



## Advanced View Arduino Projects List

# List of Projects using arduino with advance view:

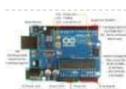
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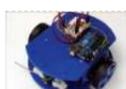
[Creating a DIY device for monitoring power consumption using ESP32](#) Electrical appliances are an integral part of our daily lives, ranging from the essential smartphone charger to larger devices like room heaters, air conditioners, and washing machines. Given the current global energy crisis, it has become crucial to gain insights into the power consumption of..... Listed under: [Other Projects](#)
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[Create a PCB light panel with touch capacitive technology for managing a NeoPixel LED strip](#) In this guide, we will illustrate the process of crafting a touch capacitive PCB with an ATmega328P IC, designed to oversee Neo-Pixel LED strips. Our PCB boasts versatile capabilities, encompassing music-reactive, random animation, and RGB control modes. Building on our prior exploration of touch capacitive..... Listed under: [LED Projects](#)
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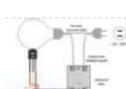
[Compact Soil Moisture Monitoring Device for IoT with Low Power Consumption](#) Many soil monitoring sensors are available, compatible with Arduino and other embedded modules, making them suitable for programming in different project domains, including Smart Agriculture Monitoring Systems. However, a challenge arises due to the lack of a standardized, versatile module that can be easily adapted..... Listed under: [Other Projects](#)
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[Machine for Cutting Resistor Reels Utilizing Arduino Technology](#) Introduction In advanced electronics PCB assembly lines, pick and place machines are typically used to retrieve components from an SMD reel and position them on a PCB. However, this becomes impractical for medium-scale production or when employing THT (through-hole type) components on your PCB. This..... Listed under: [Other Projects](#)
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[Creating an Animatronic Eye with Arduino Using 3D Printing](#) Introduction In this endeavor, we're embarking on the construction of an Arduino-based animatronic eye. The inspiration for this project was born during my online quest for innovative project ideas, and this concept instantly captivated my interest. Firstly, its aesthetic appeal combined with a straightforward mechanism..... Listed under: [Robotics – Automation Project Ideas](#)
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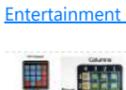
[Exploring Arduino: An Open-Source Platform for Creative Electronics Prototyping](#) Introduction Arduino represents an open-source electronics prototyping platform built upon versatile and user-friendly hardware and software components. Its purpose is to cater to artists, designers, hobbyists, and individuals keen on crafting interactive objects or environments. Getting Started with Arduino UNO The Arduino platform offers a..... Listed under: [Other Project Ideas](#)
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[Importance of Sensors in Robotics and Interfacing with Arduino](#) Sensors are essential for the functioning of senses. Within the field of robotics, the fundamental senses rely on basic sensors, such as mechanical switches that detect object contact, and photosensitive resistors and transistors that identify the presence or absence of light. Remarkably, a robot can..... Listed under: [Robotics – Automation Project Ideas](#)
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[Temperature Measurement and Control](#) In addition to its roles in controlling motors, LCDs, and LEDs, the Arduino also possesses the capability to gauge temperature measurement. By connecting an analog temperature sensor to the Arduino, it can function as an electronic thermometer. This section will guide you through the process..... Listed under: [Blog, Temperature Measurement Projects](#)
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[Temperature Control of a Lightbulb](#) Required Equipment lightbulb (incandescent, LED, CFL, etc.) AC solid-state relay (hockey-puck type, etc.) temperature sensor (TMP36, etc.) Arduino board (e.g. Uno, Mega 2560, etc.) In this example, the temperature of the lightbulb is gauged using a TMP36 sensor. This sensor is cost-effective, reasonably accurate, and..... Listed under: [Temperature Measurement Project Ideas](#)
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[Physical Computing and DC Motor Control](#) Managing a DC motor through an Arduino is a straightforward task. Beyond employing a basic electric switch, there are diverse approaches to engage with a motor. Moreover, the conventional electromechanical relay can be readily substituted with a carefully chosen transistor, enabling software-based speed control. This..... Listed under: [Arduino Motor Project Ideas](#)
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[Creating Mini Digital Roulette Games with Arduino](#) Crafting straightforward electronic games becomes effortless with the Arduino. Within the scope of this chapter, I will demonstrate the possibility of constructing an interactive mini casino game using fundamental digital electronic circuits within a mere two-hour timeframe. By leveraging just nine distinct electronic elements and..... Listed under: [Game – Entertainment Project Ideas](#)
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[Keypad Input Processing: Basic Procedure and Applications](#) Keypad Description The Significance of Keypads as Input Devices and their Role in Various Applications Keypads serve as essential input peripherals for data entry, similar to how keyboards are crucial to computers. Numerous applications heavily rely on users providing fundamental inputs, much like those available..... Listed under: [Other Project Ideas](#)

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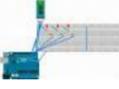
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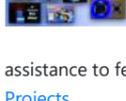
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13.  [Voice-Controlled LED System Using HC-05 Bluetooth Module and Smartphone](#)  
Summary In this undertaking, we'll employ an HC-05 Bluetooth module alongside a smartphone for transmitting vocal instructions to oversee LEDs and to accept voice directives. Our approach involves utilizing an "Arduino Bluetooth Voice Controller" Android application, readily downloadable from the Play Store. The microphone captures..... Listed under: [Bluetooth Projects](#)
14.  [BO Motor With Encoder Gives Precise Movement](#) For precise BO motor control or for crafting budget-friendly projects utilizing PID, the integration of such encoders with motors holds great promise. Story Geared DC motors find extensive application in hobby projects, such as constructing robotic cars and moving robotics. Yet, for meticulous movement, the..... Listed under: [Arduino Motor Project Ideas](#)
15.  [Gesture Sensor Control Using Arduino](#) The DF Robot Gravity sensor now combines gesture controls and touch switches, offering an expanded array of combinations to manage the ON/OFF switch. Narrative This sensor module combines gesture recognition and touch detection capabilities into a single unit, offering an adaptable detection range spanning from..... Listed under: [Sensor – Transducer – Detector Projects](#)
16.  [Creating a Fire Detector with Omniverse Replicator and Arduino Nicla](#) This project serves as a proof-of-concept, showcasing the utilization of TinyML and a synthetic dataset for the purpose of fire detection. Story The threat posed by fires is of utmost concern to humanity, emphasizing the crucial need for reliable detection. Current flame sensors are constrained..... Listed under: [Other Project Ideas](#)
17.  [\[Password Box\] Arduino One Touch Password Input \(USB Keyboard Hack\)](#) Today is the world of internet social. We have many social platform Email, Facebook, Instagrams, Twitter, Instructables and etc. For security issue we should not use the same password for these platform and some platform enforce us to create password that difficult to remember. It is..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
18.  [Lane Tech PCL Amazon Alexa PC Boot and Heater start](#) Initiate the activation of a computer and the operation of a space heater using either Amazon Alexa or the associated app, and subsequently employ a temperature sensor to control and maintain the heater's temperature. Story The Idea Located near a bay window in my basement,..... Listed under: [Other Project Ideas](#)
19.  [General Purpose Relay Timer](#) Story Throughout my years of experience, I've created numerous timers and encountered a plethora of mobile apps. However, when I found myself in need of a straightforward solution to seamlessly automate the on-off cycle of a circuit I was actively developing, none of the available..... Listed under: [Other Project Ideas](#)
20.  [Remote control of a multi-light chandelier with Arduino](#) Story: It all began with a seemingly simple intention – replacing the bulbs in the chandelier adorning my bedroom. As you can observe in the accompanying image, the chandelier boasts an elegant design. Yet, a minor predicament emerged. To begin with, the fixture comprises a..... Listed under: [Blog, LED Projects](#)
21.  [Utilizing the W5300 TOE Shield with Arduino IDE and STM32 Nucleo-F429ZI: A Comprehensive Guide](#) Narrative 0. Preface This guide is dedicated to instructing you on the utilization of the W5300 TOE Shield in tandem with the Arduino IDE, particularly when paired with the STM32 Nucleo-F429ZI board. Within this document, we shall furnish a comprehensive, step-by-step tutorial encompassing the configuration..... Listed under: [Blog, Other Project Ideas](#)
22.  [The NetP Project: Creating a Network of Processors with Arduino Mini Pro Boards](#) Narrative Arduino is truly remarkable; I have a deep fondness for it. It can be likened to the "Lego" of the electronics and automation world. Presently, I'm engrossed in a project where numerous MCU boards are orchestrated to form an interconnected network of processors, aptly..... Listed under: [Blog, Development Board – Kits Projects](#)
23.  [Recommended Approach to Programming and Hardware Development: C++ and Arduino Framework](#) Story Rapid Overview of the Seed Studio Grove Kit Frequently, people inquire about the optimal approach to delve into programming and hardware development. The response consistently points to the C++ language and, notably, the Arduino framework. While the software aspect is well-defined, what about the..... Listed under: [Blog, Other Project Ideas](#)
24.  [Introduction to the Arduino Project: An Open Source Experimental Aircraft PFD Manual](#) The Open Cockpit Arduino 4.3 Version 1.0 Beta The Arduino project is a PFD (Primary Flight Display) for experimental aircraft, built on Arduino's open-source platform. Its purpose extends to both educational and experimental contexts. Further enhancements are anticipated, aiming to provide an affordable backup instrument..... Listed under: [Blog, Other Projects](#)
25.  [Objective of the Experiment: Arduino Microcontrollers Applications with Switches and Sensors I.](#) Objective The main goal of this experiment is to familiarize oneself with the utilization of the Arduino microcontrollers for monitoring switches and sensors. Additionally, the objective is to trigger devices like LEDs or a speaker based on specific sensor output values. II. List of..... Listed under: [Blog, Sensor – Transducer – Detector Project Ideas](#)
26.  [Making Sounds with Arduino](#) The limited funding and job opportunities in the humanities field make it challenging for emerging scholars to pursue additional knowledge. As scholars must acquire extensive knowledge within their respective disciplines, they must also create coherent projects within an academic context. This situation creates difficulties for..... Listed under: [Sound – Audio Projects](#)
27.  [Controlling DC Motors and Servo Motors with Arduino and Processing GUI](#) The workshop demonstrates how to control motors using Arduino and Processing In today's workshop, participants will learn how to control two types of motors, namely DC motors and servo motors, using the Arduino board. The workshop will make use of firmata and a Processing to..... Listed under: [Motor Projects](#)
28.  [Introduction to Arduino Using TinkerCAD Simulator: No Hardware Required](#) Context and Preparation Getting started with tinkering on Microcontrollers can often be hindered by the need to purchase hardware. In this tutorial, we offer an

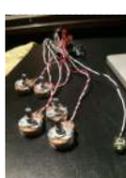
introduction to Arduino that requires no prior experience and no physical hardware. Instead, we will utilize an Arduino simulator called..... Listed under: [Other Project Ideas](#)

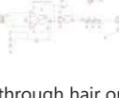
29.  [Biomedical Device](#) Introduction and Overview Biomedical engineering, a highly interdisciplinary field within STEM, offers opportunities for engineering and computer science students to engage in its endeavors. It involves the application of biology and engineering principles to create novel devices aimed at enhancing healthcare and medical options. Prominent..... Listed under: [Medical – Health based Projects](#)
30.  [Experiment Objective: Utilizing Arduino Microcontroller for Switches, Sensors, LEDs, and Speaker Control](#) I. Experiment Objective The main goal of this experiment is to gain proficiency in using the Arduino microcontroller to observe switches and sensors and to trigger devices like LEDs or a speaker based on specific sensor output values. II. Required Components List This experiment will..... Listed under: [Blog, Sensor – Transducer – Detector Project Ideas](#)
31.  [Gameduino Snake – Final Project](#) For my physical computing class, I created a project utilizing the SparkFun Redboard. I've named it the Gameduino Snake, as it's essentially a compact handheld gadget that enables users to enjoy a game of snake on an LED matrix. The game incorporates a basic 8x8..... Listed under: [Game – Entertainment Projects](#)
32.  [DSP Shield](#) The objective of the DSP Shield project is to enhance the accessibility of Digital Signal Processing (DSP) concepts and applications, particularly by introducing DSP as a teaching tool for signal education at the undergraduate level or even earlier. The project aims to bridge the gap..... Listed under: [Other Projects](#)
33.  [Extra inputs for Arduino with a keyboard](#) The Arduino is perhaps the coolest thing on earth. There are many types, the Uno, the Mega, the Pro, the Pro Mini, etc. etc. But one thing that often can be a problem is that you only have a limited number of inputs and outputs..... Listed under: [Game – Entertainment Projects, Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
34.  [Analyzing The Arduino Developer Community](#) Paraphrased: "Arduino creates open source hardware and software, specifically focusing on microcontrollers, for educational and prototyping endeavors. Those familiar with me are aware of my passion for exploring Arduinos and Raspberry Pi. While I don't aspire to be an electrical engineer, I'm primarily drawn to..... Listed under: [Development Board – Kits Projects](#)
35.  [Introduction to Arduino: A Versatile Physical Computing Platform](#) Arduino Interfacing Introduction to Arduino: Arduino serves as a medium for engaging with the physical world through sensors. It constitutes an open-source physical computing platform centered around a straightforward and affordable micro-controller board, accompanied by a development environment tailored for writing software compatible with the..... Listed under: [Arduino Battery Project Ideas, Other Project Ideas](#)
36.  [Motion Sensing Digital Camera & Alarm using Arduino](#) Welcome to my instructable on how to make an Arduino-controlled motion sensing camera and alarm! The motivation behind this project, which I worked on in my electronics class at Pomona College, was the need to keep away varmints (particularly raccoons) that were digging up my..... Listed under: [Sensor – Transducer – Detector Projects, Video – Camera – Imaging Projects](#)
37.  [Easy Electronics Organization using Arduino](#) Like many other electronic enthusiasts I need to have a constant supply of materials in order for us to keep building, hacking, or just playing around with electronics. However as probably any of us have come to realize we need a lot of space and..... Listed under: [Home Automation Projects](#)
38.  [A Planar 2-DOF Haptic Device for Exploring Gravitational Fields](#) For our project, we built a planar, 2 degree-of-freedom haptic device for educational use. The design is based on a 5-bar mechanism. We wanted to build a device that would have the versatility to teach various concepts, but would still be relatively affordable (as the..... Listed under: [Sensor – Transducer – Detector Projects](#)
39.  [X-Track – Wireless music visualization and tracker](#) X-Track is a prototype wireless device which connects you to the music, by providing entertainment with its bright beat-synched LEDs and tracking your moves so that you can later learn how much you enjoyed the night, and which parts were especially moving you. Remote wireless..... Listed under: [Sound – Audio Project Ideas](#)
40.  [Make a Musical Bench using Arduino](#) The Musical Bench is an exhibit which makes music when people touch, kiss, or hold hands. It uses a micro-controller to detect changes in resistance, via the copper armrests, and plays high or low notes depending on how much current flows through you and a..... Listed under: [Sound – Audio Projects](#)
41.  [Portable Haptics System Hardware](#) Mobile Phone There is a wide selection of mobile phones on the market. For our development, we chose Nokia 6210 Navigator due to its ability to run Java, accompanied by Bluetooth communication, and its small form factor. The phone mainly acts as a remote control..... Listed under: [Sensor – Transducer – Detector Projects](#)
42.  [Robo-Mobile – A Homemade Bluetooth Robot using arduino](#) Background This robot is one I built to learn. Before this project I did get my feet wet with a few small scale Arduino projects like an ultrasonic robot, (that would move backwards until it was a certain distance away from the wall,) and I..... Listed under: [Robotics – Automation Projects](#)
43.  [Knockdown Warning Indicator \(Redux\)](#) This week I continued developing a device that warns of the potential of a knockdown – the process by which an over-cannassed sailing ship is lain over on her beam-ends during a squall. The potential for sinking at this point is high, especially if there..... Listed under: [Security – Safety Projects, Sensor – Transducer – Detector Projects](#)
44.  [Smartphone controlled Arduino tank using Annikken Andee](#) Hi guys, I am Robin, one of the developers of Annikken Andee. Just a few weeks back we were invited to be a part of Arduino Day Singapore 2014. On the day of the event, we showcased a

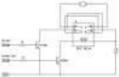
missile-firing lego-crushing smartphone controlled Tank built using..... Listed under: [Phone Projects](#)

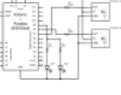
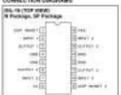
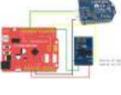
45.  [Bitcoin Price Ticker \(almost\) from scratch using Arduino as ISP](#) Hello everyone! I decided to create this tutorial on how to make a Bitcoin Price Ticker. Well, this is only a prototype and I will make a smaller edition with a more pleasant design and some other features at a later time. However, this serves..... Listed under: [Internet – Ethernet – LAN Projects](#)
46.  [Dual Axis Solar Tracker Arduino Project Using LDR & Servo Motors](#) Greetings and welcome to The IoT Projects. In this tutorial, we will guide you through the process of creating a Dual Axis Solar Tracker Arduino Project using LDR (Light Dependent Resistor) and Servo Motors. We have organized the article into seven segments, providing a step-by-step..... Listed under: [Motor Projects](#)
47.  [First Solo Experience with Arduino and Choosing a Simple Circuit with IR Remote and Sensor](#) CHOOSING A DIRECTION For this assignment, I embarked on my inaugural solo experience with Arduino. After facing some challenges during the in-class tutorial, I felt apprehensive about dealing with the breadboard once more. Consequently, I made an early decision to work on a simpler circuit..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
48.  [Passive Sensors – Detecting Light and Motion](#) Equipment: Arduino UNO microcomputer, PC with Arduino IDE installed, and a USB cable. Cds PhotoSensitive Resistor(s), 10K Ohm Resistor, and Parallax PIR Motion Sensor Passive sensors detect some physical phenomena and provide some amount of information about it that can be used for action..... Listed under: [Sensor – Transducer – Detector Project Ideas](#)
49.  [Arduino Project Challenge: Exploring Sensor Readings and Component Control](#) HW9 – Arduino The Task: In our Arduino project challenge, we were free to create anything of our liking, with the only requirement being that the circuit must either read a sensor or control an active component. During a class session, a practice example was..... Listed under: [Blog, Sensor – Transducer – Detector Projects](#)
50.  [How to make Arduino Laser Turret using Servo motors and Joystick](#) Arduino Laser Turret, Overview: In this project, I will demonstrate how to create an Arduino laser turret using servo motors and a two-axis joystick. I will provide the necessary code and a circuit diagram, accompanied by a detailed explanation of the project. This will enable..... Listed under: [Motor Projects](#)
51.  [Machine Design Using Arduino](#) The assignment for this week is to automate the machine assembled two weeks ago. For this Roxanna milled the Arduino's shield for controlling the steppers, but Alejandro found that we haven't all the components for stuffing, specially the A3982 - stepper motor driver, so as..... Listed under: [How To – DIY – Projects](#)
52.  [Redesigning the RA-02 Breakout board module](#) Story The RA-02 Breakout module includes level converters The RA-02 Breakout Module is designed to be beginner-friendly and compatible with breadboards. Many of them may possess one or more RA-02 Breakout modules. For those who do, they are undoubtedly aware of the challenges associated with..... Listed under: [Development Board – Kits Projects](#)
53.  [Tracking Cat Eyes via Kinect using Arduino](#) This instructable was made as part of the CS graduate course "Tangible Interactive Computing" at the University of Maryland, College Park taught by Professor Jon Froehlich. The course focused on exploring the materiality of interactive computing and, in the words of MIT Professor Hiroshii Ishii,..... Listed under: [Game – Entertainment Projects](#)
54.  [Build Simon Game Using Arduino](#) High Level Description: For part 3 of the lab, our group decided to build a "Simon" game. Our game setup uses 3 buttons and 4 LEDs. Each button corresponds to one LED and the 4th LED is used to indicate an error. The game starts..... Listed under: [Game – Entertainment Projects](#)
55.  [Our Personal Favourite Arduino Projects for you to Try in 2023](#) In the realm of do-it-yourself (DIY) electronics and robotics projects, Arduino stands as a prominent open-source microcontroller platform. It boasts a user-friendly nature and enjoys a vast community of users who actively contribute their projects and provide assistance to fellow enthusiasts. Throughout the year 2022,..... Listed under: [Arduino Programmer Projects](#)
56.  [Musical Exercise: Workout Shirt MP3 Player Powered by Exercise using Arduino](#) People love listening to music while exercising. Music provides the motivation needed for individuals to keep exerting energy and get in shape. So, because people enjoy listening to music while exercising, what if an MP3 player only played an individual's music while they are active?..... Listed under: [Game – Entertainment Projects, Sound – Audio Projects](#)
57.  [ANDROID BASED ROBOTICS](#) While the field of robotics is continuously expanding at a remarkable rate and better performing robots are created every year, robotics still remains out of reach for many students and researchers. The main reasons for this difficulty are the high complexity of the hardware and..... Listed under: [Robotics – Automation Projects](#)
58.  [Bird Feeder Monitor using Arduino](#) This is a project to monitor the number of birds that visit my bird feeder, as well as record the amount of time spent feeding. I used an Arduino Yun and a capacitive touch sensor, Adafruit CAP1188, to detect and record the birds feeding. On..... Listed under: [Home Automation Projects](#)
59.  [5x5x5 LED Cube – Orientation Independent 3D Display](#) Introduction Our project, in one sentence, is an orientation independent 3D LED display. We were inspired by various videos on youtube of similar cubes but also by the idea of creating an interactive 3-dimensional display. We built a 5x5x5 LED cube display and controller..... Listed under: [LED Projects](#)
60.  [Talking Arduino Heart Rate Monitor](#) My partner and I wanted to make heart rate monitor that does more than simply measure a user's heart rate. Our heart rate monitor talks! Each button gives a verbal description of its functionality and makes the measurements visible on the screen. This monitor will..... Listed under: [Medical – Health based Projects](#)

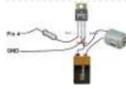
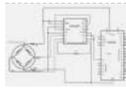
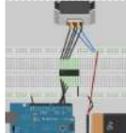
61.  [Creating A SoundBox Using Arduino](#) Ideas and Sketches Squat Coach – Detects the depth of your squats and assesses your form. Flex sensor is positioned to run up the back of knee joint Etch-A-Sketch – Arduino version of Etch-A-Sketch game. Users control stylus with 2 rotational potentiometers Adaptive Lighting –..... Listed under: [Sound – Audio Projects](#)
62.  [Digital I/O with Arduino Boards](#) Readings in Physical Computing Ch 6. pgs 87-136 (this week and next week) Ch 7: Serial Communication [137-143; 149-150; 153-161] Before the lab You should have already successfully installed the Arduino environment on your laptop, built the LED circuit, and successfully load/run the “blink” program to..... Listed under: [Development Board – Kits Projects](#)
63.  [The Creepy Doll using Arduino](#) Here at Mikamai, we often organise events and hackathons. After the last hackathon, someone left an old doll, and it was kinda creepy... so why not make it even creepier? I decided to put two red LEDs instead of the eyes, and a vibration sensor..... Listed under: [Game – Entertainment Projects](#)
64.  [IoT based health monitoring system | Arduino Project](#) An Arduino and a generic ESP8266 are utilized in an Internet of Things (IoT) patient health monitoring system. The project's concept involves gathering and transmitting the health information of patients. Project description The term "IoT-based patient health monitoring system" refers to a broad category of..... Listed under: [Medical – Health based Project Ideas](#)
65.  [Open Source Camera Quadcopter](#) Introduction When our team was initially assigned the task of transforming this project from a cinematography quadcopter to a more practical sensor quadcopter, we made the decision to redesign the frame. This decision was not taken lightly, but it was concluded that one of the..... Listed under: [Video – Camera – Imaging Projects](#)
66.  [Catchin' time using Arduino](#) This tutorial will show you how to build an interactive toy for children. This toy wants to give a boost to children to move and play with friends at home or in a park, instead of watching TV and playing videogames. Catchin' time is a..... Listed under: [Game – Entertainment Projects](#)
67.  [Sleep n' Tweet](#) Step 1: The Sleep n' Tweet 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..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
68.  [Password access with arduino](#) ~~ The complete kit for this tutorial is now for sale at [www.razvantech.com](#) Get one! ~~ This instructable will show you how to make a pass-code lock system using the Arduino Mega board. When you type the right code, an LED lights up on the servo..... Listed under: [Security – Safety Projects](#)
69.  [SOLAR TRACKER ARDUINO PROJECT](#) Overview: The solar tracking device is designed to ensure that a flat panel with a solar cell is constantly aligned with the movement of the sun across the sky. It utilizes two light dependent resistors (LDRs) positioned on opposite sides of a fin to measure..... Listed under: [Solar energy projects](#)
70.  [Make Your Pet Dishes Tweet Using Arduino](#) You give your pets everything: Food, water, a home, toys, and love. Why not give them a twitter account? This project allows you to monitor your pets' eating habits and receive alerts when their supplies are low. It's also a cute, fun way to learn..... Listed under: [Internet – Ethernet – LAN Projects](#)
71.  [Animatronic Green-Winged Macaw Papercraft](#) Hello everybody! This macaw was part of a work of biology at the college of my daughter, who was attempting to educate people not to buy wild animals. This beautiful animal, natural tropical forests of South America, is highly coveted by smugglers. In captivity, unlikely..... Listed under: [Game – Entertainment Projects](#)
72.  [Alarming Tweet Using Arduino](#) This project will add tweeting capabilities to the GE 45142 Choice-Alert Wireless Control Center Alarm system. The alarm system allows you to connect up to 16 different sensors across 4 zones and with the addition of the Arduino powered Alarming Tweet you can enable it..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
73.  [USB Mouse Made Out Of A Wii Nunchuck](#) This instructable will describe how to convert a Nintendo Wii Nunchuck controller into a USB 2-button mouse using a Teensy USB. The Teensy USB is a very user-friendly development board that can be programmed in an Arduino environment. The Teensy USB development board and necessary..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
74.  [Reddit Controller, USB Upvote/Downvote button](#) Not too long ago I saw the “Awesome Button” video on the Make Magazine podcast. In the video Matt Richardson shows how you can take a Teensy development board and turn it into a simple USB keyboard. In his example everytime a button is pressed..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
75.  [Make A Electric Turtle Robot Using Arduino](#) Be sure to check out my new instructable , the 'little Tank'! Really nice tracked design complete with cut files! update: I've had so much response on this instructable, thanks to all. If you end up making one, please let me know! I'd love to..... Listed under: [Robotics – Automation Projects](#)
76.  [LED Microcontroller Debug Module](#) When it comes to debugging a microcontroller circuit, there aren't a lot of simple options. Since a microcontroller circuit might have multiple things going on at the same time, measuring voltages with a DMM isn't an option. Using an computerized In-Circuit-Debugger solution is expensive and..... Listed under: [Development Board – Kits Projects](#), [LED Projects](#)
77.  [Wise Clock 3 – Arduino-based geeky alarm clock](#) Wise Clock 3 is an open-source, highly hackable geeky clock that shows a lot more than the time. Its main function is to display user-editable quotations retrieved from an SD card (like those used in photo cameras). In addition, Wise Clock 3 can show the..... Listed under: [Clock – Timer Projects](#)

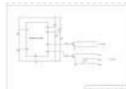
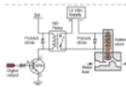
78.  [Make A Giant Leaf Planetarium Using Arduino](#) Have you ever wanted a mini-planetarium for your room? Well now you can! This instructable will help you create a fairly portable planetarium leaf that you can put over a bed, a couch, or anywhere else in your house. All you need is an IKEA..... Listed under: [Game – Entertainment Projects](#)
79.  [Arduino ArduRoller balance bot](#) Caveat Emptor: (I don't want to put you off building one but I also don't want you to be disappointed.) This Instructable is now 2 years old. Many of the parts it uses are out of date (there's no drop-in replacement for the now-discontinued gyro,..... Listed under: [Robotics – Automation Project Ideas](#)
80.  [Universal Gripper – Syringe Powered](#) The “universal gripper” developed by researchers from Cornell University, the University of Chicago, and iRobot inspired me to create my own version. The YouTube video is quite impressive. The gripper can form around very asymmetrical and smooth shapes and still pick up the object. I..... Listed under: [Robotics – Automation Projects](#)
81.  [The Touch module – a robotic dog toy](#) The idea was to invent an Arduino-based, robotic toy that my dog could interact and play with. One that could record scores, automatically deliver treats, and grow more advanced as the dog learns to play with it. I wanted to find a task to test..... Listed under: [Robotics – Automation Project Ideas](#)
82.  [Arduino Project Board](#) The Arduino Project Board is basically a board to transfer your ATMEGA168/328 to when you have completed your project and no longer need to use the Arduino as a development board. Simply transfer the programmed chip from the Arduino board to the Arduino project board..... Listed under: [Development Board – Kits Projects](#)
83.  [Turn your Arduino Uno into an USB-HID-Midi device](#) While building an Arduino Uno based Midi-Controller for Ableton Live, I came across the HIDUINO project ( <http://code.google.com/p/hiduino/> ). It allows you to turn your Arduino Uno (or any other device using an AVR-USB chipset like the 8u2) into a driverless HID/Midi device. It's much..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Sound – Audio Projects](#)
84.  [Arduino Air Quality Sensor](#) Summary The issue of poor air quality is a significant concern that impacts the well-being of numerous communities, particularly individuals with health conditions. The ability to measure air quality accurately is of utmost importance. In this module, you will have the opportunity to construct a..... Listed under: [Sensor – Transducer – Detector Projects](#)
85.  [Rave Rover – Mobile Dance Stage](#) Rave Rover was designed and built to be a portable dance platform for parties, raves, and any other trouble we can get into! I will go into as much detail as I can explaining the entire build process, and where to find parts and other..... Listed under: [Game – Entertainment Projects](#)
86.  [How to hack EEG toys with arduino](#) i had heard a few years back about the ability of hooking up toy EEGs so you can interface them with your computer. I was reminded of this for a project i wanted to do for a class (instructable coming soon ;-)), and i also..... Listed under: [Game – Entertainment Projects](#)
87.  [Building a Portal Turret with motion controlled audio and lighting](#) In this Instructable I'm going to show you how I went about building my very own life size talking Portal Turret from start to finish. This is a fairly in depth project that will cover every stage of construction and all the techniques I used..... Listed under: [Sound – Audio Projects](#)
88.  [Pan/Tilt Motion System for Control Education](#) Ricardo G. Sanfelice, University of Arizona Project supported by Mathworks Website developed by Colin Lasharr, University of Arizona Contents Introduction Instructions for Building the System Installation Instructions The Arduino Board Simulink Initial Parameter Identification System Identification for Zenith..... Listed under: [Arduino Programmer Projects](#)
89.  [Hack the Nabaztag using Arduino](#) This is a Nabaztag - Armenian, apparently, for "hare". It's an adorable bunny rabbit packed with sensors and communication devices.... and it's completely unusable. There's people who wrote some interesting software to hack it, and I applaud them: however, I could never actually get my..... Listed under: [Game – Entertainment Projects, Robotics – Automation Projects](#)
90.  [DIY Parking Sensor using Arduino](#) The last time I was home visiting my parents I noticed bumper imprints caused by my mother suburban on the stairs leading up from the garage. Their garage it turns out is just barely long enough to fit their gigantic vehicles. So I decided it..... Listed under: [Car Projects, How To – DIY – Projects, Sensor – Transducer – Detector Projects](#)
91.  [Using Mozzi Library with 5 potentiometers using arduino](#) Getting Started The goal of this project was to create filters and controls to that can manipulate sound that is being generated through an Arduino. Normally Arduino can only generate simple tones that are not useful if you are trying to achieve complex sounds and..... Listed under: [Metering – Instrument Projects](#)
92.  [Arduino Quilting Machine](#) The Arduino Quilting Machine combines the mechanics of a sewing machine, CNC technology and Arduino as an operating system. The project is designed to translate a vector file from a computer into G-code and subsequently into Arduino language which then moves the machine. The project..... Listed under: [CNC Machines Projects](#)
93.  [Diy Xbox wireless controller adapter for Pc](#) This instructable will go over the steps to connect a RF module from an RROD xbox to your computer so you can use a wireless controller with your computer. \*\*\*\*\*DISCLAIMER\*\*\*\*\* DONT TRY THIS IF YOU DONT HAVE ANY EXPERIENCE WITH ELECTRONICS/SOLDERING OR COMPUTERS IM NOT..... Listed under: [How To – DIY – Projects, Internet – Ethernet – LAN Projects](#)
94.  [Make a digital “meow” from analog clock using arduino](#) Is your analog clock just not doing enough stuff? Want to do digital things with an analog clock? This tutorial will show you how to make a Kit Cat Clock play a “meow” sound clip, at

