arcade game - the candy claw machine! But this time, it's going to be a bit different - first, it's going to......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

747.   [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/CpKM5cp7RmI The Blynk project lets you create a mobile or tablet…… Listed under: [Robotics – Automation Project Ideas](#)

748.   [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](#)

749.   [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 webcamera. It…… Listed under: [Other Projects](#)

750.   [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](#)

751.   [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](#)

752.   [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 degress, similar to a radar utilised to detect the position of planes……. Listed under: [Other Projects](#)

753.   [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](#)

754.   [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: SchematicsList of componentsLink to the code so you can make and modify your own project Step 1:…… Listed under: [Wireless Projects](#)

755.   [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](#)

756.   [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](#)

757.   [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](#)

758.   [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](#)

759. [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](#)

760. [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](#)

761. [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](#)

762. [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](#)

763. [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](#)

764. [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](#)

765. [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](#)

766. [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](#)

767. [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 smartphonecharger. The yellow light gives you a very good expression of a real flame. To be exact:...... Listed under: [LED Projects](#)

768. [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](#)

769. [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](#)

770. [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](#)

771. [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](#)

772. [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](#)

773.   [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](#)

774.   [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 iron solder soldering paste 0.8mm brass rod 18x SMD LED coin battery on/off switch Step 2: The Rings The...... Listed under: [LED Projects](#)

775.   [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](#)

776.   [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](#)

777.   [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](#)

778.   [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](#)

779.   [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](#)

780.   [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](#)

781.   [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](#)

782.   [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](#)

783.   [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](#)

784.   [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](#)

785. [Radioactivity Counter (IoT) and Monitoring Eco-system](#) C-GM firmware last update on June, 10th 2019 with new 1.3 versionA-GM applicationlast 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](#)

786. [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](#)

787. [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](#)

788. [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](#)

789. [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](#)

790. ["Wooden" Desktop Clock *Modern Looking*](#) Hi everyone, this is my second instrucatable! 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](#)

791. [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](#)

792. [RUMI the LineFollowingRobot](#) 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](#)

793. [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](#)

794. [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](#)

795. [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](#)

796. [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](#)

797. [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](#)

798. [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](#)

799.   [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](#)

800.   [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](#)

801.   [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](#)

802.   [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](#)

803.   [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](#)

804.   [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](#)

805.   [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](#)

806.   [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](#)

807.   [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](#)

808.   [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](#)

809.   [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](#)

810.   [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](#)

811. [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](#)

812.   [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](#)

813.   [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](#)

814.   [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](#)

815.   [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](#)

816.   [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](#)

817.   [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](#)

818.   [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](#)

819.   [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](#)

820.   [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](#)

821.   [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](#)

822.   [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](#)

823.   [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](#)

824. [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](#)

825. [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](#)

826. [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](#)

827. [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](#)

828. [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](#)

829. [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](#)

830. [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](#)

831. [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](#)

832. [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](#)

833. [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](#)

834. [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](#)

835. [Infinite Disco](#) In this project, I made an infinity mirror based on a dodecahedron that reacts to sound . Step 1: Materials Essential materials: Arduino Uno 3mm thick 100x50cm MDF 2mm thick 100x50cm plexiglass 3 meter WS2812B LEDstrip 60 LEDs/m Sound Detection Sensor Module 3-PIN Thin electric…… Listed under: [LED Projects](#)

836. [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](#)

837. [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](#)

838.   [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](#)

839.   [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](#)

840.   [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](#)

841.   [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](#)

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

843.   [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](#)

844.   [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](#)

845.   [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](#)

846.   [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](#)

847.   [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](#)

848.   [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](#)

849.   [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](#)

850. [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](#)

851.　　　　　　　　[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](#)

852.　　　　　　　　[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](#)

853.　　　　　　　　[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](#)

854.　　　　　　　　[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](#)

855.　　　　　　　　[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](#)

856.　　　　　　　　[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](#)

857.　　　　　　　　[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](#)

858.　　　　　　　　[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](#)

859.　　　　　　　　[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](#)

860.　　　　　　　　[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](#)

861.　　　　　　　　[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](#)

862.　　　　　　　　[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](#)

863. [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](#)

864.	[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](#)

865.	[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](#)

866.	[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](#)

867.	[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](#)

868.	[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](#)

869.	[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](#)

870.	[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](#)

871.	[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](#)

872.	[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](#)

873.	[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](#)

874.	[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](#)

875.	[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](#)

876.	[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](#)

877.   [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](#)

878.   [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](#)

879.   [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](#)

880.   [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](#)

881.   [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](#)

882.   [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](#)

883.   [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 is mind I decided to create...... Listed under: [LED Projects](#)

884.   [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](#)

885.   [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](#)

886.   [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](#)

887.   [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](#)

888.   [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](#)

889. [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 skripting It took me a while to figure this all out but in...... Listed under: [LED Projects](#), [Projects](#)

890.   [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](#)

891.   [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](#)

892.   [Input Pullup Serial using Arduino](#) This example demonstrates the use of INPUT_PULLUP with pinMode(). It monitors the state of a switch by establishingserial communication between your Arduino and your computer over USB. Additionally, when the input is HIGH, the onboard LED attached to pin 13 will turn on; when LOW, the…… Listed under: [Interfacing(USB – RS232 – I2c -ISP) Project Ideas](#), [Projects](#)

893.   [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](#)

894.   [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](#)

895.   [Arduino PMW enabled high power shield or non-shield on the cheap](#) Micro controllers are great, but have you ever wanted to control something bigger then, lets say an LED? If you have, look no further (unless you want more then 0.6Amps for 4 channels, or 2.4Amps for 1 channel), unless you don't mind spending more money……. Listed under: [PWM Projects](#)

896.   [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](#)

897.   [Easy Very Low Power BLE in Arduino Part 3 – Nano V2 Replacement – Rev 3](#) Update: 7th April 2019 – Rev 3 of lp_BLE_TempHumidity, adds Date/Time plots, Using pfodApp V3.0.362+, and auto throttling when sending data, alongside Low Power BLE in Arduino Update: 24th March 2019 – Rev 2 of lp_BLE_TempHumidity, adds more plot options and i2c_ClearBus, adds GT832E_01 support Introduction…… Listed under: [Arduino Programmer Projects](#)

898.   [How to Program the Vexplorer Using Arduino](#) This instructable will be about using arduino to control the revell vexplorer. Later you can add as many sensors you want. If you don't have most of the parts already this will cost you about $200 dollars. Most of the electronic bits you can find…… Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)

899.   [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](#)

900.   [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](#)

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