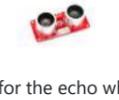
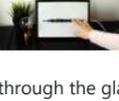
- precise time intervals, using the Atmega 328P-PU via the..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
95.  [DIY Telepresence Documentation](#) This is the documentation page for the Spring 2012 DIY Telepresence project. Here you will find schematics, software, and guides for the robot. The goal of the project was to design a low-cost, easy to build telepresence robot. Some of the features include: Segway based..... Listed under: [Robotics – Automation Projects](#)
96.  [Total Recall- Arduino Simon Says on steroids](#) Total Recall is a Simon based game for the Arduino. Your basic Arduino Simon Game consists of 4 buttons, 4 LEDs, an Arduino, some code and maybe a speaker and sound effects. Total Recall takes things a step further by adding an LCD display and..... Listed under: [Game – Entertainment Projects, Projects](#)
97.  [Voice Activated LED Lighting with Arduino](#) This project is an extension to the Speech Recognition with Arduino by leandro4b (<http://www.instructables.com/id/Speech-Recognition...>). However, instead of using 3 separate colored LEDs, I used a multicolor 4-channel RGBW LED Emitter. I had the opportunity of working at LED Engin last summer, which is why I..... Listed under: [LED Projects](#)
98.  [The Wondrous Weather Cube Using Arduino](#) We created an Internet-enabled companion cube for your computer, which displays different kinds of information by glowing red or green. Depending on its orientation, and which labeled face is oriented upwards, our companion cube displays either stock readings of the NASDAQ or the outside temperature..... Listed under: [Home Automation Projects](#)
99.  [Laser Pointer Switch using arduino](#) This instructable will detail how to make a switch that uses an arduino to sample light. When the light sample reaches a threshold it will trigger a relay that can be used to turn on/off a small appliance (light, radio, fan, etc...) The parts for..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
100.  [FabECG: a simple electrocardiogram board](#) Technologies for rudimentary physiological sensing are getting cheaper and easier to implement. Consider, for instance, these non-contact sensors from UCSD which can be used to take an EEG through hair or an ECG through a T-shirt! One can even make a simple oscilloscope to digitize,..... Listed under: [Medical – Health based Projects](#)
101.  [Arduino controlled Rotary Stewart Platform](#) This instructable is about building a Rotary Stewart Platform. It allows to position its moving platform in six degrees of freedom. This specific platform is designed to be able to position a DSLR or any other digital camera. This version of Stewart Platform uses instead..... Listed under: [Video – Camera – Imaging Projects](#)
102.  [DC Motors Relays Using Arduino](#) Let's get the math over right off the bat. There are a LOT of attempts to describe how Ohm's Law works, each one nerdier than the last. Here' one I like. Warning: SFWBN (safe for work but nerdy). V = voltage measured in volts -..... Listed under: [Motor Projects](#)
103.  [ATtiny85 POV Display using arduino](#) The first time I saw a POV (Persistence Of Vision) display was on a show called FAQ on TV. The POV display consisted of an oscillating shaft with 6 LED's mounted on the end of the shaft. Since then I have always wanted to make..... Listed under: [LED Projects](#)
104.  [Making art Interactive Using Arduino](#) Unfortunately, due to my need to reclaim my Arduino and breadboards, we don't have photographic documentation of our circuit. However, the structure of it was rather self-evident. Although we arranged the circuit in a such a way that we could program other functions, but we..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#), [Phone Projects](#)
105.  [Control Keyboard & Mouse Android app via Arduino](#) This instructable will show you how to control your computer's keyboard and mouse with an Android app via bluetooth to an Arduino BACKGROUND Ever wanted to control your computer's mouse/keyboard functionality without having to actually sit in front of it? I do all the time..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects, Projects](#)
106.  [Augmented Water using arduino](#) The Augmented Water device helps you save water by turning red after one Liter. The device, built by @tamberg during a water hackathon, is made from an Arduino, a flow sensor and coloured LED pixels. Video <https://www.flickr.com/photos/tamberg/14346321456/> (thanks kiilo) In case you want to build..... Listed under: [Home Automation Projects](#)
107.  [Blind Maze Navigation using 2-DOF Haptic Joystick](#) The domain of haptics has immense potential as a technology to assist visually-impaired individuals with their navigation of the physical world. In this project, we sought to develop a 2-DOF haptic joystick to provide force-feedback to a user as she attempts to navigate a maze..... Listed under: [Game – Entertainment Projects](#)
108.  [Temperature Displayed on 4 Digit 7 segment using Arduino](#) In this project I'll display the temperature in a 4 digit 7 segment display (common anode). The sensor is the cheapest you can find so actually the temperature changes pretty easily which makes the display to show always different temperatures. But the idea is to..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
109.  [Arduino Step Sequencer Drum Machine](#) Overview As avid audiophiles, we wanted to apply our newly acquired knowledge of microcontrollers to build a fun consumer electronic device. Our project is a step sequencer drum machine. The user is able to program a 16-step percussion pattern using one of a wide range..... Listed under: [Sound – Audio Projects](#)
110.  [A compact, Arduino altimeter for RC Planes](#) Please vote for this Instructable if you think it deserves it! Thanks! The Ultimate Altimeter is a super-compact, Arduino controlled altimeter capable of measuring the altitude with an accuracy of 0.3 meters, and saving the highest and lowest values it has measured. It is powered..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
111. [Wiring Harness for the LCD Panel](#) Assembly of the Female Connector Block The wiring harness has a male and female end. The gender of electrical and mechanical parts is described on this Wikipedia

-  page. The header pins that are soldered into the circuit board for the LCD panel are plugged into..... Listed under: [LCD Projects](#)
- 
112.  [Android Accessories Made Easy With Arduino](#) The Android Open Accessory Protocol makes it possible for you to create custom Arduino-based accessories for your Android phone or tablet. Attend this session to learn how to get started, the hardware & software required and how Handbag makes development easier. Content will be useful..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- 
113.  [Huge Arduino Animatronic LED Eyeball using arduino](#) I'm currently in the process of making a Halloween contraption that has a few components that are worth documenting. The Huge Arduino Animatronic LED Eyeball is one of them. Background Most animatronic eyeball projects that I found were more or less life-size. They were usually..... Listed under: [LED Projects](#)
- 
114.  [Brain-Computer Interface](#) Introduction Our goal was to build a brain-computer interface using an AVR microcontroller. We decided that the least invasive way of measuring brain waves would be using electroencephalography (EEG) to record microvolt-range potential differences across locations on the user's scalp. In order to accomplish this..... Listed under: [Medical – Health based Projects](#)
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115.  [Happy Androids with Arduino Video instructions](#) Arduino + Android Normally smartphone events are tightly coupled to your phone device itself. When your cell phone is ringing, your phone speaker plays a ringtone. When you get a new text message, your phone displays it on its screen. Wouldn't it be thrilling to..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
- 
116.  [Hack an old iPod using an Android and an Arduino](#) This tutorial shows you how to use an Arduino to turn that old dusty music player into a Bluetooth controlled docking station. Even if it has a cracked screen or a dead battery it can still be used. The following instructions will show you how..... Listed under: [Arduino Android](#)
- 
117.  [Finalized Prototype Using Arduino](#) Shown below is the finalized prototype. The purpose of the prototype was to demonstrate the feasibility of a small, highly maneuverable search and rescue robot. As such, the completed prototype was successful. Capabilities include a ground speed of 10 inches per second, battery life of..... Listed under: [Development Board – Kits Projects](#)
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118.  [Line Following Robot using arduino](#) This is a Line Following Robot. It follows a black line that is drawn. It is able to detect the black line through one photocell and one analog light sensor. There is an LED in between the two sensors that gives off red light when..... Listed under: [Robotics – Automation Projects](#)
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119.  [AC Dimmer Circuit](#) Overview Simple AC Dimmer circuit for incandescent bulbs. 128 levels of brightness. Parts are relatively cheap! How it Works This is an AC Chopping Circuit. The dim level sets where the AC waveform gets chopped on. More of the cycle makes the bulb brighter, less..... Listed under: [Development Board – Kits Projects](#)
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120.  [The DIY Photobooth with Lighting Control using Arduino](#) This is a tutorial on how to build your own Photobooth. My friend had a wedding coming up and was in need of a Photobooth. Photobooth rentals go anywhere from \$500 - \$1500 so we decided to do our own & hence another DIY Photobooth..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)
- 
121.  [Make a High-Altitude Balloon Tracker \(Arduino\)](#) One of the coolest projects I have done so-far with my kids is a "near-space" balloon. That's not quite into space itself (100Km+) but so high that the sky looks black and you can start to see the curvature of the earth below you. The..... Listed under: [Other Projects](#)
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122.  [Balancing Instructable Robot using arduino](#) In this Instructable I wanted to show to you how to make a self balancing robot. What makes it unique is that its exterior is made to look like the Instructables Robot. Internally it works in the principle of PID, it is a very popular..... Listed under: [Robotics – Automation Projects](#)
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123.  [Bidirectional Motor Control Using Arduino](#) One of the simplest ways to get a motor to turn in both directions is by using a double-pole, double-throw (DPDT) relay. Along with the relay, this hookup requires two transistors and two Stamp pins, one for on/off control and the other for direction control..... Listed under: [Motor Projects](#)
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124.  [Fab Lab Barcelona SuperNode](#) Add an output device to a microcontroller board and program it to do something. Class syllabus: [http://academy.cba.mit.edu/classes/output\\_devices/index.html](http://academy.cba.mit.edu/classes/output_devices/index.html) [what i learned /am learning] \_ Relearned Arduino installation. \_ Work with DC motors and H-Bridge IC with Arduino; and its general concepts. \_ About the various Fab..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
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125.  [LED Matrix Bike Safety Backpack using arduino](#) Biking around cars can be a frightening thing, and staying visible at night is crucial for your safety. This tutorial will teach you how to make a custom LED Matrix Backpack that is much larger and brighter than traditional rear bike lights. Parts You'll Need:..... Listed under: [LED Projects](#)
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126.  [An FTIR Touchscreen Device](#) The DJ Touch is a portable turntable touchscreen and interactive LED display. Our end goal was to produce a low cost touchscreen device, and demonstrate its application in a common consumer application. Out of an interest in electronic music, and with the knowledge of deejaying's..... Listed under: [Sensor – Transducer – Detector Projects](#)
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127.  [Arduino Scouting Robot](#) Summer Project: Arduino Scouting Robot [video id="P6PVLhjQ5FY" type="youtube"] Arduino Scouting Robot Part 1 \* 12,9,5 volt power supply recharge it with a 12-volt charger keep power switch on to charge \* 2 DC motors operate at 7.2V with a maximum current draw of 3 amps..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
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128. [Rubik's Cube Solver using arduino](#) This robot that can solve a Rubik's cube using Arduino. I learned how to solve a Rubik's cube last year, and I was also into Arduino, so eventually I ended up with an

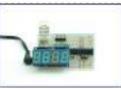
-  idea to make my own Rubik's cube solver. Like many people searching..... Listed under: [Robotics – Automation Projects](#)
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129.  [Connecting an IR Sensor Using Arduino](#) Schematic Since the IR Sensor uses a light sensor, the schematic is very similar to that of the light sensor. The only difference is the addition of an IR LED and that the IR detector requires connection to 5V and ground. Breadboard Setup To setup..... Listed under: [Sensor – Transducer – Detector Projects](#)
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130.  [Learn how to use 7-Segment LED Display using Arduino](#) 7-Segment LED Display is a very useful component, but also a very confusing and difficult piece to use for beginners. It won't be difficult once you get it working for the first time. This is what you will get at the end of the tutorial (part..... Listed under: [LED Projects, Projects](#)
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131.  [Bass Master 3000 Carnival Game using arduino](#) The Bass Master 3000 is a game that I built for a work carnival along with a small and very talented team of co-workers. I've seen this type of game on the net, but I wanted to kick it up a notch with some Arduino..... Listed under: [Game – Entertainment Projects](#)
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132.  [L293 Motor Driver and H-Bridges](#) The most common method to drive DC motors in two directions under control of a computer is with an H-bridge motor driver. H-bridges can be built from scratch with bi-polar junction transistors (BJT) or with field effect transistors (FET), or can be purchased as an..... Listed under: [Motor Projects](#)
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133.  [How to connect a servo to the Arduino](#) Servo Cable The continuous rotation servos that come with the BOE Shield-Bot have a 3-wire cable for connecting it to the power and controller. The black wire is the ground, the red wire is the power (positive) and the white wire (sometimes yellow, depending on..... Listed under: [Motor Projects](#)
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134.  [Conversational Gloves using arduino](#) This is what came out of my attempt at combining some of my favorite tools and themes...Grasshopper, 3D printing, kinetic motion, and linguistics. I put these gloves on my friends, asked them to tell me a story, and used Grasshopper to record the data from..... Listed under: [Radio Projects](#)
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135.  [Pneumatic Inverted Pendulum](#) Construction Mechanical structure Compressed air comes from air compressor and goes in the proportional valve. Coming out from the proportional valve, there are two branches of air flow (one is compressor air, the other one is exhausted air) which connect to the air cylinder (pneumatic..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
- 
136.  [Arduino Robot With PS2 Controller \(PlayStation 2 Joystick\)](#) In this tutorial, I'll show you how to use a wireless PlayStation 2 (PS2) controller and an Arduino Uno pilot a robotic tank. Story An Arduino Uno board was used at the core of this project. It receives commands from the wireless controller and sets..... Listed under: [Robotics – Automation Project Ideas, Robotics – Automation Projects](#)
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137.  [Make your own TV ambient light using Arduino](#) This is a very easy project. Here is the result I won't go into too much detail how each part works, because I have written some information on my blog. But you should be able to make it work with the information given on this..... Listed under: [LED Projects](#)
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138.  [Build your own 4x4x4 RGB LED Cube using arduino](#) LED Cubes are awesome. The first one I created was a 8x8x8 blue led cube. It still works like a charm. But being able to display every colour in the spectrum is much more spectacular. Let's start with a small and simple 4x4x4 RGB LED..... Listed under: [LED Projects](#)
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139.  [How to Build a Midbar ESP8266 Version](#) A while ago, I made the ESP32 version of Midbar which later evolved into a multi-user Cipherbox. While developing the Cipherbox, I realized that even the Lite version of it might be too expensive and too redundant for some people, so I "resurrected" the single-user Midbar project and made an..... Listed under: [Other Projects](#)
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140.  [Programming an ATTiny13A using Arduino & servo interpreter](#) So there I was, browsing eBay, looking for some cheap deals on Atmel chips when i came across a pair of ATTiny13 chips for £2.50. I just had to have them! After all, how hard can it be? I needed a small chip to read..... Listed under: [Arduino Programmer Projects, Interfacing\(USB – RS232 – I2c –ISP\) Projects, Motor Projects, Projects](#)
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141.  [Retablillo de las Maravillas v1.0](#) 4./ Interactivity & electronics 4.1/ Switches / characters 4.2/ Screen / interface 4.3/ Motor controller 4.4/ I/O controller & interface [4./ electronics] [4.1/ switches / characters] The characters on top of the moving platform function, as interfaces, actually as on-off switches. While standing in its..... Listed under: [Robotics – Automation Projects](#)
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142.  [How to control a Servo using Arduino](#) In this one, servo is programmed to be controlled by two buttons, one turns servo to the left and the other one turns it to the right. When the servo is turning, corresponding LED will be switched on to indicate the operation. Result: Because Arduino..... Listed under: [Motor Projects, Projects](#)
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143.  [IoT Using ESP8266-01 and Arduino](#) Ever asked how to control any device from any place in the world? In this tutorial, we'll learn how to control things wirelessly over WiFi. Story Introduction Today, we will build a device that connects to the internet and allow the user to control his/her..... Listed under: [Other Projects](#)
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144.  [Desktop Fist Bumper using arduino](#) This simple device sits on your desk at work, ready to give you fist bumps throughout the day as you need them. A 3D printed "fist" is moved by a servo attached to a rack and pinion mechanism. An ultrasonic range finder detects when you..... Listed under: [Battery Projects](#)
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145.  [Arduino Basic Wifi Project using ESP8266 wifi module](#) Overview ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host the application or to offload all Wi-Fi networking functions from another application processor. ESP8266..... Listed under: [Internet – Ethernet – LAN Projects](#)
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146. [\\$1.50 Arduino TV Annoyer](#) Hey Arduino fans! Here is an 'ible for making a device that turns TVs on when you want them off, and off then you want them on! If you hide it in something inconspicuous,

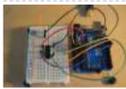
-  it would make a great April Fools joke or gag gift..... Listed under: [Home Automation Projects, Projects](#)
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147.  [Making a Smart BLE Receiver for My Dumb Garage Door](#) My garage door comes with a motor and a 433MHz remote that I don't always carry with me because it is quite bulky and in the way. Because of that, sometimes when I am in front of it and I want to open it, I..... Listed under: [Other Projects](#)
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148.  [Katrina And Maya bOunce](#) is a haptics-based learning game system that teaches the concepts behind wave dynamics, and in particular, resonance. The bOunce device (an adaptation of the Haptic Paddle) allows a user to "bounce" a ball in a virtual environment. By feeling the haptic force feedback from..... Listed under: [Robotics – Automation Projects](#)
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149.  [Stereo Audio with an Arduino](#) Recently I've been posting a lot of projects that use an 8 bit resistor ladder digital to analog converter(DAC) and an Arduino to make sound. (see the Arduino vocal effects box, the Arduino drum sampler, and my audio output tutorial). The technique I've been using to make these DACs is..... Listed under: [Projects, Sound – Audio Projects](#)
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150.  [3D Printed EMG Prosthetic Hand](#) If you've ever looked at prices for prosthetic hand, you may have noticed that they can cost upwards of \$5000, with more advanced myoelectric controlled arms priced at over \$20,000. Such prices are not ideal considering that over 80 percent of amputees are from developing..... Listed under: [Robotics – Automation Projects](#)
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151.  [Arduino All-In-One Remote](#) Now you can have all the remotes of your house in a device that fits in your hand with Arduino, never fight for who has the TV remote again! To make it you will need: Arduino (I used a cheap copy of the arduino UNO)..... Listed under: [Robotics – Automation Projects](#)
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152.  [Just Veggin with an Arduino Beetbox](#) Bring Touch Control to the Arduino. Use interesting touch sensors like Carrots or Beets to make a "Beetbox". In this instructable you will learn: \* How to use the Cap Sense library to make Arduino responsive to touch \* How adding a Wave Shield (and..... Listed under: [Projects, Sensor – Transducer – Detector Projects](#)
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153.  [MOTOR SWITCH LED Using Arduino](#) Here is how to connect a motor, a switch and an LED to your Arduino and how to do some checking to make sure that everything works. The strategy is to get the circuit going in stages, testing each part as you go. Once everything..... Listed under: [LED Projects, Motor Projects](#)
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154.  [How to Use the TM1637 Digit Display With Arduino](#) In this tutorial, I am going to show you guys how to control the TM1637 4-Digit 7-Segment displays using an Arduino. If you want to displays sensor data, temperature and humidity, or want to design a clock, timer or counter, you will need this 4-Digit..... Listed under: [Other Projects](#)
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155.  [Arduino Controlled Lighthouse](#) Overview: I've often thought that a lighthouse would make a great project for an Arduino, and so I decided to give it a try using one of the local lighthouses here in Erie, Pennsylvania as inspiration. I chose the North Pierhead Lighthouse that guards the..... Listed under: [LED Projects](#)
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156.  ["HiFi" Online Radio: Internet Streaming With ESP32 and VS1053](#) How to make an Internet Radio Streamer using the great ESP32 and the MP3 decoder "VS1053". There are many similar instructables for a gadget like this on the web (many from where I gathered lots of info and inspiration), but I wanted to share this..... Listed under: [Other Projects](#)
- 
157.  [Working with a Load Cell and an Arduino](#) We built a system that uses eight air-clamping cylinders (McMaster-Carr 62185K64) to push down on a piece of glass to seal it to a sidewall. A number of times, the glass has cracked. So, this project is an attempt to come up with an inexpensive..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
- 
158.  [LittleGoal: World Cup Match Notifier using Arduino](#) [ This Instructable was made at the Taipei Hackerspace littleBits Instructables Build Night. ] Can't watch the World Cup football games, but want to know when important game events (ie. goals) happen? Then littleGoal is for you! The littleGoal setup will monitor the game's progress,..... Listed under: [Game – Entertainment Projects](#)
- 
159.  [Arduino ESPWroom02 Breakout Board](#) Hey, what's up, everyone? So here's something useful: a custom breakout board for using the ESPWROOM02U module for tinkering and testing. The ESP-WROOM-02U Breakout Board is an ESP8266EX-based microcontroller that offers the same features as its predecessor, the ESP Series, but is way smaller, making..... Listed under: [Other Projects](#)
- 
160.  [Pololu Dual MC33926 Motor Driver Shield for Arduino](#) This shield makes it easy to control two brushed DC motors with your Arduino or Arduino-compatible board. Its dual MC33926 motor drivers operate from 5 to 28 V and can deliver a continuous 3 A per motor. These great drivers also offer current-sense feedback and accept ultrasonic..... Listed under: [Motor Projects](#)
- 
161.  [Stepper Motors](#) Stepper motors are not smooth - they move in "steps". Different motors have a different number of steps to make one complete rotation. You use software to step the motor forward or backward at different speeds. There are two kinds of stepper motor bipolar and..... Listed under: [Motor Projects](#)
- 
162.  [DIY FPV RC Tank V2 \[2km RANGE upgrade!\] using Arduino](#) Lets build An FPV tank that could be controlled within 2 kilometers! With the help of my best friend ASCAS I was able to borrow his old parts for this updated version. Ok So Roverbot version 2 is a highly educational Arduino based ATV-drone. It's..... Listed under: [Game – Entertainment Projects](#)
- 
163.  [Sweep](#) Sweeps the shaft of a RC servo motor back and forth across 180 degrees. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor hook-up wire Circuit Servo motors have three wires: power, ground, and signal. The power wire..... Listed under: [How To – DIY – Projects, Motor Projects](#)
- 
164. [DIY GPS Tracked Bike Lock using Arduino](#) Having just purchased a half decent bicycle, and living in a city with a bike theft rate almost as high as New York, I wanted to have some peace of mind that if a

-  thief with an angle grinder were to cut through my U-lock..... Listed under: [Car Projects](#), [GPS Based Projects](#), [Security – Safety Projects](#)
165.  [Critter Twitter Trap using Arduino](#) Havahart traps are really nice if you have pests to rid your home of but you don't feel the need to do this through means of killing the animal. The problem we are faced with is constant monitoring of the trap. If you forget to..... Listed under: [Internet – Ethernet – LAN Projects](#)
166.  [Capture the image of a falling object using Arduino](#) The aim of this project is to create a setup to capture the image of a falling object or any object in motion at a precise time using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I..... Listed under: [Video – Camera – Imaging Projects](#)
167.  [LED Binary Clock using an Arduino](#) A Binary Clock! I was recently looking at some binary clocks and I felt like Why not? I have everything to make one and I don't have a clock in my room. So I decided to build one and here it is. Hope you Like..... Listed under: [Clock – Timer Projects](#), [Projects](#)
168.  [Wiring of the Solenoid Valves](#) Overview of Wiring for the Salinity Sensor Other pages describing fish tank wiring: Connect electrical power to the pump and the breadboard Connect the salinity sensor to the breadboard and Arduino Connect the solenoids to the cascade control circuit (this page) Return to the main..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
169.  [Cheap wireless transmission between two Arduinos with Infrared](#) Hi all, For a project, I was looking for a cheap solution to send data from an Arduino to an other one. The serial port was already taken, and my transmission (unidirectional) needed to be wireless. My researches has brought me to discover these kinds..... Listed under: [Internet – Ethernet – LAN Projects](#)
170.  [Bug-Catching Spider in Web using Arduino Part 2](#) This project is a collaboration between idesigner4 and bhasudha(me), students in the Fall 2012 course Things That Think (CSCI 7000) at The University of Colorado - Boulder. The story of our bug-catching spider automaton goes like this: A giant evil spider resides in a big..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Security – Safety Projects](#)
171.  [Hack a TowerPro Micro Servo to Spin 360 / Continuous Rotation](#) Hey guys! Since I've got my servos, I've had two that I set aside for hacking. So, coming to my favorite website for help, I was sorely disappointed when I couldn't seem to find any instructables on how to mod a micro servo. After viewing..... Listed under: [Motor Projects](#)
172.  [Arduino R/C Lawnmower](#) What this is: This instructable will show you how to make your Arduino into an R/C interface that you can use for just about anything requiring remote control. I will also show you how I built an R/C lawnmower using my Arduino, a cheap R/C transmitter and..... Listed under: [Home Automation Projects](#), [Projects](#)
173.  [IR DOMED LEDS DELIVER UP TO 5.0A PULSED RADIANT POWER OVER 50°](#) Lumileds has added new LEDs to its Luxeon IR Domed Line with a significant increase in both DC and pulse drive current—up to 1.5A and 5.0A, respectively. The new emitters deliver radiant power of 1350mW at 850nm wavelength (slightly visible) or 1450mW at 940nm (invisible..... Listed under: [LED Projects](#)
174.  [RGB LED Tutorial \(using an Arduino\) \(RGBL\) using arduino](#) LEDs are great. But with any project there comes a point where flashing is simply not enough. For these cases an RGB (Red, Green, BBlue) LED is the answer. With an RGB LED you'll be able to produce any colour glow your heart desires. At..... Listed under: [LED Projects](#)
175.  [Darkness Map Data Collection Device](#) The Darkness Map encompasses both data collection and visualization of nighttime light levels. You can add to the map by downloading the app for iPhone or Android, but you can also contribute data by creating your own data collection device. This tutorial will cover how..... Listed under: [Sensor – Transducer – Detector Projects](#)
176.  [Say Hello with My Roommate Mouse with Arduino](#) I live alone in a small house in Shenzhen, and i really I love this graceful and dynamic city. As a software engineer, I have no girlfriend yet, and usually nobody visit my room, I really love this because I do not need to clear..... Listed under: [Game – Entertainment Project Ideas](#)
177.  [LIQUID FLOW SENSORS OFFER HIGH-ACCURACY, LOW-MAINTENANCE REPLACEMENT FOR MECHANICAL TURBINE DEVICES](#) Cost-Effective MEMS Sensors Deliver Increased Performance and Reliability, Even in Unstable Pulsatile Flow and Low-Flow Conditions Posifa Technologies introduced its new PLF2000 series of liquid flow sensors. Designed to replace mechanical turbine flow sensors, the cost-effective devices deliver increased accuracy and reliability, even in unstable..... Listed under: [Sensor – Transducer – Detector Projects](#)
178.  [Arduino-based line follower robot using Pololu QTR-8RC line sensor](#) UPDATE FEB 2012: This guide is featured on Adafruit's blog <http://www.adafruit.com/blog/2012/02/14/arduino-based-line-follower-robot/> This is Faz3a II, my first line-following robot, which I also hope to use for maze-solving. I used the Arduino Uno, Adafruit motor shield, Pololu's QTR-8RC line sensors and motors. You can build a..... Listed under: [Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
179.  [RGB LED Rainbow Fader using an Arduino](#) Introducing the RainBoard: A simple RGB LED Rainbow fader using an Arduino Uno and a few simple components. Believe it or not, we will control 45-channels of RGB LEDs at 32 brightness levels using only 3 digital pins from the Arduino! How is this possible..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
180.  [Window Painting Robot \(arduino, processing, accelerometer\)](#) The idea for this project came from one of my favorite 'ibles: the polargraph. I loved the drawing style and thought how cool would it be to do this on the side of a building? Unfortunately the challenges to setting up such a large polargraph..... Listed under: [Home Automation Projects](#), [Robotics – Automation Projects](#)
181. [Kaleiduino: A Battery Powered Arduino LED Kaleidoscope](#) Hello everyone, and welcome to my Instructable! This instructable will show you how I made the first ever DIY Arduino controlled "LED

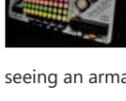
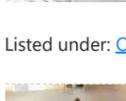
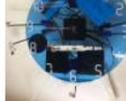
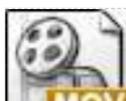
-  Kaleidoscope"! What is an LED kaleidoscope? Well, our traditional kaleidoscopes used 3 mirrors joined as a triangle with stuff like sequins and stolen..... Listed under: [Battery Projects](#), [LED Projects](#)
182.  [Using The PCF8575 i2c i/o Expander To Read Inputs With Arduino](#) This Instructable will show you just how easy it is to add extra inputs to your Arduino. You can use this technique to add hundreds of extra inputs to your Arduino with only two wires by using a fancy communication protocol called i2c (eye-squared-see). What I..... Listed under: [Sensor – Transducer – Detector Projects](#)
183.  [Arduino Robotic Spider V8](#) I needed a project that would use all my servos, so I decided to make the do-nothing, worthless spider. If you have fischertechnik and servos to waste, this is the project for you! Really, this flopping spider makes for a great learning project. The main..... Listed under: [Robotics – Automation Projects](#)
184.  [Laser Cut Sphere-O-Bot using Arduino](#) The Sphere-O-Bot is a simple 2 axis CNC machine that can draw on most spherical surfaces. You can use it to decorate ping pong balls or eggs. This design is based on the 3D printable Sphere-O-Bot. By building your Sphere-O-Bot using a laser cutter, you can..... Listed under: [Robotics – Automation Projects](#)
185.  [Arduino controls cheap RC car transmitter](#) OBJECTIVE Cheap Chinese RC toy cars can be had for about 5 Euros in the local market. The wireless brains behind the majority of these cheap RC toys is a pair of very cheap ICs the TX2 and the RX2. Yup, that's what they are called. So this..... Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)
186.  [Arduino Ping Ultrasonic Range Finder Code](#) The Ping))) is an ultrasonic range finder from Parallax. It detects the distance of the closest object in front of the sensor (from 2 cm up to 3m). It works by sending out a burst of ultrasound and listening for the echo when it bounces..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
187.  [How to Make an Interactive Sound Wave Print](#) In this tutorial we are going to show you how to make an interactive sound wave print within a picture frame, so you can see and hear your favourite song at the same time! When you touch the print through the glass of the frame..... Listed under: [Sound – Audio Projects](#)
188.  [Piano for Campus School Project With Arduino Nano RP2040 + MPR121](#) Hi! My name's Jack and I'm a senior at Boston College studying Computer Science and Finance. This semester, I'm taking Physical Computing with Professor Gallagher. We've been following a flipped classroom model and I made this project utilizing Professor Gallagher's Circuit Python YouTube tutorials. For my..... Listed under: [Other Projects](#)
189.  [Internet Devices for Home Automation](#) This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
190.  [Arduino based Bi-color LED Matrix Audio Spectrum Visualizer](#) After we came up with the Bi-color LED Matrix Driver Module kit, we have been looking around for interesting projects to work with it. You may be interested in some of the projects we have put up at instructables using this LED Matrix kit. Instructable..... Listed under: [LED Projects](#), [Sound – Audio Projects](#)
191.  [Digital Dice With Arduino](#) Have you ever tried to play a game only to find out you don't have any dice? That's not a problem anymore! Now you can create your very own digital dice using LEDs and your Arduino board. This is a beginner-level project. This project will..... Listed under: [Other Projects](#)
192.  [Magic Light Capacitance Sensor using an Arduino](#) This was my very first arduino project. Its great for beginners. Fade the color or the lights my moving your hands near it. It fades from a pretty purple blue to a firey red-orange. Its was SUPER easy to build, not to hard to write..... Listed under: [LED Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
193.  [LED Flipbookit: full color and brightness control with an Arduino](#) Step 1: Gather the materials Materials: - addressable RGB LED strip : I used a new variety of three conductor WS2811 strips. - an Arduino : I used a Arduino Leonardo. Any 5vdc Arduino should be adequate. - 4 AA batteries and a battery holder..... Listed under: [LED Projects](#)
194.  [Arduino – Solar MPPT Battery & Phone Charger](#) I always wanted to make a PCB and this is my first professional circuit board attempt. So before you decide to start this project you should know there could be some mistakes or it could be more reliable and compact. This design is not the..... Listed under: [Solar energy projects](#)
195.  [Infinity Mirror Clock using Arduino](#) Ever since my addressable RGB LED strips (WS2812B) came from Aliexpress, I've been fascinated with LED projects. Following up on my success with my Charlieplexed LED clock, I wanted to create something with more Jazz.. While browsing google images, I came across an instructable for..... Listed under: [Clock – Timer Projects](#)
196.  [Experimenters Guide for Arduino as Performed at OIT](#) Resources Adafruit ARDX - v1.3 Experimentation Kit for Arduino Experimenters Guide for Arduino (PDF) Bread Board Layouts (PDF) Arduino Tutorial Bundle (Instructable) This Arduino Tutorial is going to be very similar to the Arduino Tutorial Bundle Instructable but because we are working on this in..... Listed under: [Other Projects](#), [Projects](#)
197.  [Calming Book Box \(Arduino\)](#) In moments of hypo- or hyperarousal, when the thinking brain is offline, this Arduino-based Calming Book Box will prompt self-regulation with a wave of the hand. Inspired by Tinkercad's Crystal Ball project and Instructable user cah65's Arduino Powered Fortune Teller, a liquid crystal display reveals a series of nervous..... Listed under: [Other Project Ideas](#)
198. [ZAPpelin, or how to train your blimp with an Arduino and IR remote](#) Is it flying seal? A flapping alien? No it's a ZAPpelin, an Arduino controlled indoor blimp, setup to learn in the signals from an

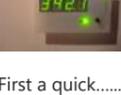
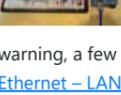
-  IR remote to command it. This project came to life at the third Arduino Jam Februari 15th to 17th 2013, at Timelab,..... Listed under: [Game – Entertainment Projects](#), [Radio Projects](#)
- 
199.  [Digital Zoetrope using Arduino](#) A zoetrope is a mechanical device that animates a series of pictures by spinning them fast enough that the images appear to merge together and move. My digital zoetrope works on a similar principal, by flashing the LEDs while they are spinning it is possible..... Listed under: [Video – Camera – Imaging Projects](#)
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200.  [How to Make a Infrared \(IR\) Remote Controlled Car With a TV Remote for University Project, Science Fair and Robotics Competition](#) Follow the instructions below to build the remote control car. This project is ideal for science fair, robotics competition and university projects. The design is highly adaptable, you can modify it easily and add your own components. Table of contents Step 1: video demo Step..... Listed under: [Other Projects](#)
- 
201.  [Origami Interactive Kinetic Art](#) Kinetic Interactive Arts? These concept of moving arts and interacting arts are not new to you, but most of the interesting and massive size pieces are almost always located in private companies or corporations. I was inspired by the piece "Diffusion Choir" located in a tech..... Listed under: [Other Projects](#)
- 
202.  [The machine of answers Using Arduino](#) Should you ask your boss for a raise? Call that cute guy you met at a party? Sell your stock? Wouldn't it be nice to have a handy method of handling some of life's more pressing dilemmas? This machine give you the answer to all..... Listed under: [How To – DIY – Projects](#)
- 
203.  [RFID Blocking – How Secure Are Our RFID Cards? How Can We Protect Them Further? – an Experiment](#) NOTE: Vocab RFID Reader - The box-like object that can be activated by an RFID tag RFID Tag/RFID Card - The card or tag that activates the reader. I took apart one and is displayed in the pictures above. RFID System - The tag and..... Listed under: [Arduino RFID Project Ideas](#)
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204.  [ABC 123 Toddler Trainer using Arduino](#) Here is a kid tested and teacher approved trainer for the kids in your family and / or extended family that are learning their ABCs and their 123s. It was kid tested on my granddaughter, who really loves it, and was approved by my wife,..... Listed under: [Home Automation Projects](#)
- 
205.  [DIY Fingerprint Lock Box](#) Ever wanted a box that opens in a super cool way? We thought it would be fun to create a box that can be unlocked using the correct fingerprint! If we had more time, we would make the box more secure. In the mean time,..... Listed under: [Other Projects](#)
- 
206.  [Audio and Visual Timer](#) Do you need a way to quickly and easily set a timer for short intervals? This audio and visual timer has you covered! All you need to do to set your timer is turn the potentiometer knob and push the button. One LED = 5..... Listed under: [Other Projects](#)
- 
207.  [TinyML: Slope Control for Robots With Arduino Pro. Building an Inclination Estimator System With Nclia Sense ME and Neuton](#) The vacuum cleaner robot is one of the most useful inventions of the last decade and anyone who says differently means that he does not have one! This fantastic household appliance is a concentration of technology: a complex embedded system composed of some microcontrollers, many..... Listed under: [Robotics – Automation Projects](#)
- 
208.  [Aergia: Android controlled TV Remote\(with Speech Recognition\) using Arduino](#) Have you ever faced this situation while sitting on your favorite spot on the couch or recliner, comfortably watching your favorite TV program? You're snugly tucked under the blanket, the air conditioning is pleasantly cool, the sun outside is shining it's delicate warm golden rays..... Listed under: [Arduino Android](#)
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209.  [Nanoleaf 2.0](#) So this is the Nanoleaf 2.0 which is a DIY version of the famous Nanoleaf RGB Triangular lighting setup. The goal here was to Recreate a Nanoleaf-like device with minimal spec and low cost, one that has all the basic RGB Glowing features and can..... Listed under: [Other Projects](#)
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210.  [The Arduino AA Undershield](#) I recently bought an Arduino Diecimila board. It's awesome and the applications, you can use it for or with is almost unlimited. However there's a problem when you want to use it in portable applications. You can use the Liquidware lithium backpack, which is a..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
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211.  [BLE Indoor/Outdoor Weather Station](#) This indoor/outdoor Weather Station is the third in a series of Very Low Power BLE - 2022 projects. The very low power BLE temperature, relative humidity and barometric pressure sensor is an extension of the Very Simple, Very Low Power BLE Temperature Sensor The sensors..... Listed under: [Temperature Measurement Projects](#)
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212.  [DIY Fitness Tracker\(GET-FIT\)](#) Introducing GetFit, your ultimate health and workout partner. GetFit is an easy-to-use, teachable fitness tracker with the capability of detecting an endless variety of exercises. Powered by Arduino Nano 33 BLE Sense and Edge Impulse, it is a completely open-source project. Features Can Count unlimited..... Listed under: [Other Projects](#)
- 
213.  [Bluetooth RGB Shelf Lighting using Arduino](#) Being the giant fan of LED's that I am i'm always trying to come up with new ways I can put them throughout my house. Today i'm going to show you how to create a simple, yet extremely eye catching, RGB Bluetooth controlled Shelf lighting..... Listed under: [Home Automation Projects](#), [LED Projects](#)
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214. [Arduino Science Clock](#) I have toyed with the idea of building a clock for sometime and my sister had a big birthday coming up so I decided that this was a great opportunity to build a clock for her as a gift. My sister has a PhD in..... Listed under: [Clock – Timer Projects](#)

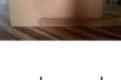
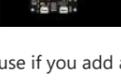
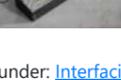
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215.  [L.O.G. \\$10 Arduino](#) There are probably thousands of articles on making an Arduino. So who needs another Arduino? Well, this Lazy Old Geek(L.O.G.) needs one. Here's the features I would like: Features: Low cost More permanent than a breadboard Not a custom PCB More prototyping area than a..... Listed under: [Arduino Programmer Projects, Projects](#)
216.  [Love Gauge Using Arduino](#) I'm working together with my wife. But sometimes one of us has an external appointment. So, if one of us is thinking about the other, we want to show it together. For this, I have made an Love Gauge for us. It stands on our..... Listed under: [Other Projects](#)
217.  [Wireless Communication of Multiple Variables Between 2 Arduinos Using HC-12](#) In this tutorial, I will show you how to achieve wireless communication of variables between 2 Arduinos using the HC-12 module, that operates from 433,4-473 Mhz. HC-12s are wireless modules for arduino to arduino communication, because they can send multiple variables over long distances-ones up..... Listed under: [Wireless Projects](#)
218.  [Arduino Powered Autonomous Vehicle](#) A few months back I started playing around with Arduino micro controllers as a learning exercise (and for fun); this project is the culmination of that. The goal of the project was to create a vehicle that can autonomously navigate through a series of waypoints..... Listed under: [Car Projects](#)
219.  [ITTT || ARDUINO-UNO || ANTIPONG CONSOLE](#) This project and instructable were made as part of an assignment at HKU ( University of the Arts Utrecht ), during the module: If This Then That. In this instructable we'll be making a small game console that plays an inverted version of pong. In..... Listed under: [Game – Entertainment Projects](#)
220.  [Emotidora: Hats with Emotions using Arduino](#) This project, Emotidora, will help a user express his/her emotions about events in day-to-day life. Weve all been in situations where something very exciting or unfortunate has happened to us and we want to share it with other people. This usually involves the expression of..... Listed under: [Game – Entertainment Projects, Home Automation Projects, Projects](#)
221.  [Traffic Signal / Stop Light Wiring with Arduino Controller](#) I always wanted an old traffic signal and finally got one recently. However, it was very simply wired so that all the lights were fixed on. What fun is that? I also wanted to try out an Arduino controller and thought this would be a..... Listed under: [Other Projects](#)
222.  [Pseudo Perpetual Spinning Top](#) You must have seen many magic tricks and wondered how it works so, here's another one but you don't have to figure out how it works. I will show how it works (Spoiler - It uses magnets and some electronics) and how you can make..... Listed under: [Other Projects](#)
223.  [WAVEbuoy using Arduino](#) The WAVEbuoy is a arduino lamp connected to the internet that displays the current wave height of any of the National Data Buoy Centre's wave buoys. This lamp is currently connected to the Sevenstones Lightship buoy that gives an indication of swell approaching Cornwall in..... Listed under: [Home Automation Projects](#)
224.  [Arduino Keyboard and Mouse Control Code](#) This example illustrates the use of the Mouse and keyboard libraries together. Five momentary switches act as directional buttons for your cursor. When a button is pressed, the cursor on your screen will move, and a keypress will be sent to the computer. Once you..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Projects](#)
225.  [Remote Controlled Car Using Cardboard](#) Every maker at least once make or tries to make RC Car. RC Cars are widely available yet the joy of playing with the one you made yourself can't be compared with the bought one. So I decided to make a Wireless RC Car with..... Listed under: [Car Projects](#)
226.  [Arduino ADK LED Lighting](#) Have you ever wanted to control electronics with your smartphone? The Arduino ADK (Android Development Kit) is the Arduino Mega with a built in USB host device, ready for your smartphone to be plugged in! We'll make a simple introductory project with a few LED..... Listed under: [LED Projects, Projects](#)
227.  [Marblevator, Perpetual?, Cradle.](#) "Marblevator, Pertual?, Cradle" like "Marblevator, Perpetual?, Version 2" and "Marblevator, Perpetual?" is not perpetual at all as it is simply another illusion. And like its predecessors it is a very quiet illusion with the only noise being that of the marble as it rolls back..... Listed under: [Other Projects](#)
228.  [Arduino Based Temp and Humidity Display](#) The temperature in my office at work varies quite a bit depending on the time of day, season, and the whims of the other people I share the floor with. When I'm sitting at my desk shaking uncontrollably or sweating profusely it would be nice..... Listed under: [Temperature Measurement Project Ideas](#)
229.  [Pixel Drop Ceiling using Arduino](#) In our living room we have a small patch of drop ceiling right in the middle of the room, basically a giant piece of duct tape to cover up bad carpentry. It was constantly getting water damage from what looks like a giant hole in..... Listed under: [Home Automation Projects](#)
230.  [Audio Visualizer With an LCD Display](#) People love listening to music. It is as they say, music reflects our mood. And it is a spectacle to see music become 'alive' right before our eyes. Well, that's what music visualization does. According to Wikipedia, music visualization "generates animated imagery based on a..... Listed under: [Sound – Audio Projects](#)
231.  [Push-button using an Arduino](#) Pushbuttons or switches connect two points in a circuit when you press them. This example turns on the built-in LED on pin 13 when you press the button. image developed using Fritzing. For more circuit examples,

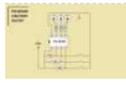
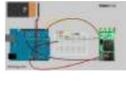
- see the Fritzing project page [Connect three wires to the Arduino.....](#) Listed under: [How To – DIY – Projects, Projects](#)
232.  [Soft Squares – Chisel Away With Arduino in Unity](#) For this project, I created an Arduino-powered chisel which can communicate with a game I made in Unity, Soft Squares. You can paint over a 5 x 5 x 5 cube and chip away cubes you don't need, to create a miniature sculpture of whatever..... Listed under: [Game – Entertainment Projects](#)
233.  [Create an internet controlled robot using Livebots](#) Here you will learn how to create an internet controlled robot or other installation using Livebots. Livebots is a project I'm working on which consists of an easy to use website for all the robots that people can interact with through the internet. As an example I..... Listed under: [Robotics – Automation Projects](#)
234.  [Ultimate Mosquito Swatter Mod for Gamer: Add Kill Counter, Sound, Rechargeable Battery](#) Where I live, from spring to autumn we have to compete for territory against tiger mosquito. Local stores offer a impressive list of anti mosquito devices, candles, including sophisticated traps sold a few hundred euros, I even found one sold 2000€ - this give you..... Listed under: [Game – Entertainment Projects](#)
235.  [The "Rare Vogel" Birdhouse Controller](#) A birdhouse controller for a bird based game, why? I saw this birdhouse in the store and felt instantly inspired! Going from something big and grand with a shortage of time for the school's deadline to something small and cute. It inspired an entire game..... Listed under: [Game – Entertainment Projects](#)
236.  [Model Airplane Autopilot using Arduino](#) Hi All! I am twenty years old. I picked up my arduino for the first time this Christmas, and I've been keeping busy on my arduino applications so that I can bring you this instructable. I hope that it helps!!! The purpose of this project..... Listed under: [Game – Entertainment Projects, Projects](#)
237.  [Using the Arduino Uno to program ATTINY84-20PU](#) Using the Arduino Uno to program ATTINY84-20PU (Newark item # 68T3783). This Instructable shows how to use the Arduino platform to work with physically smaller processors, such as the ATtiny84 (84/44/24), ATtiny85 (85/45/25), and ATtiny2313. This example is specifically for the ATTiny84-20PU processor (Newark item..... Listed under: [Arduino Programmer Projects, Projects](#)
238.  [3D Printed Timelapse/3D Scanning Turntable](#) An affordable Arduino Turntable designed for Time lapse photography. Changing the gearing and code it can also be used for Photogrammetry/3D scanning or Video. The turntable operates on the move shoot move principle in the Timelapse and Photogrammetry modes where the camera is triggered via..... Listed under: [Other Projects](#)
239.  [Home Made Bezel / Window for LCD, LED, TFT Displays](#) I've been working on a project that used a 16x2 LCD display and wanted a nice finish that also allowed me to seal against water and other liquids. I also needed impact resistance, low cost and the ability to be changed easily if worn or..... Listed under: [LCD Projects, LED Projects](#)
240.  [MaKey MaKey Monome using Arduino](#) Objective: build a monome - a complex electronic music instrument - using easy-to-learn, inexpensive components and a process that's so easy a kid could do it. Gist: This touchscreen music instrument is essentially 4 parts: MaKey MaKey (or Arduino) Neopixels copper tape cardboard Sound is..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Sound – Audio Project Ideas](#)
241.  [Custom NanoLeaf Lights! DIY, Wireless, Modular, Arduino, 3D Printed!](#) I am very excited to share this project with you because it looks absolutely beautiful and is super easy to make! It's a NanoLeaf inspired wireless Arduino RGB LED lights project that not only allows you to create any custom NanoLeaf shape you want but..... Listed under: [Wireless Projects](#)
242.  [Arduino and Xbee wireless setup](#) The Arduino Wireless shield allows your Arduino board to communicate wirelessly using Zigbee. This documentation describes the use of the shield with the XBee 802.15.4 module (sometimes called "Series 1" to distinguish them from the Series 2 modules, although "Series 1" doesn't appear in the official name..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Projects](#)
243.  [Arduino or Twitter Mets Apple](#) Whenever I go to Citi Field with my kids to see the Mets, they go crazy for the Home Run Apple. To me, the Apple is part of what makes baseball exciting for kids. Even though my kids may not watch most of the games, I..... Listed under: [Internet – Ethernet – LAN Projects](#)
244.  [Starship X582 Incursion Starfighter Childrens Interactive Bed](#) Now forgive my memory, as this was a few years back now. What started out as a children's spaceship themed bed, turned into an epic build. Supplies The project started with the purchase of a single mattress. I then walked around the local DIY store..... Listed under: [Other Projects](#)
245.  [Control Fluorescent Lights with a Laser Pointer and an Arduino](#) A few members of the Alpha One Labs Hackerspace do not like the harsh light given out by fluorescent fixtures. They wanted a way to be able to easily control the individual fixtures, perhaps with a laser pointer? I got right on it. I dug out a..... Listed under: [Sensor – Transducer – Detector Projects](#)
246.  [LED Patterns Using Arduino](#) A LED chain with multiple patterns. Control Nine LED bulbs to form different patterns using Arduino UNO. Working Video at Google Drive Link. Supplies Arduino UnoBread BoardJumper WiresLED 5mm 5V (Any Color) 9pcsResistance 220 ΩA Working PC Step 1: Placing the LED Bulbs Place all the..... Listed under: [LED Projects](#)
247.  [How to make your own Arduino board](#) If your are like me which I am guessing you are, then ever since you got into doing stuff with arduino you have wanted to make your own arduino board. You may be surprised to find out that making the prototyping board is actually very..... Listed under: [Development Board – Kits Projects, How To – DIY – Projects, Projects](#)
248. [HydroBuddy](#) HydroBuddy is a hydration-promoting device, designed for people who spend most of their day in one place (such as behind a desktop) and tend to forget about hydrating themselves.

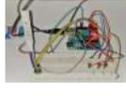
-  Once set up, it passively tracks how much water you drink, gently reminding you to drink up..... Listed under: [Other Projects](#)
- 
249.  [Polydexter: Arduino Robotic Translation Arm](#) Polydexter was the introductory project in the Creative Architecture Machines (CAM) advanced options architecture studio at the California College of the Arts (CCA), taught by Jason Kelly Johnson (co-founder of Future Cities Lab) and Michael Shiloh. Parts developed for this robot would go on to..... Listed under: [Robotics – Automation Projects](#)
- 
250.  [Boot Bot Arduino Bootload Shield](#) The Boot Bot Shield lets you burn the arduino bootloader onto a blank Atmega 328 chip. The bootloader is that magic piece of software that turns a mundane chip into the open source programmable miracle known as the arduino. Blank chips cost a few dollars..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
- 
251.  [How to Build a Simple DIY Home Automation System](#) Home automation is a term used to describe the process of automating certain tasks and devices around the home. This can include tasks such as turning on the lights when you enter a room, or setting the thermostat to a certain temperature. Home automation systems..... Listed under: [Home Automation Projects](#)
- 
252.  [Arduino Power outlet with exposed pins](#) I found my self often trying to plug stuff at home with Arduino. So I thought it would be good to have a system that you can just plug your sensor, plug the appliance and code something to see how it goes. I never liked..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
- 
253.  [Arduino Orb Build Warden](#) An Arduino based Ambient Orb designed explicitly for monitoring Source Code Autobuild systems. This orb can easy be repurposed for monitoring really anything that can have alerts from time to time. Step 1: Purpose Some time ago a co-worker passed me an article about "Extreme..... Listed under: [Other Projects](#), [Projects](#)
- 
254.  [The Look-o-box](#) Intro Dit is een Arduino project die ik heb gemaakt voor een schoolopdracht, in deze documentatie zal ik instructies geven over hoe je dit zelf ook kan maken en wat je ervoor nodig hebt. Ook leg ik hierin vast het concept, iteraties en een korte..... Listed under: [Other Projects](#)
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255.  [Spinning Tardis with blinking LED \(Powered by littleBits\) using Arduino](#) Construct a Tardis that spins and blinks! Total Build Time: 30 mins · Coding: 5 mins · Construction of the Tardis: 20 mins · littleBits LED and motor assembly: 5 mins Tardis.wmv(320x240) 10 KB Step 1: Gather all needed parts. LittleBits: · (2) Wires :..... Listed under: [LED Projects](#)
- 
256.  [Race Lights Reaction Timer](#) This project is a small game you can play with another player. You can time your reaction speed and compete with your friend. The game is inspired by the start lights of a formula 1 race. Earlier Iterations: The images above are of earlier iterations..... Listed under: [Clock – Timer Projects](#)
- 
257.  [Cyber Tail](#) About 25 million years ago, our ancestors lost their tails during the evolution to better adapt to the the environment. Today, as we live in the digital age, our bodies are evolving along with the cyber world. What would a cybernetic tail bring to our..... Listed under: [Other Projects](#)
- 
258.  [4x4x4 RGB LED Cube using Arduino](#) A while ago, when I first started using Arduino, my first project was a 4x4x4 LED cube, I built it from a Guide I found here in Instructables, I didn't know anything about programming, and little about electronics, yet I was able to build it..... Listed under: [LED Projects](#), [Projects](#)
- 
259.  [Simple Basement Security System using Arduino](#) In this project I will show you how to build a very simple security system for all kinds of rooms. It might be simple but still effective. It is based around an Attiny85 and uses a reed switch and a key switch as inputs to..... Listed under: [Security – Safety Projects](#)
- 
260.  [Monitor – Thinking Skins using Arduino](#) This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Thinking Skins, please check this page: [http://hci.rwth-aachen.de/m3\\_ss14](http://hci.rwth-aachen.de/m3_ss14) Given were small shared space containers for 6/8..... Listed under: [LED Projects](#)
- 
261.  [Make Voice Call using Arduino](#) This sketch connects a voice call from your GSM shield and Arduino to a remote phone number entered through the serial monitor. You'll need to attach a speaker and microphone to hear the connected phone and send your voice. First, import the GSM library..... Listed under: [Phone Projects](#), [Projects](#), [Sound – Audio Projects](#)
- 
262.  [SjoelSim](#) SjoelSim! Is a mixed-reality version of the popular and historic Dutch shuffleboard game "Sjoelen". The circuit makes use of two HC-SR04 ultrasonic distance sensors to measure the X and Z velocity of a playing disc. In combination with a program built in the Unity Engine,..... Listed under: [LED Projects](#)
- 
263.  [Arduino Peak Power Tracker Solar Charger](#) This project is an update of my original Peak Power Tracker Battery Charger Project. It is designed to control a 12V solar panel charging a 12V lead acid battery. The updated version of this project uses the Arduino Duemilanove development board (from [www.sparkfun.com](http://www.sparkfun.com)) as the..... Listed under: [Battery Projects](#), [Projects](#)
- 
264.  [Super Long \(7'\) Lightsaber](#) There are so many authentic looking lightsaber build guides but not many on building a super long lightsaber. Regarding Star Wars, I'm not sure why lightsabers are normal sword size anyway. Its not like the longer the lightsaber, the harder it would be to swing..... Listed under: [LED Projects](#)
- 
265.  [Ping Organ using an Arduino](#) I was trying to think of a quick toy I could build for my kids. I came up with this idea of an ultrasonic range finder, an Arduino, and a speaker. Basically the Arduino plays a tone out of the speaker based on the distance..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
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266. [Hydrate Reminder](#) An interactive coaster that reminds you to drink water. I myself find it hard to reach the daily water intake. I can go on without water for hours when sitting behind my desk. For

-  this purpose alone, I created a coaster that reminds me to..... Listed under: [Other Projects](#)
- 
267.  [Papercraft Automata Race Game littleBits Circuit using Arduino](#) This instructable will show you how to create a game using littleBits. The game will start with a sound trigger. Each player will have to press a button repeatedly. The first person to press their button 25 times wins. A buzzer will sound to end..... Listed under: [Game – Entertainment Projects](#)
- 
268.  [Joystick Controlled Car](#) I have created a joystick-controlled car, capable of moving left, right, forwards, and backwards. I created this as I thought it would be a challenging project with a fun and exciting purpose. Supplies Arduino Uno R3L293D Motor Control2x DC MotorServo Motor2x 9v Battery (or 1..... Listed under: [Car Projects](#)
- 
269.  [Game Controllers using Arduino](#) This instructable will teach you how to construct homemade game controllers for personal games, education aids, or anything you want. This system uses 4 controllers which send signals to a central hub which holds an Arduino. It was designed for use with a game called..... Listed under: [Game – Entertainment Project Ideas, Ideas](#)
- 
270.  [Arduino decision box \(Attiny85\)](#) So I was a bit bored this weekend (actually I wrote this some months ago) and since I had ordered a bunch of Attiny85 chips the week after I decided to make a quite random project with them. This is a decision box, it takes..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
- 
271.  [RGB LED with Arduino 101](#) To Learn about the basic LED usage practice, read here. What is a RGB LED? With an RGB (Red Green Blue) LED you'll be able to produce any colour that is flashing everyone's eyes. At first glance, RGB LEDs look just like regular LEDs, however, inside the usual..... Listed under: [LED Projects, Projects](#)
- 
272.  [How to Make a Garage Door \(EASY!!!\)](#) This is a EASY arduino project that you could create to impress your teacher and friends. This project is an IR sensor-controlled garage door. It uses 2 Servo motor's to move the garage door into an opened and closed orientation. The inferred sensor (IR) is effective and..... Listed under: [Other Projects](#)
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273.  [Armadino – an Arduino Gameboy, Clock, Electronic Lab, TVout Console and More...](#) Some years ago, I came across Mignon and Meggy Jr RGB, and was intrigued enough to want to make something similar, but with a wider screen, more possibilities for experiment and play, and with few parts. I called it Armadino, after seeing an armadillo logo on the spine of..... Listed under: [Game – Entertainment Projects](#)
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274.  [SmartMesh – Arduino and Android Controlled Pneumatic Facade](#) This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Design (CAAD) and the Media Computing Group of RWTH Aachen University. For more Smart Skins, please check this page: [http://hci.rwth-aachen.de/m3\\_ss14](http://hci.rwth-aachen.de/m3_ss14) During this project, the students were asked to..... Listed under: [Arduino Android](#)
- 
275.  [Cthulhu Party Lamp/Accessory Using NeoPixels and ESP32](#) But was I really? Something was missing... It'd been a while since I last went to a festival. Y'know, that whole pandemic thing? It had also been some time since my last "personal project" and I was feeling like I needed some "creative outlet". Several years ago..... Listed under: [Other Projects](#)
- 
276.  [Apollo 11 Arduino Clock](#) Project and Instructable write-up done by Ian Lacy on behalf of the MIT Edgerton Center. In this project, I'll show you how to build an Apollo 11 clock. The clock has each hour associated with a leg of the mission, and plays an associated audio clip..... Listed under: [Clock – Timer Projects](#)
- 
277.  [How to use the IR library with an attiny using Arduino](#) This Instructable will tell you how to use the IR (infrared) library on an Attiny. I will be using an Attiny85 with an Arduino Uno. I won't cover how to upload sketches to the Attiny just how to use the IR library with it. the..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
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278.  [LED Pattern Hat using an Arduino](#) This is a (moderately) simple Arduino project that is a spectacular display from LEDs - that you can wear on your head! It also uses a program that is not intricate at all, so you can modify it for different patterns and cycles. It's also..... Listed under: [Game – Entertainment Projects, Projects](#)
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279.  [NRF24L01 Tutorial – Arduino Wireless Communication](#) In my last tutorial I created a NodeMCU based Duino Coin Miner. It is an awesome little miner that sits on my desk and mines few cents a day. However, adding these miners to my home network choked my WiFi router. Home Appliances and Smart..... Listed under: [Wireless Projects](#)
- 
280.  [DIY Android Home Automation Box](#) Here's a little show and tell of my Android controlled home automation box. It's a small extension box that's controlled by an Android smartphone. You can turn the individual outlets on by tapping a button from the app or use the speech recognition app, found..... Listed under: [Arduino Android, Home Automation Projects](#)
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281.  [Build a Car With Touch Sensitive Steering for Your Rat](#) In 2019 Professor of Behavioral Neuroscience Kelly Lambert and her research colleagues published a journal article called "Enriched Environment Exposure Accelerates Rodent Driving Skills." This article explains "The research team built a tiny car for the rats out of a clear plastic food container on wheels, with..... Listed under: [Car Projects](#)
- 
282.  [Use foot switch to open Linux terminal using an Arduino](#) So here is how i made my foot pedal used to start Linux terminal using an Arduino. It's made because I am board of pressing the terminal icon with my mouse. P.S. Sorry for my English. I am from Croatia. Tools needed: -Soldering iron and..... Listed under: [Projects, RTOS – OS Projects](#)
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283. [Crius ROT8 MIDI Controller \[ABLETON READY – Auto Mapping\] Rev1.1](#) The last couple of years I started learning about electronics from nothing to be able to build my own MIDI controllers that

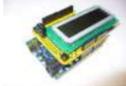
-  would serve my needs , taste and be cheaper overall in comparison with the branded products.This is CRIUS ROT8 MIDI CONTROLLER that consists..... Listed under: [LCD Projects](#)
284.  [Musical Table using Arduino](#) The Musical Table is a toy table that allows kids to play musical phrases by moving toys around the surface. Each of seven switches can play different musical phrases in four bases, making 27 different musical phrases in total. Some of the phrases are..... Listed under: [Home Automation Projects](#), [Projects](#), [Sound – Audio Projects](#)
285.  [ARDUINO WIRELESS HOME SECURITY SYSTEM](#) In this project I will discuss how you can make a cheap wireless home security system.Though during starting of this project the main objective was only for security alarm but later I found this device can be used to solve several problems.These are the few..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
286.  [Arduino SELF-BALANCING Robot](#) Today in this tutorial, I have made a SELF-BALANCING robot with ARDUINO. I hope this article will help the beginners to make it properly Supplies For the mechanical Part, we will need PVC SHEETGRAPHITE PENCILSGEAR MOTORMOTOR BRACKETWHEELS For The Electronics Part, we will need Arduino..... Listed under: [Robotics – Automation Projects](#)
287.  [Sony PS-X75 Record Player Fixed With Embrio and Arduino Mega2560](#) Fixed a SONY PS-X75 Record Player (1980's) with a blown MB8841-209L microchip. Fixed it with a Arduino Mega2560 Board and the fabulous Embrio Software.  
<https://youtu.be/311Lr8oTt4> A long, long time ago in 1980's Sony produced one of the best automatic record players the Sony PS-X75. The..... Listed under: [Other Projects](#)
288.  [Assembling the ZIFduino USB 1.2](#) The ZIFduino, for all intents and purposes, is an Arduino with a ZIF socket. It's geared toward those that want to do prototyping on the platform, but then move the ATmega chip to a stand-alone environment. The pin layouts are exactly the same, so it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
289.  [Space Invaders Mini Arcade With CRT](#) I have built this Mini Cardboard Arcade using a B&W small CRT (Cathodic Ray Tube) recovered from an old video intercom. It is based on an Arduino Nano emulating the classical Space Invaders. The switch on the rear turns ON the Arduino and starts the..... Listed under: [Game – Entertainment Projects](#)
290.  [Robot Arm Set using Arduino](#) I made use of Smart Tank Chassis in the past 4 projects and I wanna do something very different. After searching in google and consider different stuffs for a couple of days, I found the Robot Arm Set. It looks awesome! It provides servos, servo..... Listed under: [Robotics – Automation Project Ideas](#)
291.  [Using Servo Motors with Arduino](#) In this instructable, I am going to show you what a servo motor is, how to use it, and ideas for starting projects using it. I used arduino to control my servo, I added how to use a 555 in some of the later steps..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#)
292.  [Carius OctaPot Midi Controller](#) I am Carius and I LOVE MIDI Controllers! The last couple of years I started learning about electronics from nothing to be able to build my own MIDI controllers that would serve my needs , taste and be cheaper overall in comparison with the branded..... Listed under: [Other Projects](#)
293.  [How to build a whole home energy monitor using Arduino](#) This page and linked pages detailed below document how to build whole house energy monitor that has a display for easy, quick access to current energy use information, usb datalogging for detailed long term data storage and Internet connectivity for online graphing. First a quick..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)
294.  [Pacman/Ghost LED Matrix](#) We created a LED matrix that shows a Pacman and a Ghost. The figure changes by pressing a button. Also, the ghost takes the color according to the external temperature. It means, if it is cold, the figure turn blue, but if it is warm..... Listed under: [Blog](#), [LED Projects](#)
295.  [Internet-Controlled RC Car using Arduino](#) The Internet Controlled RC Car allows you to remotely drive around a small rc car from wherever you may be and see where it is going. This is fun because you can remote explore whatever space you leave it in, or hand over the keys..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#)
296.  [Honey I Shrank the Remotes!](#) A disclaimer right up front, I didn't shrink the remotes and that's not a photo of my remotes through a microscope. But what I did do was shrink them down to the buttons I use the most. Not even sure what most of the others..... Listed under: [LCD Projects](#)
297.  [Arudino- No Blinky](#). So you just bought this Arduino kit or Arduino-clone kit. You spent hours inserting parts and soldering components. You connect everything up and turn it on and stare at the little LED. You wait a second and nothing happens. You wait a minute and still..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
298.  [Arduino Seismic Activity Monitor – Ethernet Shield](#) Have you ever wanted to impress your friends by saying something crazy like, "I think there's going to be an earthquake soon" moments before an earthquake hits? Or do you just want some warning, a few seconds that could save your life. This project will..... Listed under: [Internet – Ethernet – LAN Projects](#), [Metering – Instrument Projects](#), [Projects](#)
299.  [Hacking a Sonoff Touch Panel to Work With MQTT and Homeassistant](#) There are some great hackable devices in the SONOFF range such as the original SONOFF switches, the Slampher and the SONOFF Luxury wall plate which is the subject of this instructable. These devices are based around the ESP8266 or ESP8285 Wifi modules and are easily..... Listed under: [Home Automation Projects](#)
300. [IoT: Weather Box \(with Custom Alarms & Timers\)](#) Please vote for me in the contests i have entered. Hope you enjoy the instructable, and happy making. I was, some time ago, quite interested in IoT

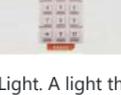
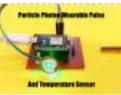
- projects and so I thought it would be fun to make something associated with the Internet. I recently..... Listed under: [Clock – Timer Projects](#)
301.  [Arduino Traffic Light Controller with Remote Control](#) I had a traffic light that I was refinishing. The only thing left to do was to build the controller for the light's signal patterns. To give it a twist I incorporated a remote control. This was also the perfect opportunity for me to try..... Listed under: [Car Projects](#), [Projects](#), [Radio Projects](#)
302.  [Light-Up Disco Table using Arduino](#) Every apartment needs awesome furniture, so why not make your own? This coffee table contains LED strips that light up into various customizable patterns and colors. The lights are controlled by an Arduino and a hidden button, and the entire thing is battery powered so..... Listed under: [Game – Entertainment Projects](#)
303.  [How to Make a Rechargeable Mini Lightning Cloud](#) <https://youtu.be/GrlXwePOK0Q> Do you want to build a rechargeable mini lightning cloud? Follow this tutorial, you'll be taught how to make one! Step 1: <https://youtu.be/GrlXwePOK0Q> Material List Blazing WS2812 LEDstrip Pegboard DFP layer Mini player module Hot glue gun & glue stick Trumpet Cotton High frequency..... Listed under: [Other Projects](#)
304.  [Laura: Emotional Compass Lamp](#) Laura is a "counseling" who is helping me to find myself and to understand where I want to go. For his great help, I wanted to give him a present that represents the work we are doing. The inspiration came from the need to find..... Listed under: [Other Projects](#)
305.  [DIY Arduino FM Radio \(Part 2\)](#) If you have read my first blog on the topic, than you already know what I'm experimenting with. Low price FM Radio, build with TDA7088 / YD 9088. It was obvious, that technology from the early 90-x is outdated. I mean, simple "search and hold" function of..... Listed under: [Projects](#), [Radio Projects](#)
306.  [Theremin Toy using Arduino](#) I wanted to make a little toy for my granddaughter to play with when she visits. I know like most kids, she enjoys things that make sounds and have different colored lights on them and if she does something, the toy does something. I thought..... Listed under: [Game – Entertainment Projects](#)
307.  [BT Based Voice Remote Controlled Car Using TIVA MC](#) This is a Tiva microcontroller based project. As there is a few data regarding projects based on Tiva, I as an individual am taking this initiative. I hope the readers will encourage it. The project named as bluetooth based voice controlled and remote controlled car..... Listed under: [Car Projects](#)
308.  [Barcode Based Complete Security and Enrollment System Using Tiva](#) This is Tahir UI Haq, bringing you another exciting and innovative Tiva Micro-controller based project. This is the third instructables in the Series. Hope you will like it. This time it is Bar-code Based Complete Security and Enrollment System. The project focuses on a bar-code..... Listed under: [Security – Safety Projects](#)
309.  [Using Servos with Arduino made easy 1](#) Servomotors or simply servos are essential components of a robot which convert electrical energy into mechanical energy. They are widely used in the field of RC hobby and robotics. But unlike simple geared motors, these servos are made by integrating a geared motor with a..... Listed under: [Motor Projects](#)
310.  [CC3D Flight Controller Firmware Changing](#) Introduction: The CC3D is a powerful and affordable flight controller that is very popular to use mainly on mini quad copters due to its small form factor. It has many advanced features that you can use if you add a GPS module, even way point..... Listed under: [Other Projects](#)
311.  [Interactive IOT Stuffed Animal](#) For my first project with Particles's Spark Core, I decided to make an internet-connected stuffed animal! After close consideration, I settled upon a blue and green alien to be the body of this project (see the above picture.) Powered by a Spark Core, this other-worldly..... Listed under: [Other Projects](#)
312.  [Face detection and tracking with Arduino and OpenCV](#) UPDATES Feb 20, 2013: In response to a question by student Hala Abuhasna if you wish to use the .NET Serial class, use the naming convention "\\.\COMn" and replace n with a number > 9 to define your com port for COM ports above 9..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
313.  [Teensy MIDI USB foot controller for controlling Mobius Looper using Arduino](#) Motivation: Playing in a 2 piece band, with the drums and lots of other samples being played back as backing tracks, there was a need to use a looper to add in more elements to the tracks. A hardware based looper fails in this respect..... Listed under: [Interfacing\(USB – RS232 – I2c – ISP\) Projects](#)
314.  [Reaction Speed Timer](#) Many, many years ago – when I was young - I visited the Evluon in Eindhoven, The Netherlands. At that time it had all kind of technical stuff you could see and you could play with. Nowadays it does no longer exists in that form..... Listed under: [Clock – Timer Projects](#)
315.  [Hacking a Sonoff to Work With Home-Assistant and MQTT](#) OK So my third Instructable and here we're dealing with another Sonoff device, the original Sonoff WiFi smart switch. These devices are again based around the ESP8266 and are easily hacked. The devices can switch up to 10A @ 240V so are ideal for switching..... Listed under: [Home Automation Projects](#)
316.  [Under \\$8 Arduino Serial Data Logger – Record to SD Card](#) Disclosure: This project operates the ATmega328-P-PU outside the published ATmel specifications: According to ATmel, the 328P requires slightly over 3.3V to reliably start the oscillator at 16MHz and to otherwise perform acceptably. Lab testing here at SofKinetics has shown that the 'board-duino' 328P-PU can withstand..... Listed under: [Memory – Storage Projects](#), [Projects](#)
317. [DIY Solar Tracker using Arduino](#) Introduction We aim to introduce young students to engineering and teach them about solar energy; by having them build a Helios as part of their curriculum. There is an effort in engineering to push energy generation away from the use of fossil fuels and

- towards..... Listed under: [How To – DIY – Projects](#), [Sensor – Transducer – Detector Projects](#), [Solar energy projects](#)
- 
318.  [Build a Tank Volume Reader in Under \\$30 Using ESP32](#) The Internet of Things has brought a lot of formerly complex device applications into the homes of many craft brewers and wine makers. Applications with level sensors have been used for decades in large refineries, water treatment plants, and chemical plants. With sensor prices falling..... Listed under: [Sensor – Transducer – Detector Projects](#)
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319.  [AndroidRemote – Control Android mobile using an Apple Remote](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊 ) Also this is my entry to the..... Listed under: [Internet – Ethernet – LAN Projects](#)
- 
320.  [Hacking my RC Car using Arduino and Android Smart Phone](#) Have an old toy car? I hacked mine using Arduino and an H bridge circuit to control the motors, used my Sony Z1 Android phone to control it with the recent 1Shield I got from Kickstarter. I thought to use the Gyroscope sensor in to..... Listed under: [Arduino Android](#), [Car Projects](#), [Phone Projects](#)
- 
321.  [VivoGame](#) VivoGame (something like "liveGame" in english) is a funny 2 players game whose goal is hit a target with a automated dart. One player wear a "glasses" that doesn't let him see the target. 3 leds that replace each lens, allow the other one, who..... Listed under: [Game – Entertainment Projects](#)
- 
322.  [Weather Monitoring System Using TIVA](#) This is Tahir UI Haq and introduces you to another member in the family. This time the project is named as Weather Monitoring System. This is another TIVA based project presented by students of UET LHR. Weather monitoring plays an important role in human life..... Listed under: [Temperature Measurement Projects](#)
- 
323.  [Analog reading box using an Arduino](#) I made this box for my music project to our school. This is only tutorial for the box, no for playing melody. It's based on serial connected switches. You will need: Some wire 6x switch 1x LED 1x 330 ohm resistor 5x 2000 ohm resistor..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
- 
324.  [Washing machine countdown timer using Arduino](#) Hello, and welcome to my instructable for a washing machine countdown timer. The timer is operated with the very popular Arduino micro controller. See here for more information. Arduino Home Page Aim The aim of this project is to be able to delay the start..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
- 
325.  [BLC Using Arduino Emulator](#) What is this BLC? Ans: Binary logical Calculator using Arduino Uno R3. Formally we are doing Arduino project which is real-time application in introductory labs and other places. This is all about how to create Arduino Uno project which does some basic computation for our..... Listed under: [Other Projects](#)
- 
326.  [Nintendo Keyless Entry System using an Arduino](#) Use a Classic Nintendo controller to lock and unlock your door! The output from the Controller is read by an arduino and it looks for a particular combination of buttons, once the combination is entered it sends a signal to eject a Cd-Rom Drive which..... Listed under: [Home Automation Projects](#), [Projects](#), [Security – Safety Projects](#)
- 
327.  [DIY Cheapest Bluetooth Controlled Home Automation](#) Step 1: COMPONENTS REQUIRED Bluetooth module (HC-05)AT89S52/C51/S51/C52 microcontrollerRelay Driver ULN2003ARelayResistances and capacitors as circuit diagram depicts(below)power module(if the input is more than 5V or else not necessary)IC 7805(5V voltage regulator)1000uF capacitor10uF capacitorled and resistance(as per convenience so that led doesn't get damaged) IMPORTANT NOTE: USE..... Listed under: [Bluetooth Projects](#)
- 
328.  [DIY Infrared Sensor Module using Arduino](#) Have you ever wanted to make a line following robot but the infrared sensors were too expensive for you? Do you want to upgrade the robot in my other instructable? Well this instructable comes in two stages, Stage 1 is the prototyping stage, where you..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
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329.  [Rock Paper Scissors Spock Lizard using Arduino](#) Introduction: Okay, I cheated. Any similarities between previous Instructables uploaded by me and the graphics, pictures, text and / or programming code is purely intentional. It certainly made putting this one together a whole lot easier. This Instructable is my Arduino version of the Rock..... Listed under: [Game – Entertainment Projects](#)
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330.  [Simple 3 Button On-off With 12f629 \(mikroC\)](#) a simple 3 buttons on-off with pic12f629. it's written with MikroC Step 1: The Code... start the code with "int"-----  
----- int x0,x1,y0,y1,z0,z1; // with this  
the GPIO outputs could stay on or off void main() { GPIO = 0x00; // all outputs  
are 0 CMCON..... Listed under: [Other Projects](#)
- 
331.  [Make your plant smile using Arduino](#) This is a funny project that makes our plants "talk" to us. It's very simple and you can create it in few hours. We use a sensor to read the soil moisture of our plant and a led matrix to display how the plant "feel"..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
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332.  [Cheap 2-Way Bluetooth Connection Between Arduino and PC](#) INTRODUCTION In the guide, I will explain how I managed to send data back and forth between a PC and Arduino via a cheap Bluetooth HC-05 transceiver, which can be found for less than \$10 on ebay with the breakout board. The version I have used..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c – ISP\) Project Ideas](#)
- 
333.  [Getting Started With the Particle Photon \(Internet Controlled LEDs\)](#) In the previous instructable I showed you how to get started with IoT using the nodeMCU, in this instructable I will be featuring the Particle Photon which is an easy to use IoT device

- to get started with designing IoT projects. The particle photon is smaller than..... Listed under: [LED Projects](#)
334.  [Auto Fish Feeder using Arduino](#) How often do you ever forget to feed your fish? Well, for me I don't forget that much. I just couldn't go out town for a couple of days and also be ridiculous if I should bring my tank along. When I won a Sparkfun..... Listed under: [Home Automation Projects](#)
335.  [Interfacing Servo Motor With NodeMCU](#) This here is my first Instructable project. So you want to get started with NodeMCU? Well, I'm here to share with you. Today, I'm going to show you how to get started with NodeMCU. Let's GO ! NodeMCU has on board ESP8266-12E makes the board suitable..... Listed under: [Motor Projects](#)
336.  [PS/2 Keyboard Or Mouse using Arduino](#) Arduino isn't limited to taking input from sensors: you can even connect up a full-size PS/2 keyboard just as if it were a "real" computer and type away! Connecting a keyboard to an Arduino may sound a bit odd (after all, it's just a little..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
337.  [Laser-guided Ghost Climber using an Arduino](#) Almost inevitably, when I try to climb the same route I'll forget exactly what sequence of holds they used and end up following a slightly different path. Even when I remember exactly which course to follow, I'll still wonder whether I'm doing it as quickly..... Listed under: [Game – Entertainment Projects, Projects](#)
338.  [Controlling an RGB LED With an Android Smartphone Using Arduino and Bluetooth Module](#) The very first project of my channel is about controlling an RGB LED using annoying push buttons.... I feel that the project was not a good one to learn about micro-controllers, because most of the micro-controllers uses are not fully utilised in that project.... So, This is..... Listed under: [LED Projects](#)
339.  [The Jack'O Lantern Early Warning System using Arduino](#) This was originally going to be a tutorial on how to hook up a pumpkin to the internet so that the lights inside it could be controlled via twitter, text message, motion or more. To get started I carved a pumpkin for the first time..... Listed under: [Security – Safety Projects](#)
340.  [Basic IC Tester Using Arduino NANO](#) 1. Components required for this project. 2. Procedure to do this project. 3. Coding of Arduino Nano with verification. 4. Circuit diagrams. 5. Simulations and application list. So lets begin.....! Step 1: What This Project Dose ? Basic Information and working of this project is,..... Listed under: [Other Projects](#)
341.  [Homemade Dual H-Bridge – L298 Breakout Board using Arduino](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials COMPONENTS: 1 x perf board 13x26 holes (3,5 x 7,0 cm) 2 x..... Listed under: [Arduino Android, Internet – Ethernet – LAN Projects, Projects](#)
342.  [Make your own 1x1 22 IO pin Arduino Compatible](#) Tested ExtraCore boards and kits are now available for sale from Rugged Circuits. What is it? This Instructable will give you all the files and information you need to make your own Arduino Compatible in small surface mount package. It requires a board manufactured to..... Listed under: [How To – DIY – Projects, Projects](#)
343.  [MFRC522 RFID Reader Interfaced With NodeMCU](#) If you have noticed in an office before, you would be probably aware of those RFID cards or Tags that would unlock specific doors depending on your access. Well let's make a simple NodeMCU RFID reader using the MFRC522 module, and program the NodeMCU to provide..... Listed under: [Other Projects](#)
344.  [Led Star with Arduino and WS2811 Neopixels](#) Description This little project makes a great ornament to hang in your window at Christmas time. It is a 20" wide star with 50 "neopixel" leds around the perimeter. Each led is individually addressable and it is controlled by an arduino device which can be..... Listed under: [Game – Entertainment Projects, LED Projects](#)
345.  [MQTT and Wifi Powered Mailbox Flag](#) A couple of years I embarked on my own home automation project. It started off by building a server controlled 433 MHz transmitter build with an Arduino to switch lots of cheap PT2262 based remote switches. Later I added an Arduino based receiver for my..... Listed under: [Wifi – Wlan Projects](#)
346.  [Arduino Joystick Mouse Control Code](#) Using the Mouse library, you can controls a computer's onscreen cursor with an Arduino Leonardo, Micro, or Due. This particular example uses a pushbutton to turn on and off mouse control with a joystick. Cursor movement from the Arduino is always relative. So every time..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
347.  [Instructables Hit Counter \(ESP8266-01\)](#) Some time ago, I tried to make an "Instructables Hit Counter" using the Instructables API, and an Arduino Uno with a wired network shield. However, with the limited RAM of the Arduino Uno, I was unable to get the system to work. A while ago, I noticed..... Listed under: [Wifi - Wlan Projects](#)
348.  [Arduino The 5\\$ Karduinoos pad](#) So, looking at these Kaoss pads and alike hardware, I found that there is hardly any point in this device being so expensive, when you just want to use it as MIDI controller. Going through my parts bin, I found a Synaptics touchpad from an old..... Listed under: [Sensor – Transducer – Detector Projects](#)
349.  [Arduino Modules – Flame Sensor](#) Quick and simple start guide for using and exploring the Flame Sensor module with an Arduino. The model in the example I am using is from Deal Extreme [DX] and can be found HERE. (The instructable for the Rain Sensor is now available!) Materials needed:..... Listed under: [Sensor – Transducer – Detector Projects](#)
350.  [Control Servo Motor Using Accelerometer](#) Lets begin with another cool instructable. In this Instructable we will learn how to control the position of Servo Motor using Accelerometer with NodeMCU. Step 1: Things to Be Collected To

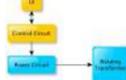
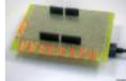
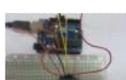
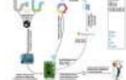
- begin with this instructable all you need is : Hardware Requirement ADXL335 : Accelerometer.....  
Listed under: [Motor Projects](#)
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351.  [Arduino Row-column Scanning to control an 8x8 LED Matrix Code](#) LED displays are often packaged as matrices of LEDs arranged in rows of common anodes and columns of common cathodes, or the reverse. Here's a typical example, and its schematic: These can be very useful displays. To control a matrix, you connect both its rows..... Listed under: [LED Projects](#), [Projects](#)
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352.  [OLED Display \(SPI\) With Particle Photon](#) Particle Photon is a tiny micro controller, just about the size of an arduino nano. But the photon is designed for easy IoT prototyping, it supports OTA updates to its firmware. So all we have to do is get it connected to the internet and we..... Listed under: [LED Projects](#)
- 
353.  [Read ASCII String using Arduino](#) This sketch uses the Serial.parseInt() function to locate values separated by a non-alphanumeric character. Often people use a comma to indicate different pieces of information (this format is commonly referred to as comma-separated-values), but other characters like a space or a period will work too. The values..... Listed under: [LED Projects](#), [Metering – Instrument Projects](#), [Projects](#)
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354.  [Arduino Controlled Lego Lighthouse](#) Lighthouses have been guiding boats to safety for thousands of years. One of the earliest and most notable of these was the Pharos of Alexandria. This huge structure stood for nearly two thousand years. When deciding on a lego project, I wanted to build something..... Listed under: [Game – Entertainment Projects](#)
- 
355.  [Romantic Led Heart SMD](#) Hi makers! This is my first instructables and I want to address some important things first: I made this project with the idea of using the least amount of tools so that everyone could do it! Even I don't have lot's of tools, only the..... Listed under: [LED Projects](#)
- 
356.  [Interface I2C LCD Using NodeMCU](#) Wassup Makers!! In this Instructables we will learn how to interface an LCD (Liquid Crystal Display) to the NodeMCU board. These 16x2 LCDs are very popular and broadly used in electronics projects as they are good for displaying information like sensor data from your project, and also they are very cheap..... Listed under: [LCD Projects](#)
- 
357.  [Arduino Sprinkler System plus Web control](#) A smart sprinkler system for the rest of us... No soldering involved ! Just pile up a couple of shields on top of an arduino and control your sprinkler system from anywhere. A couple of friends wanted to replicate the sprinkler system presented in this..... Listed under: [Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
- 
358.  [OLED Interfaced to NodeMCU](#) OLED!! What is an OLED? OLED ( Organic Light Emitting Diodes ) is a flat light emitting technology, made by placing a series of organic thin films between two conductors. When electrical current is applied, a bright light is emitted. OLEDs can be used to make displays and lighting. Because..... Listed under: [LED Projects](#)
- 
359.  [Arduino Controlled Relay Box](#) This project is designed to help you construct some relay boxes for controlling power from your wall socket using an arduino or microcontroller. The inspiration for writing an instructable came when I decided to build some relay boxes for my personal Garduino project. For safety concerns.....  
Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
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360.  [4x4x4 LED Cube \(Arduino Uno\)](#) In this tutorial I'll show you how to make a 4x4x4 LED cube for around \$15.00. The cube has 64 green LEDs which make up it's 4 layers(positives) and 16 columns(negatives). These are all wired to a Arduino Uno. An Arduino is a single-board microcontroller,..... Listed under: [LED Projects](#)
- 
361.  [ESP8266 ESP-12E Arduino Clock W/ Outside Temp & LEGOS & NeoPixel Ring](#) We went all 'cord-cutter' and ditched our Cable box and realized something was now missing in our family room...the oh so familiar LCD clock that was always present. I decided to get to work on a replacement and had some fun with it. If you're like me..... Listed under: [Clock – Timer Projects](#)
- 
362.  [Arduino Chicken Coop Controller](#) Over the last few years my family has been keeping ex-battery hens - they are about 18 months old and have had a horrendous life kept cooped up in small cages in large warehouses. As much as we love these little bundles of joys and..... Listed under: [Home Automation Projects](#), [Projects](#)
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363.  [Debounce an input using Arduino](#) This example demonstrates how to debounce an input, which means checking twice in a short period of time to make sure it's definitely pressed. Without debouncing, pressing the button once can appear to the code as multiple presses. Makes use of the millis() function to keep track..... Listed under: [How To – DIY – Projects](#), [Projects](#)
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364.  [Arduino Calculator](#) In this Instructable I will show you how to make an Arduino calculator that is just as good as any other calculator (well... sort of). Even though it's probably not practical due to it's size, repetitive use of the equals button (due to the lack..... Listed under: [Calculator Projects](#)
- 
365.  [ESP8266 Basement Monitor](#) My basement gets wet when it rains a lot so I wanted a way to monitor it. I decided to try using an ESP8266 as it has built in WiFi. I paired that with a DHT22 Humidity & Temperature Sensor and a float sensor to..... Listed under: [Sensor – Transducer – Detector Projects](#)
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366.  [DIY AM Radio With Arduino](#) After I finished my last project, I couldn't stop thinking how to build an AM receiver, that would also operate in conjunction with my little friend Arduino. To minimize a workload and complexity, especially with RF part of the circuitry, I come up to conclusion,..... Listed under: [How To – DIY – Projects](#), [Projects](#), [Radio Projects](#)
- 
367. [Blink Without Delay using Arduino](#) Sometimes you need to do two things at once. For example you might want to blink an LED (or some other time-sensitive function) while reading a button press or other input. In this case, you can't use delay(), or you'd stop everything else the program while.....  
Listed under: [LED Projects](#), [Projects](#)
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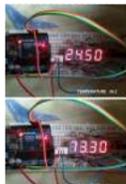
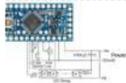
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368.  [Controlling Devices in Swift With BLE](#) In this project we will use an iPhone to control devices connected to an STM32 device. The project is a starting point for more exciting experiments such as remote controlled robots or any other thing you might want to control in your home. I encourage..... Listed under: [Other Projects](#)
369.  [DIY navigation device for blind people using Arduino and Android smart phone](#) In this project you can cover your eyes and let your smartphone navigate you to avoid obstacles, the application is mainly a DIY navigation device for blind people. I knew that 1Sheeld is about to launch a new text to speech shield, and so I..... Listed under: [Arduino](#), [Android](#), [Home Automation Projects](#), [How To – DIY – Projects](#), [Medical – Health based Projects](#), [Phone Projects](#)
370.  [ESP32 Solar Weather Station](#) For my first IoT project I wanted to build a Weather Station and send the data to data.sparkfun.com. Small correction, when I decided to open my account in Sparkfun, they were not accepting more connections, so I choose another IoT data collector thingspeak.com. Continuing... The system..... Listed under: [Solar energy projects](#)
371.  [Home Made Arduino Prototype Shield](#) Hi. I've just got myself an Arduino Uno R3 and I'm really new in the world of Arduinos. There's so much to learn and explore 😊 One of the first shields that I'm tempted to buy is the Prototype Shield. I think building a prototype..... Listed under: [How To – DIY – Project Ideas](#), [Ideas](#)
372.  [Arduino Timer Interrupts](#) Timer interrupts allow you to perform a task at very specifically timed intervals regardless of what else is going on in your code. In this instructable I'll explain how to setup and execute an interrupt in Clear Timer on Compare Match or CTC Mode. Jump..... Listed under: [Clock – Timer Projects](#), [Projects](#)
373.  [CO2 Ppm Sensor Logger \(\\$140\)](#) The goal of this project is to build a cheap alternative to measuring CO2 ppm in the air. It's a nice simple way to see over-time change in ppm using a cheap NDIR carbon sensor and a temperature/pressure sensor to achieve better accuracy. In this..... Listed under: [Sensor – Transducer – Detector Projects](#)
374.  [Quiz Game Show Buzzer using Arduino](#) A good friend of mine who's a teacher was doing quizzes in her class making students compete to answer questions... resulting in them complaining they raised their hands before the others. I decided to give her this quiz show type buzzer for Christmas to solve..... Listed under: [Game – Entertainment Projects](#)
375.  [Omnik Inverter Off It's Cloud and on My MQTT](#) I have a solar power installation using an Omnik string inverter. Omnik is a China based manufacturer of PV inverters and they make extremely efficient devices. Optionally, you can install a WiFi module to make it "connected". I am very content with the device, with..... Listed under: [Wifi - WLAN Projects](#)
376.  [Make an Arduino LCD shield](#) In this short tutorial we make an Arduino LCD shield. Updated 18/03/2013 Today we are going to make an Arduino shield with an LCD module. More often than not I have needed to use an LCD shield in one of my projects, or with the..... Listed under: [LCD Projects](#), [Projects](#)
377.  [Web Client using Arduino](#) This example shows you how to make a HTTP request using an Ethernet shield. It returns a Google search for the term "Arduino". The results of this search are viewable as HTML through your Arduino's serial window. Circuit The Ethernet shield allows you to connect..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
378.  [LED Head Arduino TED](#) LED HEAD TED meet the world. I have always been interested in a bare-bones Arduino but never really saw the point if it was not practically useful, This is my entry into Little Bits contest, I tried to stay true to the "little bits"..... Listed under: [Game – Entertainment Projects](#)
379.  [Cute Drawing Buddy V1, SCARA Robot – Arduino](#) I want to make a robo arm with less cost which draw cute pictures. That robot want to make my Daughter happy and it can able to dance. I saw a Cutest drawing robot in Kickstarter. I like it very much and want to make..... Listed under: [Robotics – Automation Projects](#)
380.  [Arduino Esplora Remote](#) This example is designed to be used with a Processing sketch. Processing is an open source programming environment. The application on the computer reads the sensors on the Esplora board and controls the buzzer and the RGB LED through a graphical interface. The image in..... Listed under: [Projects](#), [Radio Projects](#)
381.  [Weather Portal](#) There have recently been a series of web query projects that use the miraculously tiny and affordable ESP8266 micro controllers. Most have involved the output going to a tiny screen with small graphics. The local YMCA in Anchorage just completed a beautiful remodel but lacked..... Listed under: [Other Projects](#)
382.  [Access control with Arduino plus Keypad 4x4 plus Servo](#) Hi guys, I bring a new instructable for arduino, the control access with password, 4x4 keypad and a servo. We will use the Password and Keypad librarie for arduino, besides using the servo library, but this project can also be modified by changing the servo,..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#), [Motor Projects](#), [Projects](#)
383.  [Animatronic Eyes and Wii Nunchuck Part 2 using Arduino](#) After I built the animatronic eyes in PART 1, I wanted to complete the face with a voice and possibly moving eyebrows. If you look back at my PART 1, you'll see that for the base I used a model from Thingiverse. Once you have..... Listed under: [Game – Entertainment Projects](#)
384. [Adafruit's Circuit Playground As a Robot Controller With Bluetooth](#) A friend gave me one of Adafruit's circuit playgrounds (developer edition) to use, and I wanted to see would it make a good

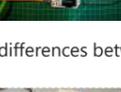
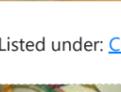
-  robot controller. The circuit playground is packed full of features like sensors, neo-pixels and even an accelerometer. I wanted to add a..... Listed under: [Robotics – Automation Projects](#)
385.  [iPod Information Screen using Arduino](#) My girlfriend, a music buff, asked me to come up with a better way for her to look at the track information of the current song playing on her iPod touch while she was using it in the car. Those of you that have or..... Listed under: [Phone Projects](#), [Projects](#)
386.  [Autonomous Race Car using Arduino](#) Build this autonomous driving robot car based on a old RC toy car. I removed the radio control board from the car and replaced it with a brain in the form of an Arduino UNO board (plus a motor driver board) and gave it an..... Listed under: [Car Projects](#)
387.  [Manual Controlled Toll Gate Using Push Button](#) n this Instructable we will simulate an Toll Booth Gate by using a manual Push Button to open and close the gate. How Does It Work? When the vehicle comes in front of the gate, the push button is pressed & the gate is opened, this is done by sending a..... Listed under: [Motor Projects](#)
388.  [Arduino powered GLCD \(Graphic LCD\)](#) Displays are always nice. So far I've just been demonstrating how to use 7-segmented displays to display numbers using very few resources. But what if you want to display text? Or pictures? Or both? Well in order to do that, you're going to need a..... Listed under: [LCD Projects](#)
389.  [Measure Your WiFi Signal Strength Using Particle Photon](#) WiFi has become an integral part of our life and daily billions of people use WiFi as a method to access the internet. But the range of WiFi is limited, unlike a cellular connection. A normal WiFi router usually has a range of about a 100m..... Listed under: [Wifi - WLAN Projects](#)
390.  [ATTiny powered Arduino Projects](#) Arduino is a great platform. No question. But what if I told you that you could take your entire board and compact it into tiny package. And I mean really small. The chip in the picture is an ATTiny84, and that is the big version..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
391.  [Irrigation logic controller/project log using Arduino](#) Hello, I am going to explain my project in just a minute, but first I wanted to explain how I became involved in this project. I like to save money were I can, so it is not hard to understand why I carpool to work..... Listed under: [Home Automation Projects](#)
392.  [Arduino Self-Driving Car](#) This is basically a Self-Driving Car powered by Arduino R-3 Development Board and a L293D Motor Shield.It uses the data given by the HC-SR04 Ultrasonic Sensor which is connected to analog pins of the arduino board. As an additional feature, I have added a Micro..... Listed under: [Car Projects](#)
393.  [Keyless Entry / Arduino](#) Keyless Entry System Enter the correct code into the keypad and the servo will unlock the door. Enter the incorrect code and Sorry you stay out. There was a couple of stipulations i wanted in my Keyless Entry system: Helper Light. A light that would..... Listed under: [Calculator Projects](#)
394.  [An Arduino real time clock shield](#) Today we are going to make a real time clock Arduino shield. Doing so will give you a simple way of adding ... real time capability to your projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time..... Listed under: [Clock – Timer Projects](#), [Projects](#)
395.  [Spotted Gecko Habitat Temperature Monitor/Thermostat W/Arduino & ESP8266 ESP12](#) Soooo...Wifey decided that it was time for a new pet. Spin the wheel....A Spotted Gecko!! Well, Geckos are apparently very temperature sensitive creatures so we invested in a UTH (Under Tank Heatpad) for those of us that are new to the world of reptiles. The purpose..... Listed under: [Temperature Measurement Projects](#)
396.  [Qtechknow Robot Obstacle Course using Arduino](#) Have you ever thought of controlling your FuzzBot wirelessly? Do you want to make a real - life video game? Do you want to learn about the tech behind NFC and RFID? - the Qtechknow Robot Obstacle Course How - To Guide is for you!..... Listed under: [Robotics – Automation Projects](#)
397.  [Twitter Physical Client Using Arduino](#) In this project I'm building a physical Twitter client using Arduino and a flag, basically an arduino powered retweet indicator, whenever any of my tweets is retweeted some physical action will happen to notify me of that. You'll need: 1. Flag. 2. Arduino. 3. Laptop..... Listed under: [Internet – Ethernet – LAN Projects](#)
398.  [Particle Photon – Wearable Pulse and Temperature Sensor](#) The Particle Photon is a microcontroller suitable for wearable project's considering it's small form factor and that it supports OTA updates. For those of you who do not know what a Particle Photon is it is a tiny microcontroller with on board WiFi (Cypress WiFi chip) and..... Listed under: [Temperature Measurement Projects](#)
399.  [Simple RFID access system using Arduino](#) In this tutorial you can make an RFID access system. It's very simple and can be used with a wide variety of end-uses. Updated 18/03/2013 The purpose of this project is to prototype a basic RFID access system. Although it is not that complicated, this..... Listed under: [Projects](#), [RFID - NFC projects](#), [Security – Safety Projects](#)
400.  [IoT BMI Indicator and Mood Light Using Feather Huzzah and IFTTT](#) Recently my wife has suggested that I should lose a few pounds in weight (too much time geeking out and not enough time in the gym). With that in mind -and in true nerd fashion- I wanted to create a method to see my progress,..... Listed under: [LED Projects](#)
401.  [Clock Four – Scrolling text clock using Arduino](#) Introduction Time for another instalment in my highly-irregular series of irregular clock projects. In this we have "Clock Four" – a scrolling text clock. After examining some Freetronics Dot Matrix Displays in the stock, it occurred to me that it would be neat to display..... Listed under: [Clock – Timer Projects](#), [Projects](#)
402. [The Pill Reminder using Arduino](#) Back in January 2014 I was at a meetup of Baby Boomer Makers at TechShop in San Carlos, California. We were going around the table, each taking a turn to talk about

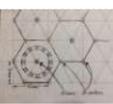
- projects we'd like to do. Bob spoke up to describe a problem his..... Listed under: [How To – DIY – Projects](#)
- 
403.  [IoT – Automatic Router \(and Server\) Reset](#) Usually inventions are invented to serve a need or to solve a problem. So this small gadget that i constructed came to serve a need of mine. I have a NAS, Atom based file server, that runs on Ubuntu, but from time to time the operating..... Listed under: [Internet – Ethernet – LAN Projects](#)
- 
404.  [Bear With Me Using Arduino](#) This instructable teaches how to make our Bear With Me system, a prototype that allows two users to tangibly send and receive hugs (as well as motion) in near real-time. The bears will be able to send tweets when physically hugged. Their hearts will glow..... Listed under: [Game – Entertainment Projects](#)
- 
405.  [Getting Started With Freescale K64F](#) There is a lot of buzz going around Arduino and the series of boards. One of the most used board from the Arduino series is the Arduino Uno. But what many people don't notice is that there is a board similar to Arduino UNO but has..... Listed under: [Other Projects](#)
- 
406.  [Using switch to control Piezo speaker with Arduino](#) In this project, we will learn how to use a speaker (peizo sounder) and use switch button to change the pitch of the sound. Sorry about this one, you might find it a bit difficult to digest at first, and I didn't realise it's actually..... Listed under: [Projects](#), [Sound – Audio Projects](#)
- 
407.  [Word Clock in German using Arduino](#) While in Germany last year, I saw a world clock in a store similar to this one in a store that was priced at 900€. I read several instructables online on how to create a World Clock so I decided to give it a shot..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#)
- 
408.  [WiFi Bathroom Humidity Sensor W/Fan Control, App & Automation](#) <https://youtu.be/EOwaKpxjXI> Step 1: The Board & Shields Wemos D1 Mini 11 digital input/output pins, all pins have interrupt/pwm/I2C/one-wire supported(except D0) 1 analog input(3.2V max input) a Micro USB connection Compatible with Arduino Compatible with nodemcu DHT11 Temperature: -20~60°C Humidity: 20-95%RH (±5%RH) It uses D1 and..... Listed under: [Home Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
- 
409.  [How to set up a Public Window](#) Public Window (<http://www.publicwindow.net>) is an open source project which allows artists to display their creations in a window and have people from all around the world interact with it. This is a step-by-step guide on how to set up a Public Window of your own. A..... Listed under: [Home Automation Projects](#), [Video – Camera – Imaging Projects](#)
- 
410.  [Moisture Control Unit – MCU](#) In this Instructables, you will see how to Interface Moisture sensor to your NodeMCU. And check the moisture value and the same to be displayed on the LCD. We'll use Liquid Clear Crystal to display the moisture value. This 16x2 LCD is very popular and broadly used in electronics projects as they..... Listed under: [LCD Projects](#)
- 
411.  [Sonar For The Blind using Arduino](#) This is a project I'm calling Tacit. No, I didn't bother making an awkward backronym for it, it just seemed like an appropriate name that's a lot shorter (though less descriptive) than "Hand-Mounted Haptic Feedback Sonar Obstacle Avoidance Asstance Device". It measures the distance to things and translates that into pressure..... Listed under: [Medical – Health based Projects](#), [Projects](#)
- 
412.  [Backpack Anti-Theft Alarm using Arduino](#) If you're a student, like me, then you have heard of all the theft that occurs on campuses today. I can't even leave my backpack alone for five minutes without worrying about it getting stolen. To ease my mind and to help fellow students, I've..... Listed under: [Home Automation Projects](#), [Security – Safety Projects](#)
- 
413.  [Automatic Water Heating System 2.0](#) This is the modification of my old version. This is a technology in small box. In the previous version there is no possibility of adjusting the temperature that we need. It had only 2 temperature setup. In this version I added temperature adjustment using rotary..... Listed under: [Temperature Measurement Projects](#)
- 
414.  [Automated 5 Gallon Bucket Feeder](#) This bucket feeder design was motivated by the fact that my wife and I live in different cities and have a cat that hates to ride in the car. The automated feeder makes it possible to be able to leave our cat at one apartment..... Listed under: [Other Projects](#)
- 
415.  [Arduino Breadboard Shield](#) Are you tired of having a hard time trying up a circuit on a breadboard because your arduino takes up a lot of space? This shield can be a solution to your problem! The Arduino breadboard shield is again, an accessory for your arduino board..... Listed under: [Development Board – Kits Projects](#)
- 
416.  [Arduino Serial Communication Code](#) Arduino can send output through serial communication to your computer over USB. The output can be anything such as status, text, sensor reading, value, number etc. You can view the status output by clicking Serial Monitor button at Arduino Environment software. Instruction; 1) Connect your..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
- 
417.  [Universal Remote Using ESP8266\(Wifi Controlled\)](#) This project is to replace the conventional remote control for all the home appliances like AC, TV, DVD players, music system, SMART appliances !!! Making a whole junk of remote littering around, making us puzzle!!! This project will save us from the junk to remotes..... Listed under: [Wifi - WLAN Projects](#)
- 
418.  [Amazon Alexa Enabled USB Fan](#) Amazon's Alexa is cool. USB fans are cool. Alexa enabled USB fan, even cooler. This fan turns on with a voice command to an Amazon Alexa device, "Alexa, turn [insert your name here]'s fan on". The fan is also set to turn off automatically after..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
- 
419. [Connect several digital inputs to one analog input using Arduino](#) I often run out of digital pins on my Arduino. Anything as complicated as, say, a video game controller, was near impossible with the

- amount of pins I had available. Multiplexing buttons works, but it requires lots of connections and soldering. So, I put together..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Projects](#)
420.  [RC tank with a moving FPV camera using Arduino](#) In this instructable I show you how to build remote control tank with FPV camera. At the beginning I build only RC tank without FPV camera but when I was driving it in the house I have not seen where it is. So I came..... Listed under: [Video – Camera – Imaging Projects](#)
421.  [WiFi Car Using NodeMCU](#) We have build car using many transmission technologies. But what about a WiFi Controlled Car? Actually speaking..Wifi is till now the most promising technology and engineers are using that tech to improve it more and more. This tech is most popular today and will remain..... Listed under: [Wifi - WLAN Projects](#)
422.  [Arduino home energy monitor shield](#) Although products are becoming more and more available for monitoring your home power usage, I'm one of those idiots who can't leave well enough alone and who would rather shell out \$100 and hours of my time in order to save \$20 and learn something..... Listed under: [Metering – Instrument Projects, Projects](#)
423.  [Quiz Game Controller using "Lights and Sounds Buzzers" and Arduino](#) Jeopardy style quiz games are favorites for creating excitement and educational instruction at the same time. Teachers, summer camp counselors, and even industry educators find this type of game to help generate interest and involvement from the participants. The idea behind the game is simple,..... Listed under: [Game – Entertainment Projects, LED Projects, Projects, Sound – Audio Projects](#)
424.  [Blink led example arduino with python](#) To blink an LED with an Arduino using Python, you will need to: Connect the LED to the Arduino board. You will need to connect the positive leg of the LED (the longer leg) to a digital output pin and the negative leg (the shorter..... Listed under: [How To – DIY – Projects, LED Projects](#)
425.  [PCB – Skateboard Floodlight V2](#) A while back, we constructed a pair of LED skateboard truck-risers. That project was intentionally created without the aid of advanced tools and techniques. We decided to try the concept again but without limiting ourselves. This time around we used custom designed PCBs and 3D printed..... Listed under: [LED Projects](#)
426.  [Arduino Phone Book](#) Ever wanted to have a Phone Book, controlled using a microcontroller, which is very easy to use, and you can use it while talking on phone, and is saving data on SD Card? then this instructable is for you. In this instructable you will learn..... Listed under: [Phone Projects](#)
427.  [IoT Set-up to Operate/control 220-240 Volt AC Bulb/Device; NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser \(HTML + JavaScript/jQuery\)](#) What are we messing with? IoT (Internet of things) set-up to operate/control 220-240 Volt AC Bulb/Device NodeMCU Amica + 5V Relay + MQTT + Arduino IDE + Web Browser (HTML + JavaScript/jQuery) WARNING!! – THIS PROJECT INVOLVES WORKING WITH HIGH VOLTAGES THAT CAN CAUSE SERIOUS..... Listed under: [Other Projects](#)
428.  [Soundgraffiti with arduino mega](#) So we haven been working on the new soundgraffiti board. This is an installation wich creates sounds using sprayed water. The connection is made with water. We used copper plates as our sensor. the plates had a cutout line in the middle of 0,1 mm..... Listed under: [Sound – Audio Projects](#)
429.  [Arduino: Electrical Engineering Basics](#) In this week's arduino tutorial, we take a bit of a detour and focus on some key elements of electrical engineering design that we'll be using in future episodes. [box type="note" color="#202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to Jeremy..... Listed under: [Other Projects, Projects](#)
430.  [Simple IoT Remote Switch With MQTT and ESP8266](#) Many years back when I was still quite heavily involved in the day-to-day company IT matters, we need to subscribe to a service called "Smart Finger" when we put our servers in a datacenter. Basically what this service is all about is to allow datacenter..... Listed under: [Robotics – Automation Projects](#)
431.  [Temperature Sensor for Shower using Arduino](#) With this device you diminish the use of water in your house or work. Instead of waiting to see vapor in the shower to get in, this device help you to know when the water its at the temperature you want and you can instantly..... Listed under: [Home Automation Projects, Projects, Temperature Measurement Projects](#)
432.  [Fifty Dollar Box Bot Using Arduino](#) The objective is to construct a programmable hobby bot that is affordable and simple to make. The parts will be purchased from places such as Wal-Mart, Radio-Shack, any Hobby Store, or online store that is accessible to the public. The price range is 50 dollars..... Listed under: [Robotics – Automation Projects](#)
433.  [Motion Controlled Ultrasonic Lamp using Arduino](#) Recently I've been learning about Ultrasonic waves and how to harness their power. It's simple enough to make some type of sonar device, but I wanted to take at a step cooler and see if I could use Ultrasonic waves to not only detect movement,..... Listed under: [Home Automation Projects, Sensor – Transducer – Detector Projects](#)
434.  [Cayenne and SparkFun IoT 433 Mhz Sockets](#) I know the Z-Wave or Netatmo system for IoT, domotic system and automation of house. But now you can make a simple system that uses a Node MCU board and Cayenne platform for control five 110/220 V sockets. You can download the Cayenne app on your phone or visit the Dashboard..... Listed under: [Other Projects](#)
435.  [Arduino Interrupts and Debouncing](#) Interrupts are an extremely useful, yet often feared element of microprocessors. Interrupts allow you to run a program, while still being able to react to asynchronous input from the outside world. [box type="note" color="#202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to..... Listed under: [Other Projects, Projects](#)
436. [Internet/cloud Controlled Home Automation Using Esp8266 \(aREST, MQTT, IoT\)](#) Step 1: COMPONENTS REQUIRED Only 4 components required - 1. ESP8266 NODEMCU or WEMOS D1 mini

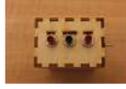
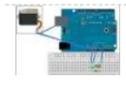
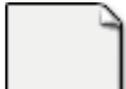
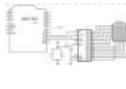
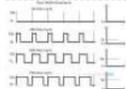
- or any esp8266 wifi development board2. RELAY (5V or 6V)3. ULN2003 or UNL2003A (Relay driver IC)4. Jumpers (obviously or else solder it!!) The main structure of the project is..... Listed under: [Internet – Ethernet – LAN Projects](#)
437.  [Chat Server Using Arduino](#) A simple server that distributes any incoming messages to all connected clients. To use, open a terminal window, telnet to your devices IP address, and type away. Any incoming text will be sent to all connected clients (including the one typing). Additionally, you will be..... Listed under: [Internet – Ethernet – LAN Projects, Projects](#)
438.  [Monkey Automaton Using Arduino](#) This instructable will guide you through the process of building a set of automaton monkeys in the style of "Hear No Evil, See No Evil, Speak No Evil." Our design ends with two monkeys reacting at the push of a button located in the Speak..... Listed under: [Game – Entertainment Projects](#)
439.  [CardioSim](#) First of all, this is my first Instructable, and I'm not a native English speaker (or writer), therefore I apologize in advance for the overall low quality. However, I hope that this tutorial can be helpful for people using a heart rate (HR) monitor system..... Listed under: [Clock – Timer Projects](#)
440.  [Arduino Controlled Motion Sensor](#) In this Instructable, I'll be explaining how to build a motion activated alarm! It uses an Arduino microcontroller, a PIR (passive infrared) sensor, and a type of alarm. You can use an LED indicator, a buzzer, or a piezo. That's the easy part. I will..... Listed under: [Projects, Sensor – Transducer – Detector Projects](#)
441.  [Spot Welder 1-2-3 Arduino Firmware](#) Why another spot welder project? Building a spot welder is one of the (arguably few) cases in which you can build something for a fraction of the price of the commercial version with comparable quality. And even if build-before-buy were not a winning strategy, it..... Listed under: [Other Projects](#)
442.  [MaKey MaKey Shield for Arduino](#) MaKey MaKey is a project created by Eric Rosenbaum and Jay Silver. It's an Arduino based keyboard. A very special keyboard, because you can use apples, bananas or Play Doh as keyboard keys. Sounds strange, but it works very well. How it works: The trick is..... Listed under: [Development Board – Kits Projects, Projects](#)
443.  [Classic Joystick to USB Adaptor using Arduino](#) If you grew up in the early 1980's and were into video games, you probably had an Atari 2600, ColecoVision, or similar game console. The controllers or joysticks for each of these systems had a distinct feel that is different from today's game consoles or..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#)
444.  [128x64 OLED Enclosure the Easy Way](#) There are lots of Instructables on how to use SSD1306-based 128x64 OLED displays. Many of these write-ups are very informative but just about all of them look like an unfinished science project. (In fairness, most are directed at getting up and running with the display, not creating..... Listed under: [LED Projects](#)
445.  [Jar of Fireflies](#) This project uses green surface-mount LED's along with an AVR ATtiny45 microcontroller to simulate the behavior of fireflies in a jar. (note: the firefly behavior in this video has been greatly sped up in order to be easier to represent in a short film. The..... Listed under: [LED Projects](#)
446.  [LEGO T-Intersection LED Traffic Light using Arduino](#) Video not playing? See it on YouTube: <http://www.youtube.com/watch?v=q0tiiWwC6Zo> Background Every Christmas we set up a large LEGO train layout in a section of the living room. This year, I ended up winning an eBay auction for a number of older-model LEGO road plates, one of..... Listed under: [Car Projects, Game – Entertainment Projects, LED Projects, Projects](#)
447.  [Six wheeled All Terrain Vehicle \(6WD\) using Arduino](#) Hello, In this post we'll be making a Six wheel drive all terrain vehicle (ATV). These are rare and hence expensive robots (at least in India). I made this ATV as my summer project. Dagu manufactures a similar 6WD chassis but its way too expensive..... Listed under: [Robotics – Automation Projects](#)
448.  [VRBOT \(Voice Recognition Robot\)](#) In this Instructable we'll make a robot (more like a RC car) which is controlled by voice i.e. Voice Recognition. Before I start to give you any further details one must know that this is Voice Recognition and not Speech Recognition that means the controller..... Listed under: [Robotics – Automation Projects](#)
449.  [CoaTracker Using Arduino](#) Has this ever happened to you? You wake up in the morning and realize that you're terribly late for work/class/your weekly pedicure/whatever. You throw on a t-shirt and flip flops, sprint around your warm, heated house grabbing your belongings, and race out the door...where you..... Listed under: [Sensor – Transducer – Detector Projects](#)
450.  [ESP8266/ESP-12 Arduino Powered SmartThings DS18B20 Temp. Sensor](#) We all like to know what the current room temperature is, and sometimes what the temperature is in another room, or maybe even in your vacation house on the other side of the world. Maybe you want to monitor the temperature in your pet Lizard's..... Listed under: [Temperature Measurement Projects](#)
451.  [Model Police Car using an Arduino](#) We wanted to build a model police car with working lights and sirens. Then we decided to add a motor and instead of using a switch to turn everything on and off we used a photodiode. For our car the photodiode signal is a simple on off..... Listed under: [Game – Entertainment Projects, Projects](#)
452.  [Drain Clog Detector](#) Don't let a clogged drain slow you down! Coming back from our vacation, me and my wife were surprised by the water covering the floor of our apartment, and we found out it's not even clean water, it's drain everywhere. After clearing the drain and cleaning..... Listed under: [Sensor – Transducer – Detector Projects](#)
453.  [Remote Control: ESP8266 With Coin Cell](#) The big problem using the ESPs is the power consumption when Wifi "goes up", about 100-200mA, peak up to 300mA. Normal coin cells deliver a few mA, peak up to 20-40mA. But for the ESPs the voltage will collapse. We need "a little help of my..... Listed under: [Other Projects](#)

454.  [Open a box with the flick of a switch!](#) Have you ever given something to someone and wished that the box you gave it in opened automatically? No? Well neither have I (well, maybe) :D. However if you have, this is the guide for you! With just a flick of a switch the box..... Listed under: [Robotics – Automation Projects](#)
455.  [How to turn inkjet printer to print on Coffee using Arduino](#) The aim of this project is to make latte printer, I used 1 printers and 1 scanner , it prints one line a time, all what I have done is hacking the sensors of the printer and I used Arduino Uno to send different values..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
456.  [Alexa Controlled Servo](#) Introduction I have a laptop on a shelf in my office that monitors several cameras that are around the outside of my house. They alert me to deliveries and visitors. While I can use a web browser to see their images it is easier to just..... Listed under: [Other Projects](#)
457.  [Autonomous Control of RPM of Engine Using Feedback System From a IR Based Tachometer](#) There is always a need for automating a process, be it a simple/monstrous one. I got the idea to do this project from a simple challenge that I faced while finding methods to water/irrigate our small piece of land. The problem of no current supply lines and costly..... Listed under: [Other Projects](#)
458.  [Arduino + fischertechnik TX-C – Connecting I2C True Colour Sensor](#) Colour reading is a real issue for industrial models. I've been working on it for more than 12 months now, since December 2009. After many months of hard work, • starting with the standard colour reader (season 1 ) with features a red LED, •..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
459.  [The 4x4x4 LED cube using an Arduino](#) In this instructable I will show you how to make a 4x4x4 LED cube that will be controlled by an Arduino Demulionove. now yes you might say" that Arduino has only 14 I/O pins well also the 6 analog pins can be used as pins..... Listed under: [LED Projects](#), [Projects](#)
460.  [Make Your Own Connected Heating Thermostat and Make Savings With Heating](#) What is the purpose? Increase the comfort by heating your house exactly as you want. Make savings and reduce greenhouse gas emissions by heating your house only when you need. Keep control on your heating wherever you are. Be proud you did it yourself. Step 1: How Does It Increase Your Comfort ?..... Listed under: [Temperature Measurement Projects](#)
461.  [Gravity Touch bluetooth glove using Arduino](#) Hey guys! I'd like to share with you the input device I created specifically to interact with AR glasses like the Google Glass, Meta, Moverio BT or with the VR headsets like Oculus Rift, Samsung Gear VR, vrAse, Durovis Dive. Those new products are amazing..... Listed under: [Game – Entertainment Project Ideas](#), [Home Automation Project Ideas](#), [Internet – Ethernet – LAN Project Ideas](#)
462.  [Froggy World 3 The Seesaw Using Arduino](#) Froggy put on a little eye makeup before heading out for the new ride, "The Seesaw." The Seesaw is the third ride in the amusement park for adventurous plastic frogs. This ride received Froggy from "The Boot" and slides him over to a waiting rail..... Listed under: [Game – Entertainment Projects](#)
463.  [Solar Weight-Based Plant Management With ESP32](#) Growing plants is fun and watering and caring for them is not really a hassle. Microcontroller applications to monitor their health are all over the internet and the inspiration for their design comes from plant's static nature and the ease of monitoring something that doesn't..... Listed under: [Solar energy projects](#)
464.  [Arduino DIY SD Card Logging Shield](#) Ready-made SD card logging shields for the Arduino typically cost in the range of \$15 - \$25. This is quite reasonable, but we might save a couple of bucks if we make our own. Not to mention all the fun in building it. Forget about..... Listed under: [Other Projects](#), [Projects](#)
465.  [Virtual USB Keyboard Using Arduino](#) Communicating with a host computer can allow a simple Arduino-based system to gain access to a wide variety of devices and information. Most people link an Arduino to a host using serial communications across a USB connection with custom code running on the host to..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
466.  [Temperature and Humidity Monitor Using DHT22 & MAX7219](#) We always need to see the temperature and humidity when we sitting in our house to know whether we need to turn on/off AC, heater, cooler, etc. So here we have build this circuit to display temperature and humidity on the 7-segment displays, and we have used..... Listed under: [Temperature Measurement Projects](#)
467.  [Smart Homer Web-enabled TV remote using Arduino](#) Smart Homer, a Web-enabled TV remote puppet. Smart Homer is a Web-enabled puppet that turns on your TV when Simpsons is on. As Homer is too lazy to browse the Web himself, a script in the cloud checks the online TV program for him. If..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
468.  [Construct A Musical FootBall Using Arduino](#) This project is to construct a musical football. The reason for my project is that I was inspired by a little kid with autism who love sports and music. So what better way to have fun than have a ball that you can play with..... Listed under: [Game – Entertainment Projects](#)
469.  [Dynamic LED Lighting Controller for Art](#) Introduction: Lighting is an important aspect of visual art. And if the lighting can change with time it can become a significant dimension of the art. This project started with attending a light show and experiencing how the lighting could totally change the color of..... Listed under: [LED Projects](#)
470.  [Simple Arduino L.E.D Police Lights](#) This was one of the first programs I wrote for the Arduino after having it a few days 😊 we will be making L.e.d police lights with minimal materials. Step 1: You will need. You will need Arduino (or suitable clone)

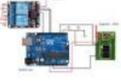
- Breadboard 2x 240ohm resistors..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
471.  [Lightning Shutter Trigger for a Camera using Arduino](#) I knew there were devices that could trigger a camera to fire during a lightning strike, but their circuits were more complicated than I wanted to make. I'm a software guy not a hardware guy so I decided to use an Arduino and that allowed me to write a.....  
Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
472.  [Movement Activated Redstone](#) This project is a motion activated redstone lamp. It works by using a crumble microcontroller and an ultrasonic distance sensor wired up to a relay. This project is being entered into the minecraft competition and any votes, favorites or comments would be greatly appreciated! Step..... Listed under: [Other Projects](#)
473.  [Dr Blinkenlights... \(or how I learned to afford the BlinkM\)](#) I love the idea of the BlinkM (individually addressed RGB leds controlled with 2 pins), but not so much the price (nearly 15 quid each!). Luckily, the hardware is open source and somebody has brought out an alternative firmware (although if you know where to..... Listed under: [LED Projects](#)
474.  [Space Battleship Yamato 2199 With Trinket Microcontrollers](#) Because of the remake of the animation and movie of Space Battleship Yamato, in addition to the attractive design of Bandai model. It make me interest to build this space battleship model again. Bandai not mention its scale, maybe ~1:2500 by estimation.  
<https://youtu.be/b5TzmONvX3o> <https://youtu.be/SdxBiHjwRUM> Step..... Listed under: [Motor Projects](#)
475.  [Arduino wall avoiding robot](#) This instructable assumes very little with respect to prior knowledge. If there are any areas you feel could be improved or clarified, please feel free to message or comment and I will update. Here are all the details you need to produce a simple wall..... Listed under: [Robotics – Automation Projects](#)
476.  [Power Quality Meter \( PQ Monitor\) using Arduino](#) Arduino UNO project, Power Quality Meter, someone would call it's PQ Monitor or PQ Analyzer. I had already published one blog devoted RMS voltage measurements on full band 20 – 20 000 Hz audio signals. ( Following my own style, I'd refer to already published.....  
Listed under: [Metering – Instrument Projects](#), [Projects](#)
477.  [Audio VU meter with Extra wide Dynamic Range 69 dB using Arduino](#) O'K, after having some fun with stereo version of the VU meter I described in my previous blog-post, now it's time to do a serious stuff. Studio grade VU meter !!! 24 steps, equally spaced every 3 dB, covering Extra wide Dynamic Range from -63 up to..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sound – Audio Projects](#)
478.  [Using Temperature, Rainwater, and Vibration Sensors on an Arduino to Protect Railways](#) In modern-day society, an increase in rail passengers means that rail companies must do more to optimize networks to keep up with the demand. In this project we will show on a small scale how temperature, rainwater, and vibration sensors on an arduino board can..... Listed under: [Temperature Measurement Projects](#)
479.  [Build A Light Suit Using Arduino](#) Why build a light suit? Probably because I've watched tron a few too many times (the 1984 version of course). I'd just discovered Arduino and was very excited, I'd made LED's flash and buzzers sound but now I wanted to make something new and interesting..... Listed under: [LED Projects](#)
480.  [ESP32 LoRa Changing Frequency](#) What would you think about a program, made in the C language of the Arduino IDE, that makes the LoRa radio change frequency? This is what you will learn about in my video today, where you will learn about the differences between LoRa radio, LoRaWAN..... Listed under: [Other Projects](#)
481.  [Dot Matrix Printer from a CD/DVD Reader with Arduino](#) Hey! Some time ago while going through the pages here in Instructables, something catch my attention, a printer made of a CD reader, and i was amazed. I thought: "This is incredible, I have to make one!" I know that these kind of projects don't..... Listed under: [CNC Machines Projects](#), [Video – Camera – Imaging Projects](#)
482.  [Cardio Data Logger](#) Although nowadays many portable devices (smartbands, smartwatches, smartphones,...) are available that can detect the Heart Rate (HR) and perform trace analysis, chest strap belts-based systems (like the one in the upper part of thr picture) are still widespread and used, but lacking the possibility to..... Listed under: [Phone Projects](#)
483.  [Arduino powered hangman giftbox/lockbox](#) A medium sized box that requires the user to succeed in a game of hang man in order to gain access to the contents of the box. Great gift Idea!!! my Arduino sketch will be included in this instructible sorry for the poor quality pictures!..... Listed under: [Game – Entertainment Projects](#)
484.  [Mail Alarm](#) After completing my GSM Home Alarm V1.0 and some time of using, I decided to make some modifications. <https://youtu.be/obGU1exGBt4> In the hardware the main changes are the replacement of the ultrasonic sensor and the introduction of a keypad. On the software, I change the SMS notification by.....  
Listed under: [Clock – Timer Projects](#)
485.  [Measure RPM – Optical Tachometer using Arduino](#) This Instructable will show you how to make a Portable Digital Optical Tachometer using an Arduino Uno. This project is inspired from This instructable and is an enhanced version of it with an LCD display and a modified code. Instead of a slotted sensor ,..... Listed under: [Metering – Instrument Projects](#)
486.  [How to build an Arduino WiFi 4x4 with Android Controller](#) RC cars can be WiFi Cars...? RC cars are cool, but cheap RC cars have limited range and can only be controlled with the particular controller that was included with the car. I purchased a RC jeep, complete with 4 wheel drive, flexible suspension, and..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
487.  [Automatic Water Level Indication via SMS alert](#) Summary Students will learn how to construct a water Level Indicator/Controller that monitors the level of the overhead tank by constructing a circuit that will notify the user via SMS if the water supply to an area/home is initiated and indicate how high the water..... Listed under: [Projects](#)

488.  [Water Level Indicator](#) Summary In this project, we will create a water level indicator with three levels inside a tank using an Arduino and a water sensor, as well as three LEDs and a buzzer to indicate when the tank is full. Objectives To understand how a water..... Listed under: [Projects](#)
489.  [Nixie Clock Mood Barometer](#) An unremarked casualty of Progress is the aneroid home barometer. These days, you might still be able to find examples in the homes of people over ninety, but millions more are in the dump, or on ebay. In truth, the old-school barometer didn't help itself..... Listed under: [Clock – Timer Projects](#)
490.  [Autonomous Control of RC Car Using Arduino](#) This instructable shows how to modify an inexpensive RC car so it can be controlled by an on-board microcontroller. You can program the controller to make the car do any number of driving patterns and stunts. Once you have the car being controlled from the..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)
491.  [ESP-Now Rainstick](#) This fun little project will allow you the trivial joy of letting a electronic network announce that you have rain! The AI controlled, tear eliciting price'd Tesla has been rumored to have sensors that awaken the windshield wipers at the onset of rain. Being in..... Listed under: [Other Projects](#)
492.  [How to make a robotic dart shooting sentry](#) Tools: Hot Glue Gun Laptop with Arduino software 22 awg hookup wire (black, red, yellow) wire strippers usb cable drill 1/16th drillbit exacto knife Parts: 2 tongue depressors 1 clothespin 1 rubber-band 1 dart 1 cup (paper or plastic) 1 arduino 1 breadboard 1 led 1 momentary button..... Listed under: [Robotics – Automation Projects](#)
493.  [Controlling Hand Drill with Roboduino using Arduino](#) This will explain how we re-purposed a hand drill to re-spool solder using a roboduino (arduino compatible), two servos, and a DIY encoder. While one could use TRIACs to play with the AC power going into the drill, just using a servo to control the throttle..... Listed under: [Motor Projects](#), [Projects](#)
494.  [Adding CV inputs to the Arduino granular synth](#) When I first got into the Arduino I went looking for audio projects. One of the first things I built was TobaTobias' Arduino granular synth. I was so impressed I built a permanent unit in a heavy duty enclosure and incorporated it into my occasional..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
495.  [Measure Pressure With Your Micro:bit](#) The following instructable describes a easy to build and inexpensive device to perform pressure measurements and demonstrate Boyle's law, using the micro:bit in combination with the BMP280 pressure/temperature sensor. Whereas this syringe/pressure sensor combination has already been described in one of my previous instructables, the combination..... Listed under: [Other Projects](#)
496.  [GoFly – paragliding/hangliding/gliding altimeter-variometer from Your car navigation using Arduino](#) GoFly is a project based on PNA (car navigation devices with Windows CE), LK8000 tactical flight computer software and variometer (altimeter) external input based on Arduino board and pressure sensor. Why? -You can build this for about 150\$, -Your ordinary PNA (Personal Navigation Assistant) changes..... Listed under: [Car Projects](#), [Metering – Instrument Projects](#), [Projects](#)
497.  [3-Axis Magnetic Field Sensor](#) Wireless power transfer systems are well on their way to replacing conventional wired charging. Ranging from tiny biomedical implants all the way to wirelessly recharging huge electric vehicles. An integral part of the research on wireless power is minimizing the magnetic field density. The International..... Listed under: [Sensor – Transducer – Detector Projects](#)
498.  [Quick and Easy Arduino Nightlight](#) Honestly, how many people have been in this scenario (leave a yes or no in the comments) : It is 2:30 in the morning and you wake up with a need to do something whatever that may be (bathroom, forgotten homework assignment, project due in..... Listed under: [LED Projects](#)
499.  [Using an Arduino to Control an Infrared Helicopter](#) In this Instructable we will explain how infrared signals are used by a remote to control a toy or device, then show how a simple circuit can be added to an Arduino to operate the same device through free, Open Source software. This document is part of..... Listed under: [Game – Entertainment Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
500.  [WiFi Controlled Camera Slider](#) If you want to add interest to any video you are making, a good way to doing it is to add motion. There are an infinite number of motion effects you could use in your videos, but a classic, and very pleasing one, is a..... Listed under: [Wifi - WLAN Projects](#)
501.  [USA Flag made with diffused LED using Arduino](#) USA flag constructed using a total of 2,301 diffused red, white and blue LEDs completed with Arduino sketch animations, I hope this instructions helps anyone who wants to try this out. This flag can be displayed during the 4th of July, memorial day or during..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [LCD Projects](#)
502.  [NeoPixel Reactive Table](#) Welcome to my version of the LED reactive table! I was inspired by previous work using discrete LEDs, such as this one, but I figured it would be easier and more fun to use NeoPixels -- programmable RGB LEDs that can be set to any color you want..... Listed under: [LED Projects](#)
503.  [Arduino Skateboard Speedometer](#) Using an Arduino, it is easy to make a speedometer/tachometer for virtually any man-powered vehicle. I made one for my skateboard that used a small magnet to count revolutions and utilized an LCD display screen. This Instructable will show you how you can do the..... Listed under: [Game – Entertainment Projects](#), [Metering – Instrument Projects](#), [Projects](#)
504.  [Fancy LED Hat](#) I've always wanted to do an Arduino project, but never had any great ideas for one until my family was invited to a fancy hat party. With two weeks lead time, I was curious if I could both plan and execute a motion sensitive LED..... Listed under: [LED Projects](#)
505.  [Automate Your Garage Opening Times](#) 1. Background My 1st project with Apduino Online was about to solve a simple problem, close the garage door after sunset, when it has been left open. We have a garage in the basement, which is used not

only for car parking, but gardening tools..... Listed under: [Home Automation Projects](#)

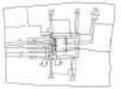
506.  [How to control arduino board using an android phone and a bluetooth module](#) In this tutorial you'll learn how to use a bluetooth module and MIT's app inventor to create a wireless serial link between an android phone and an arduino board. Here is a short video showing an example app I created. I'll describe how to do..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
507.  [Quantifying Access to your Mind using Arduino](#) So, I manage a creative technology lab at California College of the Arts. It's essentially an educational hackerspace for art and design students. Pretty awesome, right? After graduating from the University of Minnesota with a degree in mechanical engineering, I was desperately trying to find..... Listed under: [How To – DIY – Projects](#)
508.  [Wireless Doorbell Receiver](#) This project describes the second part of the following two projects: A wireless doorbell transmitter as described in the Wireless Doorbell Transmitter Instructable. This Instructable also gives some introduction to these projects. A wireless doorbell receiver described in this Instructable. The wireless doorbell receiver will make a sound..... Listed under: [Wireless Projects](#)
509.  [Control Servo with Light using Arduino](#) Hello! In this Instructable i will teach you how to control a servo using a Photocell. This is very simple and good for beginners. Step 1: Materials 1 x Photocell 1 x 10k Resistor 1 x Arduino 1x Breadboard 1x Servo and some jumpers Step..... Listed under: [Motor Projects](#), [Projects](#)
510.  [Arduino Wireless Animatronic Hand](#) BTW!!!! This instructable is awsomeeeeeee This is a very simple but at the same time a very hard project depending on your skill level. Lets get to building! What this is, is a wireless animatronic hand that doesn't need a computer to operate. The user wears..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
511.  [Wireless Doorbell Transmitter](#) This project describes the first part of the following two projects: A wireless doorbell transmitter as described in this Instructable A wireless doorbell receiver to be described in the Wireless Doorbell Receiver Instructable When I am sitting in the backyard of my house I cannot hear it when..... Listed under: [Wireless Projects](#)
512.  [Binary/ Analog Clock](#) I was inspired by the digital/ analog clock to make my own special clock as my second instructable. I browsed the internet and found that servo clocks are rare and binary are common. So i decided to combine the two and this is what I..... Listed under: [Clock – Timer Projects](#)
513.  [Control anything remotely with Infrared signals using Arduino](#) Who would have thought that just about every Arduino attachment can be controlled in some way with a TV remote? Now its time to find out how. Arduino.skp141 KB Step 1: Setup and Materials The setup for this is quite basic. The real challenge is..... Listed under: [Projects](#), [Radio Projects](#)
514.  [Arduino 8x8 LED Matrix](#) In this project, we will learn about LED Matrix Displays and two different projects on Arduino 8x8 LED Matrix Interface. The first project will be a simple interface between Arduino and 8X8 LED Matrix to display information (even scrolling information and images can be displayed)..... Listed under: [LED Projects](#)
515.  [How to make an Arduino from scratch](#) Frugal Engineering is the best way forward for science. If you're interested in making some arduino's from scratch , you've come to the right place. You can see a video tutorial of this instructable : here It will supplement any loopholes or doubts you may..... Listed under: [How To – DIY – Projects](#)
516.  [Arduino Bluetooth Serial Connections](#) This is an introduction on how to setup, make a basic connection, and send data to and from an Arduino using Bluetooth! Bluetooth is great for transmitting data over medium distances and what's more, Arduino just treats it like a serial data connection. This means..... Listed under: [Other Projects](#), [Projects](#)
517.  [Arduino DC Motor Control using L298N Motor Driver](#) In this project, we will see how to control a DC Motor using Arduino and L298N Motor Driver. There are different ways to control a DC Motor but the Arduino DC Motor Control using L298N Motor Driver is becoming quite popular for many reasons. Overview..... Listed under: [Motor Projects](#)
518.  [To blink LED from mobile phone or iPod or another computer via WiFi](#) Hello Everyone, I like this site too much, the site really played very important role in awakening my enthusiasm and creativity. This is my first project and its really for the first timers project. I got this project from Instructible site , modified to access..... Listed under: [LED Projects](#)
519.  [RGB LED Strip Circuit with Arduino](#) This Instructable covers the assembly of a circuit capable of PWM-ing (pulse width modulating) a high-power RGB LED strip and programming an Arduino to cycle through a range of colors. In this context, "high power" is 9-12 volts. I will discuss how to mount a..... Listed under: [LED Projects](#)
520.  [Arduino – Control LEDs with a Remote Control](#) Step 1: IR library First you need to go to this page and download the IR library. You just need to follow the read me file to install. I think that any IR remote control can do this, I'll be using a Philips Universal one..... Listed under: [LED Projects](#)
521.  ['Knock Back' – A Knock Echoing Arduino](#) This is a simple Arduino sketch that was originally designed to experiment with arrays and the built-in timing functionality. I based it on the tutorial sample code <http://www.arduino.cc/en/Tutorial/Knock> The system consists of a piezo sensor connected to an analog pin that listens for a knock from..... Listed under: [Sensor – Transducer – Detector Projects](#)
522.  [Week 8 : Embedded Programming & Networking and Communications](#) Part 1 - Embedded Programing A Morse Code Receiver and Transmitter This week's assignment was to program the board we made two weeks ago to do something, with as many different programming languages and programming environments as possible. I wanted to use all the features I have on..... Listed under: [Arduino Programmer Projects](#)

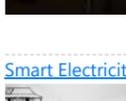
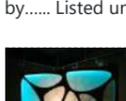
523.  [How to Build a Robotic Hand with Haptic Feedback using Arduino](#) For science fair this year, I felt like building something instead of doing an experiment. All I needed to do was look around Instructables for a project idea. I was inspired by njkl44's robotic hand since it reminds me so much of stuff out of..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
524.  [Arduino Tutorial: Capacitive Touch Sensors](#) Hello everyone! This instructable is a tutorial that will guide you on using the Capacitive touch sensors with Arduino. A Capacitive sensor is a kind of touch sensor, that requires little or no force to activate. In this Instructable about capacitive touch sensing, I'll show..... Listed under: [Sensor – Transducer – Detector Projects](#)
525.  [Make Wired Robotic Arm Edge to "Wireless" with DIY Arduino and XBee](#) UPDATE: Added Schematic, Top Layer PCB, Bottom Layer PCB, and both Top, Bottom PCB images When I finished the "RevIO" - an Arduino Clone that has the different way of exposing pins usage. I decided to go further to the next project. To test my..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
526.  [Arduino Nixie Clock & Weather Station](#) I wanted to build a Nixie clock driven by an Arduino and found a few places on the internet, but none were 100% complete to get it working from the beginning to end. I either found bad wiring diagrams, bad code in programs or bad..... Listed under: [Clock – Timer Projects](#)
527.  [7-Key Slider/Wheel Tutorial with Synthesizer](#) This is a tutorial for using the 7-Key Slider/Wheel Breakout from Rachel's Electronics. I'll show you how to solder up the header pins for maximum usability. Rachel's has the QT1106 datasheet on their site, and a great arduino library for this breakout. The kit from..... Listed under: [Sensor – Transducer – Detector Projects](#), [Tutorials](#)
528.  [Arduino Watch with Nokia 3110 screen](#) My goal for this project is to make a watch with selectable dials, stopwatch and millidays. This idea started with an Aprils fools prank about metric-time. (<http://www.youtube.com/watch?v=K35xG1buyFA>) First I wanted to make a metric clock but soon this idea evolved from a metric watch into..... Listed under: [Clock – Timer Projects](#), [Phone Projects](#), [Projects](#)
529.  [Arduino As a Cheap Breadboard FPGA](#) Designing hardware logic circuits can be fun. The old school way to do this was with NAND gates, on a bread board, wired up with jumper wires. This is still possible, but it doesn't take much before the number of gates gets out of hand..... Listed under: [Development Board – Kits Projects](#)
530.  [Uber Home Automation w/ Arduino & Pi](#) A few years ago, I became a dog owner for the first time. I didn't like leaving Cody in the kennel alone all day. I had a webcam on him, but I couldn't watch it all day long. What if he was in some kind..... Listed under: [Home Automation Projects](#)
531.  [Come Home! Connecting Distant Spaces EASILY over Web using Arduino](#) Can you believe that we live in an age where you can touch an object (any object - if it has metal on it) and a light will turn on in your loved-one's space - even if they live in a different city, state, or..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#)
532.  [Wireless Doorbell Receiver](#) This project describes the second part of the following two projects: A wireless doorbell transmitter as described in the Wireless Doorbell Transmitter Instructable. This Instructable also gives some introduction to these projects. A wireless doorbell receiver described in this Instructable. The wireless doorbell receiver will make a sound..... Listed under: [Wireless Projects](#)
533.  [Simple 2-way motor control for the arduino](#) When I say simple, I don't mean use a speed control. But control the motor directly without any external circuitry. Here's how: How this came about: I recently was working on an instructable about charlieplexing with an arduino. And I was wondering if the same principle..... Listed under: [Motor Projects](#), [Projects](#)
534.  [Assembling the 8x8 LED Board Kit](#) These are step by step instructions for assembling the 8x8 LED Board kit from moderndevice.com. I had never played with LED displays before using this kit. I suggest reading through all the assembly steps BEFORE starting to solder because assembly order DOES matter with this..... Listed under: [LED Projects](#)
535.  [Updated Movie Box](#) A few months back, I posted an Instructable on my Raspberry Pi movie player tucked into a VHS cassette. Since then, I have built several for friends and family, and have simplified the process. Using a Raspberry Pi v3, we no longer need a USB hub and..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#)
536.  [CatGenie: A smart, resettable SaniSolution cartridge](#) The project This project follows on from the excellent work by ScotSEA and his Arduino reset program (see <http://www.instructables.com/id/CatGenie-Resetting-a-SaniSolution-Cartridge/> ). I had never taken my CatGenie apart as Scott did, but had built a small contact board instead. I had previous updated Scott's program to..... Listed under: [Security – Safety Projects](#)
537.  [My Ninth Project: Robot Arm with Joystick Shield using Arduino](#) Although it is great controlling the robot arm with computer or mobile phone, I think using joystick is also cool, so I've bought a joystick shield and make a new project. This joystick shield is compatible with Arduino. It also support Nokia 5110 LCD module,..... Listed under: [Robotics – Automation Projects](#)
538.  [Beat Sync using an Arduino](#) Beat Sync is a single frequency audio spectrum volume meter. It can isolate around a certain frequency ( I choose the bass ) and display it on a creative 8 segment LED bar graph. This is meant to be quite simple, yet allowing room for..... Listed under: [Projects](#), [Sound – Audio Projects](#)
539.  [Arduino Air Bonsai Levitation](#) It's been a long time since my previous tutorial, my work is quite busy and I spend less time on Instructables. This time is a project that I like very much since my first saw it on Kickstarter: Air Bonsai. I was really surprised at how..... Listed under: [Other Projects](#)
540. [Laser Tag Stuffed Animals](#) Ever feel like there aren't enough toys at the intersection of cuddly and terrifying? Wish your stuffed animals could double as weapons? Then I've got the toy for you. These

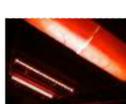
-  Laser Tag Stuffed Animals easily transform from being a cuddly night light to the world's..... Listed under: [LED Projects](#)
- 
541.  [Arduino Based Home Automation Project via Bluetooth](#) In this project, we will design a simple home automation project using simple components using which different electrical appliances can be switched on or off. The project is based on Arduino and we have used Arduino UNO for the project. Description Introduction ..... Listed under: [Bluetooth Projects](#)
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542.  [Mini Billboard using Arduino](#) Designing a Mini Billboard using LED Lights (different colors), Arduino and Bread Board. Thought of creating a mini billboard, that could display my name ("Josh"). This is for one of the build nights (required us to use LED lights). This billboard would blink in..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#)
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543.  [Arduino Soap Sanitizer Dispenser](#) Basically, an overkill soap dispenser made from CNC linear rail. Description watch the video first <https://youtu.be/Pi4bStBNVAo> So the goal here was to build a Soap/Sanitiser without using the "servo motor method" this is actually pretty straightforward built, first, you need to print these parts and..... Listed under: [Other Projects](#)
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544.  [D-Led Shield v1.0 \(for monitoring\)](#) Good day fellow enthusiast! Here is one of my latest and simplest shield designs for an Arduino board. The thing here is, sometimes we have a hard time checking out which I/O pins are LOW or HIGH, especially when we are dealing with LED, motors,..... Listed under: [LED Projects](#)
- 
545.  [How to Make Musical Floppy Drives using an Arduino](#) My brother posted a video about this on Facebook almost a year ago. Some old floppy drives playing Bach's masterpiece Toccata & Fugue and it got me really interested. So I read about it when the author posted a how-to on his blog and did a couple of tweaks..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sound – Audio Projects](#)
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546.  [SMART PARKING SYSTEM](#) Recently from a few years ago people have started focusing on modernization. So in this project "SMART PARKING SYSTEM" everything is based on a modern idea, and through this project we also tried to solve a space-related problem which usually occurs in parking. [https://youtu.be/wEUMw\\_Z8PnE](https://youtu.be/wEUMw_Z8PnE) What's all about..... Listed under: [Other Projects](#)
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547.  [Pimp My Zoomobil using Arduino](#) I recently put together the Playmobil Zoomobil for my kids. As I was busy snapping all the pieces together, I became more and more convinced that this cart had been made to have lights. It's hard for me to believe the original product designers at..... Listed under: [Game – Entertainment Projects](#)
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548.  [Bluetooth 4.0 HM-10 cc2541 Duplex](#) In this example, I'll show you how to use the cc2541 to communicate from one microcontroller to another in BOTH DIRECTIONS (BLE-HM-10). <https://youtu.be/6zXYH9arHMI> Introduction The HM-10 is a Bluetooth Low Energy (BLE) module for embedded systems that allows for wireless communication with BLE-capable devices (e.g..... Listed under: [Bluetooth Projects](#)
- 
549.  [Using a Dot Matrix LED with an Arduino and Shift Register](#) The Siemens DLO7135 Dot matrix LED is one amazing piece of optoelectronics. It's billed as a 5x7 Dot Matrix Intelligent Display (r) with Memory/Decoder/Driver. Along with that memory, it's got a 96-character ASCII display set with upper and lower case characters, a built-in character generator..... Listed under: [LED Projects](#), [Projects](#)
- 
550.  [Queue Management Node \(OMN\)](#) Touch-free queue management service powered by Arduino MKR WiFi 1010 and Twilio. Description The COVID-19 pandemic has changed the way we interact with people, things, and the world around us. Social distance enablement is one and only effective method to prevent the spreading of COVID-19..... Listed under: [Wifi - WLAN Projects](#)
- 
551.  [Arduino Controlled ATX Power Supply](#) Can a microcontroller control its own power? Well, nearly! An ATX power supply, either new or from an old PC, is a great way to power Arduino and other microcontroller projects. That is covered in several 'ibles such as this one. However, because of some..... Listed under: [Other Projects](#), [Projects](#)
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552.  [Reading Digital Callipers with an Arduino](#) How to use an Arduino to read the signal from a set of digital callipers and send the reading over USB. Why? This might be useful for accurate position sensing in home-made / hacked computer-aided manufacture systems. Adds USB functionality to your callipers..... Listed under: [Interfacing \(USB – RS232 – I2C – ISP\) Projects](#), [Projects](#)
- 
553.  [RADAR model using ARDUINO and ULTRASONIC SENSOR](#) It is a model of RADAR. It describes how a radar works in real time. Description <https://youtu.be/6zACsitIOS8> RADAR model is used to know how the real-time radar works. It is constructed using ARDUINO UNO, ULTRASONIC SENSOR and SERVO MOTOR. We also used to show the output. That..... Listed under: [Sensor – Transducer – Detector Projects](#)
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554.  [Personalised Word Clock using Arduino](#) Build a unique personalised gift that's cool and reflects the character of the recipient. What's different about this Word Clock is that it is small enough to sit on a bedside desk, displays the recipient's name and has personalised messages that appear at different times..... Listed under: [Clock – Timer Projects](#)
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555.  [How to make gas leak alert security alarm using arduino](#) In this tutorial I will show you how to make a gas leak alert security alarm using Arduino Nano and MQ-5 gas sensor. Description Introduction A gas detector is a device that detects the presence of gases in an area, often as part of a..... Listed under: [Security – Safety Projects](#)
- 
556.  [Arduino String Instrument](#) Sure you can use LDRs, potentiometers and buttons to generate sounds, but what about strings? When I began thinking about an Arduino string instrument, I realized what I wanted to create was a soft potentiometer. I found my inspiration from Hannah Perner-Wilson's Fabric

- Potentiometer <http://www.kobakant.at/DIY/?p=543>. Step..... Listed under: [Metering – Instrument Projects](#)
557.  [Autonomous Paintball Sentry Gun using Arduino](#) Make your own, custom AUTONOMOUS SENTRY GUN! A Microcontroller Contest Finalist and Runner Up Winner. This instructable is out-of-date. For the most recent version of the tutorial, see the website . Cheers! This sentry gun autonomously tracks, aims, and shoots at targets, using: -An airsoft or..... Listed under: [Arduino Programmer Projects, Projects](#)
558.  [DIY Arduino UNO](#) DIY your own Arduino UNO with the JLC PCB Description Schematic of ARDUINO S3v3 Details of ARDUINO S3v3 X1: DE-9 serial connector Used to connect a computer (or other devices) using RS-232 standard. Needs a serial cable, with at least 4 pins connected: 2, 3,..... Listed under: [Other Projects](#)
559.  [BUGBot – Light Follower Robot using Arduino](#) The figures above shows the basic idea of any robot, where we have some inputs and output devices connected to the brain and some outputs controlled by the brain. In our case we will have the Arduino like the brain. The central Brain, controls all..... Listed under: [Projects, Robotics – Automation Projects](#)
560.  [The “all in one box” aquarium feeder using Arduino](#) Step 1: Things you will need the images show you what you need, you will also need (but is not shown in picture soldering iron shrink tubes lighter 5 volt power supply usb cable (to program you're arduino) info on the foamed pvc sheet..... Listed under: [Home Automation Projects](#)
561.  [3D Printed Mini Air Cooler \(the OverEngineered Edition\)](#) Description Hey everyone What's up! Let me show you something COOL! <https://youtu.be/DLRq5FG2jNQ> A completely 3D Printed Mini Air Cooler that is powered by a Jet Turbine. So the goal here was to make a small but powerful Air Cooler that utilizes water to cool down air that..... Listed under: [Other Projects](#)
562.  [Dirt cheap Arduino LED light bar](#) This instructable was designed for beginners in mind, but advanced users can easily adapt it to fit their needs and wants. It only uses a few common components, so you shouldn't have much trouble putting this together. It's a good waste of 5 minutes with..... Listed under: [LED Projects, Projects](#)
563. [CONTROLLING MY THREE AUTOMATION PROJECTS USING SINGLE MOBILE APPLICATION](#) In this project I am controlling my three automation projects using single application made by me using MIT app inventor platform. Description As we all know that the world is slowly shifting towards automation, we require automation everywhere, like in industries, factories, houses, energy management..... Listed under: [Phone Projects](#)
564.  [Intelligent Solar Garden Light using an Arduino- Part 1](#) I bought a solar powered garden light. The solar panel charges the batteries and when it gets dark the lights (3x LEDs) turn on until it either gets lights again or the batteries run out. It has a small amount of intelligence (turns on when..... Listed under: [Battery Projects, Home Automation Projects, Projects](#)
565.  [Kickstarter Backer Alert with Stats Scroller, using Arduino Yun](#) The Arduino Yun is a curious addition to the Arduino family. There is a fairly widespread community surrounding the Arduino concept, platform and software. There's another popular community dedicated to hacking and improving inexpensive wireless routers, which often run Linux. The Yun combines the two...it's..... Listed under: [Car Projects](#)
566.  [Fire Prediction using Arduino nano BLE sense and Machine Learning](#) An Embedded Machine learning-based project was used to detect fire using the inbuilt colour sensor. Description It's an embedded machine learning-based project used to predict a fire in Arduino nano ble 33 sense with the help of the inbuilt color sensor attached to the board..... Listed under: [Sensor – Transducer – Detector Projects](#)
567.  [Interactive Stereoscopic Installations: visual rupture with the Diplopiascope](#) What is it? This is an ongoing project that i've been working on to see the potential of interactive stereoscopic installations in examining the perceptual process. I use a setup that i've called a Diplopiascope to investigate this. The Diplopiascope has gone through a few..... Listed under: [Video – Camera – Imaging Projects](#)
568.  [Make a 24X6 LED matrix using an Arduino](#) After making a 8X10 matrix a lot of people asked me about expanding the matrix to some thing bigger, and some wanted to write stuff to the matrix via a PC, so one day I looked at a pile of LEDs that I had leftover..... Listed under: [LED Projects, Projects](#)
569.  [8x8 LED Matrix Animations using an Arduino](#) For a party we were about to have I wanted a cool light display to use with my new Xmas present - an Arduino Uno. Having looked at the LED matrix's here I wanted a bigger one that I could hang on the balcony. I also wanted..... Listed under: [LED Projects, Projects](#)
570.  [How to connect two 16x2 LCD together with arduino](#) In this, I will tell you how to connect two 16\*2 LCDs together with a single Arduino. This is a very unique project. you can't find this anywhere. Description Introduction In this project, I will tell you that how to connect two LCDs together with..... Listed under: [LCD Projects](#)
571.  [Arduino-Based Blue Box \(Phone Phreaking\)](#) History and Story In the 1950s, 1960s, 1970s, 1980s and even up into the 1990s phone phreaking was an amazingly cool way to explore an unknown world of phone switching networks. To "phreak" a telephone switch, can be done by using frequencies, or tones to..... Listed under: [Phone Projects](#)
572.  [Arduino Combination Door Lock: Lockduino](#) Ready to put a combination lock on your door to keep out intruders? You've come to the right place! In this i'ble I will show you step by step how to make a combination lock for your door! Watch this video of the finished product!..... Listed under: [Security – Safety Project Ideas](#)
573.  [Digital Clock using Arduino UNO Without RTC module](#) An interesting project of making a Digital Clock using Arduino UNO without the help of RTC Module. Description AIM To build a Digital Clock at Low Cost (Without using any External RTC Module) ject, I have used LCD 16X2 Display , an Arduino UNO ,..... Listed under: [Clock – Timer Projects](#)
574.  [Serial Servo Controller with Arduino](#) I'm going to show you how to use your Arduino to control up to 12 servos at once with minimal jitter. Using a simple serial interface you can control the position of up to 12 servo channels. Up to 10

snapshot positions can be saved..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Motor Projects, Projects](#)

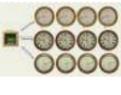
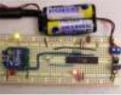
575.  [LED Watch using an Arduino](#) This instructable will show you how to make your own arduino based watch that tells time using a matrix of LEDs. This is my first instructable, so if something is unclear leave me a comment or send a message! I was inspired by all the..... Listed under: [Clock – Timer Projects, LED Projects, Projects](#)
576.  [Arduino Sound Effect With Game Handle](#) This project is for the class ATLS 3300 at CU Boulder. Push buttons can make buzzers sound. Five buttons represented the tone C, D, E, F, G. There are two modes. The switch determines the mode and LEDs can indicate which mode we are in..... Listed under: [Sound – Audio Projects](#)
577.  [ARDUINO NANO BLE SENSE – TinyML FITNESS BAND USING EDGE IMPULSE](#) It is a disruptive fitness solution where we classified different physical motions and body positions using arduino nano ble sense. Description TinyML fitness band using "EDGE IMPULSE" is a disruptive fitness solution where I classified different physical motions and body positions using arduino nano ble..... Listed under: [Other Projects](#)
578.  [DIY a Spelling Game with an Interactive Robot using Arduino](#) Did you hear before about Social Robot? Did you see the Pepper Robot or Jibo robot? These kinds of robots that can hear you, understand you and make a social contact with you via sound, facial expressions and body gestures. Social robots have various..... Listed under: [How To – DIY – Projects, Robotics – Automation Projects](#)
579.  [DinoCalc Version 1.0](#) (Arduino Pro Mini Protoboard Version) Latest Release: <http://code.google.com/p/dinocalc/> Development: <https://github.com/WeaselJones/DinoCalc> This is a calculator without a LCD that tells you if your math answer is right or wrong, without giving you the answer. This instructable will show you how to make this simple math checking..... Listed under: [Calculator Projects](#)
580.  [MP3 Interface for Arduino](#) I have added a follow-on to this Instructable: <http://www.instructables.com/id/Cheap-and-Easy-MP3-Shield-for-Arduino/> The follow-on shows you how to design, etch and build a PCB shield to connect the MP3 to the Arduino. Replaces the analog switches with a 74HC244. Single layer board with large surface mount component design. Only..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects, Sound – Audio Projects](#)
581.  [Programmed gas leakage regulator gadget](#) This model will help you for when of gas spillage. It just will not make you mindful of the signal however it will likewise save your home and different homes or industrial facilities from a horrendous fire. Introduction:- Imagine for a..... Listed under: [Arduino Programmer Projects](#)
582.  [Ethernet Switching – with Arduino](#) Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.06 Please read the below steps to Step 2 if you are viewing this article for the first time. Please go to step..... Listed under: [Internet – Ethernet – LAN Projects](#)
583.  [Illumino: EEG hat with Arduino turns brain activity into light](#) Ever wanted to visualize your brain activity in real-time? Move an object on a screen with your mind? EEG devices are fantastic fun and allow you to do such things! This tutorial will show you how to make an illumino: a recreational EEG hat that..... Listed under: [Game – Entertainment Project Ideas](#)
584.  [Virtual Etch A Sketch](#) The Etch A Sketch: famous, creative, and unique. Unfortunately I have no clue where the one from my childhood is, so I decided to make my own virtual one! Check it out (and my awful drawing skills) below. This Etch A Sketch is quite like..... Listed under: [Game – Entertainment Projects](#)
585.  [Intelligent-Vision Eye-glasses For Blind](#) An AI Automation glasses to solving problems for the legally blind, low vision, glaucoma and Cataract. Abstract After the successful prototype for the Blind Glass @Blind-targeted AI Glasses <https://youtu.be/W2mmXbYaRMA> Friends and colleagues reached out to me to further develop the project. I was highly motivated and..... Listed under: [Other Projects](#)
586.  [ATtiny programmer using Arduino ISP](#) Thanks to: <http://jeonlab.wordpress.com/> For relatively small (less number of pins than ATmega328) projects, ATtiny series, ATtiny45 or Attiny85 are good choice in terms of its physical size (8-DIP or 8-SOIC) and low power consumption. There are many ways to program it. One of the popular..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
587.  [TurtleDuino Object Avoidance Robot using Arduino](#) Hello, in this instructable I'll be showing you step by step how to build the TurtleDuino, an object avoidance robot, with an Arduino UNO microcontroller on board. I designed the TurtleDuino using material from the hardware store (Home Depot) and all the electronics from sparkfun.com..... Listed under: [Projects, Robotics – Automation Projects](#)
588.  [Avengers plant monitoring device with Arduino uno \(Tuya IoT platform\)](#) I made a lot-based plant monitoring device. From this device, you can measure the condition of your plant from anywhere in the world. The device is able to measure temperature, humidity, and soil moisture. Description <https://youtu.be/CHMHhqCfUgU> I hope you are doing well because a few..... Listed under: [Other Projects](#)
589.  [Home Automation: Drapes using Arduino](#) Hate having to manually open and close your drapes? Hate getting back from work/school and your room is dark and dreary? Do you want curtains that open and close themselves? Then you need Dr. Drape! Dr. Drape is an easy DIY project using an Arduino..... Listed under: [Home Automation Projects](#)
590.  [Convert a toy piano to work as a midi device and use it with Synthesia](#) Goal of this project: Convert a cheap toy piano to work as a midi device and use it with Synthesia (<http://www.synthesiagame.com/>) Other programs that use midi inputs can also be used. Approach: The pushbuttons of the piano are used to make a simple pull-down circuit..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Sound – Audio Projects](#)

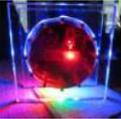
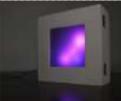
591.  [Disposing IED using Non Newtonian Fluid](#) Thousands of lives are being lost every year due to IEDs (improvise explosive devices). IEDs were responsible for approximately 63% of coalition deaths in Iraq. ABSTRACT Mobile Explosive Containment Vessels (MECV) referred to as Total Containment Vessels (TCV) are fully enclosed vessels used to absorb..... Listed under: [Other Projects](#)
592.  [Tankbot - Internet Controlled Tank Robot using Arduino](#) Do you remember a game called Tank Wars? This is an attempt to make a physical version of that classic arcade game. You, the player drive an Arduino powered tank and fire a laser at a target. This project uses an Arduino to control a tank..... Listed under: [Internet - Ethernet - LAN Projects](#), [Projects](#), [Robotics - Automation Projects](#)
593.  [WorkSafe CV based multiparameter monitoring and diagnostics](#) Worksafe is an attempt to bring advanced healthcare diagnostics to residential and industrial markets at affordable costs. Description As we all are aware, it's been almost two years since the SARS-COV2 outbreak began in December, 2019. Initially, it put tremendous pressure on all countries to..... Listed under: [Other Projects](#)
594.  [Custom OBD II Gauge in With OEM Look using arduino](#) <https://github.com/stirobot/arduinoModularTFTgauges1> built a custom OBD II (on board diagnostics version 2 [http://en.wikipedia.org/wiki/On-board\\_diagnostics](http://en.wikipedia.org/wiki/On-board_diagnostics)) gauge in the clock of my Subaru BRZ (GT86, FRS) and a lot of people wanted me to build them one. Here is how you can build one of your own. My wife..... Listed under: [Arduino Car Project Ideas](#)
595.  [Garage Genie - Parking & Remote Control using Arduino](#) The Garage Genie Parking & Remote Control is a car automation Arduino gadget. Click on the two images above to see the animated explanation. It aims to do a few things: 1. The "traffic lights" tells you when you've inched your car up close enough..... Listed under: [Arduino Car Project Ideas](#)
596.  [HealBot Semi Auto Surgical Machine](#) Problems faced- Due to growing road traffic, lack of doctors in many places and sometimes non... Description Problems faced- Due to growing road traffic, lack of doctors in many places, and sometimes nonavailability of emergency wards, many people die because they do not get timely,..... Listed under: [Other Projects](#)
597.  [Guitar Tuner for the Blind \(using an Arduino\)](#) How to modify a guitar tuner so it can be used by a blind person This build uses an Arduino Pro mini microcontroller, (all code is provided). This project was undertaken for the charity Remap, which provides custom-made equipment for people with disabilities. Summary Begin with..... Listed under: [Sound - Audio Projects](#)
598.  [AC Arduino dimming circuit](#) THANKS TO CONCERNED VIEWERS, I HAVE LEARNED THAT THIS IS NOT SAFE AND SHOULD NOT BE REPLICATED. SO PLEASE DONT TRY THIS 😊 THANKS TO EVERYONE WHO COMMENTED, I LEARNED A LOT I am not an engineer, just an experimenter and hacker and prototyper etc,..... Listed under: [Home Automation Projects](#), [Projects](#)
599.  [Tiny Altoid Tin Robot With Personality](#) I love robots. Normally the ones I build are quite large and wouldn't fit in your pocket, but for a change of pace I decided I would try something small and fun! This robot is exactly that, and in fact fits inside of an altoids..... Listed under: [Robotics - Automation Projects](#)
600.  [5x5 LED Cube using Arduino Uno](#) This is a step by step explanation of how to build a 5x5 LED cube using an arduino. I did this project for my undergraduate electronics class and it took me about 2 weeks to complete. Note: Apparently, some of the links for the supplies..... Listed under: [LED Projects](#), [Projects](#)
601.  [IoT Robotic Arm](#) The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and... Description <https://youtu.be/zhQDoCBZn5E> Description:- The project is Robotic-arm controlled by a mobile application known as BLYNK; it is free and easy to use for automation and IoT projects for beginners. In..... Listed under: [Robotics - Automation Projects](#)
602.  [Self-Watering Plant using an Arduino](#) Plants liven up any space by adding a sense of airiness and life. That is - of course - when you don't forget to water them, and they shrivel up and die. I am very bad at remembering to water plants. That is why I..... Listed under: [Home Automation Projects](#), [Projects](#)
603.  [Froggy World 5 The Coffee Gripper](#) In Froggy World, the amusement park for adventurous plastic frogs, it became necessary to to move the frog from a train car back to the catapult. Because I couldn't know whether the frog would be upright or sideways--and in what orientation--the gripper was a challenge..... Listed under: [Home Automation Projects](#)
604.  [Smart Electricity Meter with Energy Monitoring and Feedback System for Theft Detection](#) The project is basically to detect the theft from the energy meter used in households as well as in... Description The project is basically to detect the theft from the energy meter used in households as well as in the commercial sector. There is two..... Listed under: [Metering - Instrument Projects](#)
605.  [Dual H-Bridge - Arduino L298 Breakout Board](#) This is my homemade Dual H-Bridge using the IC L298N. For control DC motors or step Motors ao other purposes just like you need. Breakout L298N.ppt1 MB Step 1: Hardware and Materials This is the basic schematic. It works perfectly. A more advanced schematic and..... Listed under: [Arduino Android](#)
606.  [Interfacing a Digital Micrometer to a Microcontroller](#) We had a project that required connection to a digital micrometer with a data output jack. The idea was to connect a microcontroller to the micrometer, to read the measurements and make decisions based on the readings. The micrometers that we used are made by..... Listed under: [Metering - Instrument Projects](#)
607.  [Bubble Wall | Interactive, Inflatable Panel](#) Bubble Wall | Breathing Wall Panel System Interactive, Inflatable, Playable Wall Brief Project Description This was an artistic piece installed for a digital fabrication show at the University of South Florida School of Architecture and Community Design. While this brief is specific to this panel,..... Listed under: [Game - Entertainment Projects](#), [LED Projects](#)
608. [Big Spectrum Analyzer with Arduino](#) Let's put together a pixel strip with an HL1606, an Arduino UNO and the Spectrum Shield to build a seven bands "large" Spectrum Analyzer of simple

- construction. The Strip used uses the HL1606 controller to allow direct management of each of the LEDs. The chip..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
609.  [Wii Nunchuk Controlled Model Train using Arduino](#) Using an Arduino microcontroller, an Adafruit motor shield, and a Wii Nunchuk, you can create a intuitive, programmable, model train controller to run your layout. Amaze your friends. Entertain your kids. Not quite DC, not quite DCC. You're headed for the hacker lands of PWM..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
610.  [Satellite dish positioner with Disegc and wifi](#) The satellite positioner stores the position of the satellites in memory and allows you to move the dish to the desired satellite when you change the satellite channel. The advantage of this device is the possibility of controlling and setting the positioner via Wi-Fi. Description..... Listed under: [Wifi - WLAN Projects](#)
611.  [A Facebook-Connected, Arduino-Powered Music Party](#) Music party is a new way to listen to music with others. By tapping an RFID/NFC device that is synced to a Facebook account on an Arduino RFID reader shield and sending that unique ID to Music Party server using the Arduino WiFi shield, we..... Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)
612.  [DIY Arduino Board Water Meter](#) Working with the interaction design team, a bunch of us at Teague have been tinkering with measuring water, analyzing usage data in realtime to affect behaviors, and storing it to see patterns over time. At the heart of the exploration was a need to cheaply measure water..... Listed under: [How To – DIY – Projects](#), [Metering – Instrument Projects](#), [Projects](#)
613.  [Bluetooth Controlled RGB LED LAMP](#) I made an RGB pumpkin wall light, which can be controlled by a smartphone via Bluetooth, it has different modes and different colors so you can choose the color of the light according to your mode. Description [https://youtu.be/\\_dnJCeFdBnw](https://youtu.be/_dnJCeFdBnw) Halloween is about to come and already..... Listed under: [Bluetooth Projects](#)
614.  [Arduino LCD Metronome](#) Connecting the LCD The first step is to wire up the LCD. The HD44780 has 16 pins: Pin 1 - Vss Pin 2 - Vdd Pin 3 - Vo Pin 4 - RS Pin 5 - R/W Pin 6 - E Pin 7 - DB0..... Listed under: [LED Projects](#)
615.  [Touchless Covid Free Electronic Dice Using Arduino](#) Created a touchless Covid Free Electronic Dice using Arduino to play some board games with my son. My new project is an amazing way of giving our younger generation the taste of board games while staying COVID free. Description <https://youtu.be/a4CnaDDR2x0> Created a touchless Covid Free..... Listed under: [Other Projects](#)
616.  [Self Balancing Segway Instructobot](#) [box color="#985D00" bg="#FFF8CB" font="verdana" fontsize="14" radius="20" border="#985D12" float="right" head="Major Components in Project" headbg="#FFEB70" headcolor="#985D00"] Supplies: 1. Arduino: I used an Uno 2. 7.2v battery 3. Set of motors: Parallax's 7.2v motor set <http://www.robotshop.com/parallax-7-2v-motor-bracket-wheel-kit-pair.html> 4. Analog accelerometer <http://www.robotshop.com/sfe-3g-tripleaxis-accelerometer-breakout-board-adxl335-2.html> 5. Sabertooth 5X2 motor controller <http://www.robotshop.com/productinfo.aspx?pc=RB-Dim-19&lang=en-US> 6..... Listed under: [Game – Entertainment Project Ideas](#), [Robotics – Automation Project Ideas](#)
617.  [Garduino-Automated Gardening System using Arduino](#) This instructable is a guide for setting up an automated gardening system using an arduino and other cheap electronic parts. It allows sustainable gardening by using sensors to determine soil moisture, as well as a webscraper to determine future weather. It uses this information to save water by only..... Listed under: [Home Automation Projects](#), [Projects](#)
618.  [Self-Contained 7x7x7 LED Cube](#) LED cubes are true 3D displays that work by lighting up points in a 3D lattice of LEDs. On the 3D display you can produce some truly mesmerizing animations. This Instructable will walk you through creating an LED cube for yourself that is completely self-contained and powered..... Listed under: [LED Projects](#)
619.  [How To Make A Board Game Using Arduino](#) In this Instructable, we'll teach you how to create your own "Would you rather..." board game using conductive paint, an Arduino microcontroller, and some electronics components. Players take turns moving along the game path as directed by an electronic dice roll. Along the way..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
620.  [Scan QR Codes with Raspberry Pi Pico](#) To extract information from QR codes and use a Barcode & QR Code HAT and a Raspberry Pi Pico. Description To extract information from QR codes and (even create your own barcode & QR Code using Python), use a Barcode & QR Code HAT and a Raspberry Pi..... Listed under: [Other Projects](#)
621.  [FuzzBot](#) The FuzzBot is an awesome, fast, fully autonomous small Arduino robot that everyone loves!!! It uses the compact Pololu ZumoBot Chassis kit for a great drive system, and uses a Parallax Ping sensor to sense proximity, to make the FuzzBot fully autonomous. I like to..... Listed under: [Robotics – Automation Projects](#)
622.  [Arduino camera Lens Controller](#) My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
623.  [Capacitive touch Mood light using Arduino](#) This instructable is a quick write-up of my experience creating a multifunctional moodlight. Some basic knowledge of electronic circuits is expected. The project has not yet finished, some adding functionality and tweaking has to be done but it is already functional. If you guys are..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
624.  [Arduino-plex 2.0: Modular Plexiglas Arduino Work Surface](#) Last year I needed a board that I could stick my breadboards to, that would also securely hold my Arduino. I used some Plexiglas I picked up at Skycraft in Orlando and I glued

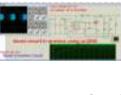
- everything together with Crazy Glue. This worked well, but it didn't..... Listed under: [Development Board – Kits Projects](#)
625.  [Pantomime – Gestures to actions for disability aid and more](#) Pantomime is a configurable gesture controller unit that can be used for reliable human-machine interaction. For the demo purpose, we have shown a use case of the Pantomime in a chassis of 4WD, which here can be easily altered with a smart wheelchair. The Pantomime..... Listed under: [Other Projects](#)
626.  [The morse code generator by a PS/2 keyboard using Arduino](#) Hi, all! Today I'm trying to explain you my last project: "The morse code generator by a PS/2 keyboard" I've used an PS/2 keyboard to send input to my Arduino board (like described in here) and transform it in morse code that activate..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
627.  [Nokia LCD & Sensors using an Arduino](#) Arduino: Nokia LCD & Sensors PROBLEM: Making my Arduino, a Temperature-Relative Humidity sensor and a Nokia3310LCD screen work together. Now, I'm a Lazy Old Geek, so what I wanted was an Arduino kit that would take shields. This Freeduino was the cheapest that I could..... Listed under: [LCD Projects](#), [Phone Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
628.  [Bluetooth Speaker Wifi IoT Clock With Spectrum Analyzer](#) I made a Bluetooth Speaker with Clock . It display Date , Time, Temperature & Humidity & gets updated from Internet at 15 minutes interval.It also has a 32 band Audio Music Spectrum Analyzer which displays different music patterns. Clock or spectrum Analyzer can display..... Listed under: [Bluetooth Projects](#)
629.  [Program an ATtiny with Arduino](#) Follows are directions for programming the ATtiny microcontrollers using the Arduino IDE. In plain English, this is how to program 8-pin Atmel chips as you would normally an Arduino. This is cool because the ATtiny is tiny, and - well - this allows you to..... Listed under: [Arduino Programmer Projects](#)
630.  [Stupid Simple Arduino LF RFID Tag Spoofer](#) RFID tags are all over the place. They're used in building access control systems, passports, inventory tracking . . . This instructable will show how you can use an Arduino and a few simple components (wire coil, transistor, capacitor, resistor) to make a device..... Listed under: [Projects](#), [RFID - NFC projects](#)
631.  [PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY](#) Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies. Introduction Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies..... Listed under: [Other Projects](#)
632.  [Ultrasonic Tape Measure using Arduino](#) Have you ever wanted an ultrasonic tape measure, like this Stanley? (See picture). Well, I have but then I am a Lazy Old Geek. I don't really need one but I thought I'd try to make one. And naturally, I thought of an Arduino. August..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
633.  [Self-Watering Smart Pot Using NodeMCU](#) let's build a self-watering (also we can monitor the temperature, humidity, soil moisture )smart pot using nodemcu Description Self-Watering Smart Pot Using NodeMCU Hello there, Sometimes when we go out of our home for a few days. In this case, we cant give water to..... Listed under: [Temperature Measurement Project Ideas](#)
634.  [Interface Arduino to MySQL using Python](#) Here's a brief tutorial that should get you up and running interfacing your Arduino with a MySQL database. For the sake of this tutorial, I am assuming you know how to set up and use MySQL. This tutorial does not require much Python experience, but..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
635.  [LDR Robot using an Arduino](#) LDR Robot with IR and a Servo The LDR/IR Robot is designed to seek out light and avoid obstacles. The robot uses the Light Dependent Resistor to seek out light and the Infrared Sensor to detect and avoid objects in its path. The following are..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
636.  [An Alarm Clock \(but It Is Harder to Turn Off\)](#) The inspiration for this project was the dreadfully painful waking up process in the morning. And now that school is starting back up I had to get off of the summer schedule where you could get away with not waking up at the crack of..... Listed under: [Clock – Timer Project Ideas](#)
637.  [Jeopardy Ring-in Buttons with Built-in Rules using Arduino](#) There are several good Jeopardy/Game Show lockout buttons/buzzers, but none incorporate the timing rules of Jeopardy. I am learning about the Arduino and I thought that this would be a great project to practice with. The rules include a question reading period with no timeout..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
638.  [Dual-Task CoreXY DrawBot](#) When I saw a COREXY (or H-Bot) plotter, I thought I would make it someday. Since most of its components were made from 3D printers so I have postponed it. Fortunately, once again the PVC pipes gave me an idea to build it with a..... Listed under: [Other Projects](#)
639.  [Frankenstein Laser Engraver](#) This Frankenstein Laser Cutter was built out of an old scanner and printer. The whole thing evolved around the instructable of Groover and his 'Pocket Laser Engraver'. This is a Making-Of. Although a lot, if not everything, of the mechanical construction requires ingenuity I tried..... Listed under: [Metering – Instrument Projects](#)
640.  [Low cost Ethernet shield with ENC28J60 using Arduino](#) Economical alternative to original Arduino ethernet shields, allows data rates up to 10 Mbps and is achieved with a traditional assembly components. One of the most interesting shield that you can mount on the Arduino platform is certainly the ethernet shield, because enable numerous networking..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
641. [Complete Arduino-based 3D-printed Battery-powered Mini Retro Arcade Machine](#) It's been a while since I've published my last Instructables. I'm back, and I'm 3D-printed-powered! Enjoy this mini retro arcade machine. It's literally my first complete end-to-end 3D-printed project: I made the design, printed it, assembled the electronics, programmed it, and now to the tutorial..... Listed under: [Battery Projects](#)

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642.  [Pan & Tilt Servo bracket controlled by Arduino](#) Hi, in this instructable i am showing you how to build a very nice and very sturdy pan & tilt turret for your rc / arduino projects. (Please don't judge my english grammer etc. i'm from holland) The things that you need for this project..... Listed under: [Other Projects](#), [Projects](#)
643.  [Naruto Themed Night Lamp](#) Hey guys what's up. Here's something cool, a Naruto-themed Desk light that is made mainly from PCB. The heart of this project is an Atty13A that drives some 0603 LEDs which are on the backside of the Face. <https://youtu.be/nN2Nk41puXc> The Head part is detachable or..... Listed under: [LED Projects](#)
644.  [The Octo-phonic Synthesizer](#) The Octo-phonic Synthesizer is a polyphonic synthesizer that is able to produce eight tones that in the end, creates a musical scale. Inspiration for this creation came from this project. I like to think of it as an electronic organ. I used the core foundation of blinkyblinky's idea,..... Listed under: [Sound – Audio Project Ideas](#)
645.  [Clock with Tics \(presentation prototype\) using Arduino](#) Clock with Tics is an Arduino-powered 24-hour digital clock that displays expletives at random intervals. A clock 'ticks'. A 'tic' (note the different spelling) can be a mental disorder and can manifest itself in a number of ways; most seriously, someone suffering from "Tourette's Syndrome"..... Listed under: [Clock – Timer Projects](#), [Projects](#)
646.  [Stubborn Alarm – Doesn't Stop Until You Brush Your Teeth](#) I have my online classes going on (still -\_-) and the problem is I have a hard time waking up early. So I end up missing my first class every day. And yes, I do keep an alarm for 7 am but I always turn..... Listed under: [Clock – Timer Projects](#)
647.  [Gesture based Intelligent Appliance Control](#) With Artificial Intelligence, the science fiction is turning into reality and automation is taking... Description With Artificial Intelligence, the science fiction is turning into reality and automation is taking over the world. Inspired by the Iron man and Jarvis we decided to build something similar..... Listed under: [Other Projects](#)
648.  [Cheap Lcd screen for the Arduino](#) We have used the pda with a desktop computer (robot) and with the Nslu2. Here we are going to use an old pda with serial port.to act as an lcd. Everyone either has one or knows someone who has an old pda that they do..... Listed under: [LCD Projects](#)
649.  [Starting with robotics \(Arduino\)](#) Starting with robotics can be hard, if you don't know where and how to start. Best way to start is to make mobile robot. In this step-by-step we will show you, how to make cheap robot with parts available in your local store and household..... Listed under: [Robotics – Automation Projects](#)
650.  [Create Animation on OLED Display Controlled by Arduino](#) In this tutorial I will show you how to create animation on small OLED display connected to Arduino Nano. Step 1: Supplies We need following two components for this project Arduino NanoSSD1306 SPI 128x32 display You can also use SSD1306SPI 128x32 display but it will..... Listed under: [LED Projects](#)
651.  [Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield](#) I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately \$29.43 and is more affordable compared to \$39.00 for a commercially available system..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
652.  [Rainbow Word Clock using Arduino](#) At long last I have managed to finish the Rainbow Word Clock! Once again, this one was inspired by Doug and his creations <http://www.instructables.com/id/The-Wordclock-Grew-Up/> I have a fixation with RGB LED's at the moment and I wanted to do something a little different. So, while it..... Listed under: [Clock – Timer Projects](#), [Projects](#)
653.  [Make a Pumpkin Into a Pacman-Playing Game Console!](#) This project is the perfect way to level-up your pumpkin carving and reach new high scores. Using an addressable LED strip and an Arduino, you'll be able to make a basic screen capable of playing Pacman, and a controller made of a smaller pumpkin. This..... Listed under: [Game – Entertainment Projects](#)
654.  [Persistence of Vision Wand using Arduino](#) Persistence of Vision (POV) Wands are a fun way to create interesting long exposure photographs and light displays. The wand consists of a single row of LEDs controlled by an Arduino Uno. When the wand is turned on it appears to be flickering in a..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
655.  [Retro Arduino Radio](#) I love the look of old 1920's radios. They are the embodiment of a decade. The radios that I like the most were vacuum tube cathedral radios made by Philco. When I think of old-timey radios those are the first thing that pops into my mind..... Listed under: [Radio Projects](#)
656.  [Big Ball Maze Game using Arduino](#) This project was the result of an urge to contribute something to the Creative Games section of my kids' elementary school fair. The kids loved it for it's simple old-school game aesthetic mixed with Wii-style and Kinect-style video game control. It's a spin-off project of..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
657.  [Dumbledore's Deluminator A.k.a the Put-Outer](#) Some might say that it belongs to Ron Weasley now, but to me & most of the Harry Potter fans, it'll always be Dumbledore's Deluminator. It was designed by Albus Dumbledore, and the first time we get to know about it is when he uses..... Listed under: [Wireless Projects](#)

658.  [Batgirl Birkin Bag](#) What a girl wants. What a girl needs. What's more exclusive and has more cachet than scoring a Birkin bag? Pow!!! A Batgirl Birkin bag! Holey Haute Couture, Batman! Yes, you too can knock off a version of this famous bag. Okay, even mine started..... Listed under: [Home Automation Projects](#), [Phone Projects](#), [Sensor – Transducer – Detector Projects](#)
659.  [Internet Devices for Home Automation using Arduino](#) This instructable shows the principles involved in making devices to control home automation over the internet. We're going to construct a device (or several of them), that talk to each other over the internet to control lights, motors for curtains/blinds, power sockets etc. In contrast..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
660.  [Custom Wireless Keyboard! \(Arduino\)](#) In this project we are going to be making something super useful! It is a wireless keyboard that you can connect to your PC and assign each button any shortcut or key sequence you want! I have made it in a way where you can..... Listed under: [Wireless Projects](#)
661.  [Arduino powered Solar Battery Charger](#) The following design is for a Solar battery charger ran by an Arduino Nano. It can handle a standard lead acid 12V battery, like for a scooter or a car. Furthermore the design has been tested and runs with 90% efficiency under 70°C (158°F). It..... Listed under: [Battery Projects](#), [Solar energy projects](#)
662.  [Code generator for custom Android or Arduino menus](#) Introduction This is the first of two instructables that make up a complete customizable Home Automation for Beginners example. See DIY Home Automation for Beginners for the second part. It is aimed at the absolute beginner. If you can handle a sharp knife without cutting..... Listed under: [Arduino Android](#)
663.  [How to Make a Basic Computer Mouse Using the Joystick Module and Arduino Uno](#) This instructable will show you how to make a joystick controlled mouse using Arduino Uno and the joystick module. Supplies You will need- One Arduino Uno5 jumper wiresOne JoystickArduino IDEPython Step 2: Make the Circuit Make this circuit shown using your Arduino and Joystick. Step..... Listed under: [Development Board – Kits Projects](#)
664.  [Programmable Temperature Controller + Hot Plate](#) Heating things up is one of the most performed tasks in a lab. Quite a lot of times it is not enough to simply hold something at a certain temperature, but the rate at which something is heated and for how long is just as..... Listed under: [Arduino Programmer Projects](#), [Metering – Instrument Projects](#), [Temperature Measurement Projects](#)
665.  [DCF77 master clock MK2](#) Features Arduino 328 Microprocessor is used to decode and display Time & date from the DCF77 "Atomic" Clock in Mainflingen near Frankfurt Germany The DCF77 signal is decoded using the fantastic new DCF77 library written by Udo Klein meaning the clock stays in sync and..... Listed under: [Clock – Timer Projects](#)
666.  [Ultimate Kids Musicbox ESP32 Based](#) There are already some NFC jukeboxes. Off the shelf like those "Toni" boxes. For do-it-yourself: lots of instructables. This device should cover as much as possible, which could come into question sometime and somehow. It should have as few weak points as possible, (in which..... Listed under: [Sound – Audio Projects](#)
667.  [Arduino-powered LED Clock](#) A fun, simple LED clock, that will give you the time to the nearest half hour using single-color LEDs. Parts needed are as follows: Arduino Nano 400 tie-point Breadboard Ribbon Cable DS1307 RTC IC 32.768 kHz Crystal (12) 10mm LEDs (12) 180 Ohm resistors (2)..... Listed under: [Clock – Timer Projects](#), [LED Projects](#)
668.  [Arduino Programmable Constant Current Power Resistance Dummy Load](#) Glad to see you have arrived on this page to learn how to build a programmable constant direct current dummy load. This load will allow you to draw a set current from any source. This load can also be set to a constant resistance or..... Listed under: [Arduino Programmer Projects](#)
669.  [Arduino Quiz Game With Led Strip for Score and Two Buttons](#) Two teams answer questions by pushing their button. They can score an amount of points equal to the random number of lights lit on their button. <https://youtu.be/pwq1BWS1oZ4> This requires some strategic choices and luck. When the teamscores meet on the large led strip, they can..... Listed under: [Game – Entertainment Projects](#)
670.  [Network Time Protocol \(NTP\) Client using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to query a Network Time Protocol (NTP) server. This way, your Arduino can get the time from the Internet. Circuit The Ethernet shield allows you to connect a WizNet Ethernet controller to the..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
671.  [How to Build a DIY WiFi Smart Oximeter Using MAX30102 and Arduino ESP32](#) This WiFi Smart Oximeter helps you scan Spo2 and BPM using MAX30102 and ESP32 and display the values on the Smartphone Step 1: In this tutorial, I will explain how to build your own WiFi Based Smart Oximeter using MAX30102 and ESP32 in detail. The..... Listed under: [Wifi - WLAN Projects](#)
672.  [Drive by wire go kart using Arduino](#) I just got a new go kart engine, i went from 6hp to 10hp. This new kohler engine I got I think was not built to put on a go kart, so I had some trouble finding a way to attach the gas petal. Well..... Listed under: [Car Projects](#), [Motor Projects](#)
673.  [Programming Arduino Wirelessly](#) The Arduino system offers an easy and open-source method for programming microcontrollers. Normally this means using a serial cable or USB cable attached directly to the microcontroller project. But what if your project is floating in a weather balloon, glued to the bottom of a swimming pool..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
674.  [Put a Cylon in it!](#) Last year the comedy sketch show 'Portlandia' made fun of an arts and craft trend, where craft artists would take ordinary items and 'put a bird on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and..... Listed under: [LED Projects](#)

675.  [IR Remote Control Arduino Based Electric Board](#) Arduino based electric board controlling system, Can be controlled using any universal IR remote. good IR receiving range and support 12 CH. Supplies 1) Soldering Iron 2) Solder wire 3) plier 4) multimeter 5) solder flux 6) wires 7) battery 8) connectors 10) wick for..... Listed under: [Development Board – Kits Projects](#)
676.  [SMOKING HALLOWEEN PUMPKIN USING ARDUINO AND IC 555](#) Lots of people celebrate Halloween by making pumpkin sculptures most of them only just carve a scary looking face from the pumpkin and place. in this tutorial, I am showing how to give a more awesome effect to your pumpkins. here I added human/obstacle detection,..... Listed under: [Other Projects](#)
677.  [Water Flow Gauge using Arduino](#) Measuring the consumption of a resource that has units by volume can be more tricky than it sounds. Use of resources such as water, gas, and even electricity is typically measured by gauges that determine either instantaneous flow rate or cumulative volume over time. Both..... Listed under: [Other Projects](#)
678.  [Aetherharp: Three Level, 24 Note, MIDI Air-harp](#). This project is loosely inspired by the laser harp of Jean-Michel Jarre. <https://www.youtube.com/watch?v=DnAfXK-hft8> Instead of lasers however, it uses eight SHARP infra-red distance sensors, the variants with the longest range of 35 to 40cm. These sensors are laid out in a row to provide rows..... Listed under: [Other Projects](#)
679.  [Modern RGB LED Clock using Arduino](#) As hard as it might be to believe, I had never built an electronic clock of any kind. I've always thought electronic clocks were passe and not worth the time to design and build one. In addition, I thought that all interesting electronic clocks designs..... Listed under: [Clock – Timer Projects](#), [LED Projects](#), [Projects](#)
680.  [Low resolution display done right](#) A resolution of 8x8 pixels may not sound like enough for anything interesting, but with the right setup, it is possible to create beautiful, complex animations and even add some interactivity. In the next pages I will detail the steps needed to build the low-res..... Listed under: [LCD Projects](#)
681.  [Automating A Home Snowmaker Using An Avr Microcontroller](#) Before describing how the automated system functions, it is important to describe the science of snowmaking in general and to define a few key terminology that will appear often in the remaining sections of the text. Although the science of snowmaking is complex, for the..... Listed under: [Home Automation Projects](#)
682.  [Controlling Nixie Tube With Arduino Using K155ID1 Microchip](#) For those who don't know Nixie tubes are electronic devices used for displaying numbers and other character using glow discharge. They date back to 1950s not used commercially anymore. Currently they do experience second life though, as people do tons of cool projects. In this..... Listed under: [Other Projects](#)
683.  [64 pixel RGB LED Display – Another Arduino Clone](#) This display is based on an 8x8 RGB LED Matrix. For testing purposes it was connected to a standard Arduino board (Diecimila) using 4 shift registers. After getting it to work I permatized it on a fabbed PCB. The shift registers are 8-bit wide and..... Listed under: [LED Projects](#), [Projects](#)
684.  [RFID cat door using Arduino](#) Intro: RFID Cat Door This is a cat door /flap that can only be opened by the animal that wears the appropriate RFID tag. Arduino controls the process. It features a custom made antenna large enough to function as a gate, which makes it easy..... Listed under: [Projects](#), [RFID - NFC projects](#)
685.  [Automatic Multi-Photo Taker \(Photobooth Style\)](#) This is a tutorial on how to program your DSLR camera to take photos photobooth-style. It's a simple Arduino setup that allows you to take continuous photos with 3-second delay intervals. This was built for a college electronics project. A motion sensor detects motion in..... Listed under: [Video – Camera – Imaging Projects](#)
686.  [A Simple Arduino Touchless Candy Dispenser](#) This is a simple touchless candy dispenser using an ultrasonic sensor for activation, a stepper motor to dispense candy, and an Arduino for controlling everything. The candy dispenser can be powered using the USB port or using a 9v battery. Inside the cylindrical container, there..... Listed under: [Other Projects](#)
687.  [How To Smell Pollutants using an Arduino](#) This Instructable explains how to use a gas sensor with your Arduino. This lets your Arduino smell (and hence you program responses to) overall gas levels for a variety of nasties, including ethanol, methane, formaldehyde, and a bunch of other volatile organic compounds. My cost..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
688.  [Gas detector / indicator \(USB powered\) with arduino](#) ArduSniffer This Instructable shows how to build a gas detector / indicator using an arduino. The finished product is USB powered and displays the amount of detected gas on a led display. In this design the reset button on the arduino is also working. This..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
689.  [HALLOWEEN DIY CANDY DISPENSER WITH RIDDLE, 7-SEGMENTS & PUSHBUTTON, ARDUINO & 3D PRINTED | ELISAVA](#) In this project we use an Arduino Uno along with some simple components to create an interactive, scary and playful decoration for Halloween to impress all your guests. Our idea is basically designing a candy dispenser that only provides the user with a few candy..... Listed under: [Other Projects](#)
690.  [BoB the BiPed](#) Did you buy an arduino after seeing all the cool instructables and now you tired of just making LEDs blink? Are you envious of all the cool walking robots people are building but don't have the experience or cash for all of those servos and expensive brackets?..... Listed under: [Robotics – Automation Projects](#)
691.  [Arduino Programming With Atmel Studio 6.0](#) How to import the compiled Arduino IDE libraries into Atmel Studio 6.0 using a program written by Omar Francisco. This will allow you to use the feature rich programming environment of Atmel Studio to program the Arduino Uno. Other Arduino boards such as the Mega..... Listed under: [Arduino Programmer Projects](#), [Projects](#)
692. [Mr.Skeleton](#) Are you prepared to experience the spookiest night of the year? Grab some candy from this basket if you're brave enough, but be careful: Mr. Skeleton doesn't like sharing too much.

-  Happy Halloween! Halloween basket with built-in distance detector; when trying to reach for candy..... Listed under: [Other Projects](#)
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693.  [How to Control arduino by bluetooth from PC](#) I wanted to make it possible to control an arduino board from my phone. So that I could control other devices. the easiest way seemed to be using bluetooth. but when I received the parts needed I found it want quite as simple as I..... Listed under: [Interfacing\(USB – RS232 – I2c - ISP\) Projects](#), [Projects](#), [RTOS – OS Projects](#)
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694.  [DIY Motion Sensor Alarm System](#) Are you constantly being scared when people sneak up behind your back? Do you have bad hearing and can't hear people approaching you? Do you want to just build a super fun Arduino project? If you answered yes to any of those questions, then this..... Listed under: [How To – DIY – Projects](#), [Security – Safety Projects](#), [Sensor – Transducer – Detector Projects](#)
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695.  [HALLOWEEN PROJECT: the Candied Dead Baby](#) The Candied Dead Baby is an Arduino-controlled interactive halloween decoration. It has been designed, created and assembled by three industrial design engineering students from Elisava. Using servomotors and ultrasonic distance sensors as well as a buzzer, we've designed a product that when an ultrasonic sensor catches..... Listed under: [Sensor – Transducer – Detector Projects](#)
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696.  [Android talks to Arduino board](#) This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno.  
Functionality: Android talks to Arduino 1. Run the Android..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
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697.  [8 X 8 LED Pixel Art](#) Create a display of 8x8 square pixels that can work independently. And to easily reprogram it to display different animations. Also I don't have a 3D printer, so I needed to make it out of things around the house. <https://youtu.be/xfmsxwR4btA> Supplies LEDs 5mm APA106 x..... Listed under: [LED Projects](#)
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698.  [Motion Triggered Fog Machine using an Arduino](#) Fog machines can be unruly beasts. Especially the non-professional models you buy for halloween. With low duty cycles, causing massive amounts of fog when you don't need it, and no fog when you do. Wouldn't it be nice to have fog only when people come..... Listed under: [Other Projects](#), [Projects](#)
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699.  [The Boss Box Bot](#) Welcome to the Boss Box Bot instructable, or as we like to call it, the Bo-Bo Bot. The Bo-Bo Bot was designed to use extremely low cost materials to allow people to construct a robot without high-priced kits. Our Bo-Bo Bot will be made using..... Listed under: [Robotics – Automation Projects](#)
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700.  [Cup Cooler using an Arduino](#) This is my first Instructable, so please judge harshly so that I can learn 😊 Its a simple project minimal skills needed. Drawings are made using: Fritzing Code Written using Codebender The cold plate got to -20c Watter in the cup measured @ 5.5c compared..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
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701.  [Bicycle Journey Tracker With Arduino and GPS Module](#) This is a bicycle journey recording device utilizing Arduino and a GPS module. I'm riding an electrical bicycle from time to time during weekends. Several good bicycle riding routes which pass by the lakes and parks are located near to my house. Therefore, bicycle riding..... Listed under: [GPS Based Projects](#)
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702.  [Smart Product Project – Intro to Sensors \(Lesson 3\)](#) If you haven't already, check out the Leader-Follower Robot project (<https://www.instructables.com/Leader-Follower-Robot-Legs/>). The Leader-Follower Robot project provides important background on the concepts covered in this tutorial. We will also be using the Leader-Follower Robot to showcase some cool sensors! This Instructable will be a deeper dive..... Listed under: [Sensor – Transducer – Detector Projects](#)
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703.  [Daft Punk Coffee Table 5x5 LED Matrix using an Arduino](#) Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. I built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
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704.  [Capacitive-Touch Arduino Keyboard Piano](#) Using only an Arduino, a few resistors, a buzzer, and some bits of aluminum foil, you can create your own touch-sensor piano keyboard in just a few minutes! Using an Arduino Uno, you can create a piano with up to 18 keys; or with an..... Listed under: [Development Board – Kits Projects](#), [Sound – Audio Projects](#)
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705.  [Halloween Candy Dispenser](#) Have you ever felt like not wanting to celebrate Halloween? Or too lazy to open the door and hear "trick or treat" a thousand times? <https://youtu.be/1QDBQxl675E> Well, if that's you, we offer the perfect solution without losing the spirit! This project is an automatic machine..... Listed under: [Medical – Health based Projects](#)
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706.  [Arduino MIDI-in shield](#) This instructable shows how to build a shield to connect devices that send MIDI signals (e.g. a masterkeyboard) to an Arduino. The basic schematic is derived from: <http://www.arduino.cc/cgi-bin/yabb2/YaBB.pl?num=1187962258/> Step 1: The schematic Basically the schematic is just an optocoupler with some resistors to decouple the..... Listed under: [Projects](#), [Radio Projects](#)
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707.  [Arduino I2C and Processing](#) As promised, this week brings another communications tutorial! In this video, we'll use both the serial and processing knowledge that we gained last week, plus an I2C enabled temperature-sensing IC. [box type="note" color="#202020" bg="#ffbb00" font="verdana" fontsize="14" radius="20" border="#000" float="right" head="Attributes"]Thanks to..... Listed under: [Other Projects](#), [Projects](#)
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708. [Bicycle Backlight With Arduino](#) This is the first bicycle accessory gadget I made with Arduino. It's a pattern-based backlight attached to the back-bag mounted on the bicycle luggage compartment.

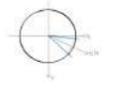
-  I'm riding an electric bicycle which can speed up around 24km/h at maximum. But I had fallen already three times..... Listed under: [LED Projects](#)
709.  [Scratching with Arduino](#) MIT has developed a fantastic visual programming language called Scratch. It is also an amazing learning tool for children, because it is simple, cute, and by providing interaction with the real world by a board called "Scratch Sensor Board". This Instructable shows the development of a shield..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
710.  [Arduino Morse Code Shield](#) Morse code was the breakthrough that made possible long-distance communication in the era of the telegraph. The code represents alphanumeric characters by short and long intervals of signal -- those familiar dots and dashes. For many years passing a Morse code test was a prerequisite..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
711.  [Halloween Scary Reactive Mask](#) This is year halloween project of me for my kid. This mask can react with scary sound and led when they wave their hands. <https://youtu.be/Hvwq23ibWhs> Step 1: Preparing Stuffs 1. Arduino Pro Mini 5V 2. Module Mp3 DY-SV5W with SD card 3. 5W 4Ohm Speaker..... Listed under: [Sound – Audio Project Ideas](#)
712.  [Build Your Own Arduino](#) Setting up an Arduino on a breadboard has become a process I have grown to love. Within a few minutes you can have a fully working Arduino platform to work with as you will see in this tutorial. There have been several occasions when I..... Listed under: [How To – DIY – Projects](#), [Projects](#)
713.  [High Speed Photography](#) With this device you'll be able to: take pictures from anything you can sense or detect: - movement - sound - ... You don't need to modify your camera or flash for this. It's compatible with the old High Voltage flashes and the new TTL..... Listed under: [Sensor – Transducer – Detector Projects](#), [Video – Camera – Imaging Projects](#)
714.  [Easy Arduino PIANO \( Including a Preset Song \)](#) So first off, I am a student and wanted to pick an instrument, but the problem was that I was not sure that "would I be able to do it?". So, I thought to clear my base first and got an Idea..... Listed under: [Sound – Audio Projects](#)
715.  [3 wires interface for LCD display using Arduino](#) This post is based on the work made previously by tomek in wiring LCD displays using 4 bits. The basic idea is to group the 7 pins that are needed to drive the LCD in only 3 using a shift register. This is a cheap..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [LCD Projects](#), [Projects](#)
716.  [Arduino Witch Cauldron](#) This project consists of an interactive Arduino-based Halloween decoration referring to a witch cauldron. As you position your face in front of the cauldron and you get close, the eyes start moving around. At the same time, when there is very low light in the..... Listed under: [Other Projects](#)
717. [How to Input Text Into Arduino Project Using OLED Display and 5 Key Keyboard Module or Potentiometer](#) Every now and then you might be interested to input text to your arduino project. You can do it using Serial input but this would require Arduino to be always connected to a computer. In this tutorial I would show you how to implement text..... Listed under: [LED Projects](#)
718.  [Cheap working homemade arduino joystick](#) Hello everyone! Today I present you : Arduino Joystick! One day I was checking the inside of old joystick. System wasn't that hard to understand, so I thought of making my of system. The whole build is made only by me. I didn't check the..... Listed under: [How To – DIY – Projects](#), [Projects](#)
719.  [How to Make a Basic Ultrasensor Keyboard Prototype With Arduino](#) For this Instructable, I have made a primitive musical soundboard using an ultra sensor as a keyboard. Here I will show you the basic steps on how to create such a device yourself. Later on, in December, I will demonstrate to you how to make..... Listed under: [Sensor – Transducer – Detector Projects](#)
720.  [Artoo \[R2\] \(ATtiny2313 Wall Avoiding Robot\)](#) Since I had a lot of ATtiny2313s lying around I wanted to do something cool with them, I thought for a while and then decided to make a simple wall avoiding robot with the ATtiny2313, an ultrasonic sensor and 2 motors. Its an easy to..... Listed under: [Robotics – Automation Projects](#)
721.  [Pet Curfew: An Arduino Controlled Pet Door](#) The Problem: You want to restrict the time when your pet is allowed to go outside. This could be because the neighborhood is not safe for your cat or small dog at night (marauding coyotes comes to mind). But you would like your pet to..... Listed under: [Home Automation Projects](#), [Projects](#)
722.  [ir2110 circuit in proteus](#) ir2110 circuit in proteus ir2110 proteus library ir2110 arduino code ir2110 h bridge circuit here is the simple motor control circuit using H Bridge and ir2110 ic Components Required Simulation of three phase cascaded H-Bridge Multilevel Inverter <https://youtu.be/5j-u99DN9xM> Source: ir2110 circuit in proteus... Listed under: [Development Board – Kits Projects](#)
723.  [Garage Door Opener with iphone using Arduino](#) What do I need to start? The hardware requirements to start is: \*Note: where can I purchase the material with all the components to build myself the system: [http://iwup.altervista.org/shop/reference\\_list.pdf](http://iwup.altervista.org/shop/reference_list.pdf) 1.-) Arduino UNO with USB cable 2.-) Ethernet Shield Arduino 3.-) Relay (for arduino 5 V)..... Listed under: [Home Automation Projects](#), [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Phone Projects](#), [Projects](#)
724.  [Boost Converter Circuit in Proteus Using uc1845](#) This article is all about boost converter circuit, what is boost converter circuit and how it is useful in boost converter circuit .and its ic number. Keep reading if you want to know about boost converter circuit in proteus using uc1845 Boost Converter Circuit in..... Listed under: [Other Projects](#)
725.  [R/C LEGO® Car Redux](#) After I built R/C Lego Car, that used hacked motors and motor housings from the toy Car and toy R/C cars. I realized most of the parts from that toy R/C car that I took the motor out of became wasted. This way was not very..... Listed under: [Game – Entertainment Projects](#)
726. [Hercules: The Motion Controlled Android Robot using Arduino](#) When I was in the 8th grade, I was intrigued while playing the motion games on Nokia 5800. I was thrilled, how I could control the

-  racing car by only tilting the phone. I used to dream of making this same car in the real..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#), [Robotics – Automation Projects](#)
727.  [How to Simulate Arduino in Proteus](#) Hey, fellas I hope you are doing well and getting smarter every day. This post is about How to Simulate Arduino in Proteus, here we will see how we can simulate Arduino codes in Proteus. Arduino UNO is a popular development board based on ATMEGA 328P which is..... Listed under: [Other Project Ideas](#)
728.  [2-Player Pong Game with Arduino Uno](#) Classical Pong game implemented on an Arduino Uno using a PCD8544 LCD screen which is better known as the Nokia 5110 screen. Player bars are controlled by a potentiometer for each player. If you want the bar to go left, just turn the potentiometer left..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
729.  [what is proteus example circuits librarproteus software](#) In this tutorial, we have to learn about how to Circuit with a switch using DC Voltmeter using Proteus. Proteus and Simulation Software – Introduction What is Proteus? Proteus is a simulation and design software use for lab centre Electronic for Electrical and Electronic design circuits.. Proteus is the best..... Listed under: [Other Projects](#)
730.  [James – Your first Arduino Robot](#) Edit: Thank you so much everyone for voting for James in the Toy Contest! He got first place and I won a \$500 Shapeways voucher! Expect to see more robot instructables from me in the future! 😊 So you want to make a robot? Don't..... Listed under: [Robotics – Automation Projects](#)
731.  [Build a transistor circuit board for controlling Air Conditioner remote control with Arduino](#) I was supporting a group of student on their graduation project. One of the difficulties they faced was on controlling an A/C unit with Arduino microcontroller. The first experiment we tried to work it out was by record the A/C remote control beam signal for..... Listed under: [Home Automation Projects](#), [Projects](#)
732.  [100 Watt INVERTER circuit IC 4047 pinout proteus simulation](#) [otw\_is sidebar=otw-sidebar-1] Hi Guys! Hope you are fine. In this topic I will tell you how to IC Inverter using Proteus(INVERTER circuit in proteus). Let's start. 100 Watt INVERTER USING IC 4047 First of all we have to select the components from the library. The..... Listed under: [Other Projects](#)
733.  [uDuino: Very Low Cost Arduino Compatible Development Board](#) Arduino boards are great for prototyping. However they get rather expensive when you have multiple concurrent projects or need lots of controller boards for a larger project. There are some great, cheaper alternatives (Boarduino, Freeduino) but the costs still add up when you need many..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
734.  [Nokia Library For Proteus](#) In this lesson(Nokia Library For Proteus), I will show you how to build a simple Graphical User Interface with the help of the Nokia 3310 LCD. I will design a Nokia 3310 Menu interface with the used of Arduino. Nokia Library For Proteus Nokia 3310..... Listed under: [Phone Projects](#)
735.  [Mini Arduino environment monitor \\*\\* UPDATE – Added RTC \\*\\*\\*](#) This is an Example of how you can use the Arduino to monitor various environmental parameters And display them on a LCD screen. Note: I Added a Real Time Clock!! To see the steps, added parts and Sketch I added new steps.. Step 1: Parts List..... Listed under: [LCD Projects](#)
736.  [ARDUINO MEGA FOR BEGINNERS](#) In this post I will discuss about the detailed ARDUINO MEGA FOR BEGINNERS. In the previous post I have discussed about brief introduction of the Arduino MEGA there I have discussed about the Arduino MEGA board, specifications of the Arduino UNO, microcontroller IC on which Arduino UNO is..... Listed under: [Other Projects](#)
737.  [Micro LASER Show with a CD Lens Mechanism using Arduino](#) Hello! This is the cheapest and easiest way to make a two-dimensional laser show projector. It uses just one pivoting mirror, powered by the focusing mechanism from a CD or other optical drive. They said it couldn't be done, but Ljudmila's skunkworks GRL research facility..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c –ISP\) Project Ideas](#)
738.  [Introduction to Arduino Ethernet](#) In this post I will discuss about the Introduction to Arduino Ethernet. In the previous articles I have discussed different Arduino microcontroller development boards such as Arduino UNO, MEGA, NANO, PRO MINI, MICRO, Lilypad etcetera. All these Arduino boards resemble to each other in some..... Listed under: [Internet – Ethernet – LAN Project Ideas](#)
739.  [Stargate LED Lighted Necklace](#) Ever need to have a Stargate handy? You can wear one around your neck and have it at the ready. Ears starting to bleed from the volume of the music at the club or that Euro-chic clothing retailer outlet? Activate the Stargate to jump to..... Listed under: [LED Projects](#)
740.  [Arduino Duemilanove for Beginners](#) In this post I will discuss about the Arduino Duemilanove which is one of the microcontroller development boards among other Arduino Boards. In the previous posts I have discussed the Arduino UNO, MICRO, PRO MINI, MEGA and other popular Arduino microcontroller development boards. This article..... Listed under: [Development Board – Kits Projects](#)
741.  [Twitter Mood Light using an Arduino](#) How's the world feeling right now? This box tells you. Powered by: an Arduino, a WiFly wireless module, an RGB LED, Twitter.com and a 9v battery. I'm a news junkie. I want to know everything that is going on in the world as soon as it happens. I want to wake up and..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
742.  [Bootload an Arduino with a ZIF Socket](#) Bootloading an Arduino with a ZIF socket allows you to easily program a lot of chips at once without worrying about mangling the pins. The reason for this is that ZIF stands for "zero insertion force," and as the name implies, ZIF sockets don't require..... Listed under: [Projects](#), [RTOS – OS Projects](#)
743.  [Top 10 Best Simulators for Arduino](#) In this post I will discuss about Top 10 Best Simulators for Arduino. The most popular software for simulating the circuits and embedded systems based on the Arduino microcontroller development board. In

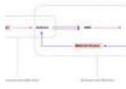
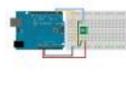
my previous posts I have discussed and involved the simulation of the Arduino..... Listed under: [Development Board – Kits Projects](#)

744.  [Designing and building an synthesizer with Meeblip and Arduino, added videos!](#) For my internship at Create Digital Music/Meeblip I've created quite a fun little synthesizer. This thing is meant to be more flexible than other synthesizer by making it completely independent; it is battery powered, has its own amplifier/speaker and is controlled by a manually operated sequencer. Inspiration..... Listed under: [Sound – Audio Projects](#)
745.  [Arduino V-USB / HID 14 channel data logger](#) UPDATE: Please see Addendum 2 at the end of this article for an Excel automatic logging implementation. There are several good articles on Instructables about building your own Arduino. Depending on your horde of electrical parts, you may be able to build an Arduino clone..... Listed under: [Interfacing\(USB – RS232 – I2c –ISP\) Projects, Projects](#)
746.  [Smart Home Control System With Touch Screen](#) In this project, I have shown how to make a Smart Home Control with Arduino Uno and Nextion touch screen to control door lock system, temperature and daytime monitoring. During the article, I have shown all the steps to make this smart home system. This..... Listed under: [Other Projects](#)
747.  [Resistor Color Code Calculator with Arduino](#) This is a 4 band Mechanical Color Code Resistor Calculator, The idea of making this Mechanical Resistor came when I accidentally dropped my box of resistors and all resistors (1300 of them) got mixed up. oops! . Thank god there's an APP for that, So..... Listed under: [Calculator Project Ideas](#)
748.  [The Arduino Internet Gizmo](#) The Arduino Internet Gizmo is a USB, Arduino, and RFID device for web surfing. The gizmo works by placing an RFID tag on the top of the gizmo. The gizmo reads the RFID tag and sends the tag number via USB to a program running..... Listed under: [Internet – Ethernet – LAN Projects, Projects](#)
749.  [3D Printed Holo Clock With Arduino](#) Hello everyone! This is my first instructable. This project is a 3D printed clock powered by a stepper motor and is controlled by an Arduino Uno. It was designed in OnShape over the course of a month. It keeps time very precisely and only needs..... Listed under: [Clock – Timer Projects](#)
750.  [Arduino Motors and Transistors](#) This week, we'll finally be using the Arduino to control some motors! First up, we'll control a standard DC motor running off a 9V battery with the help of an NPN transistor and a PWM (Pulse Width Modulated) signal from the Arduino. [box type="note" color="..... Listed under: [Motor Projects, Projects](#)
751.  [Oscilloscope / Logic Analyzer using Arduino](#) One of the frustrating things about developing and debugging electronic circuits is that you can't look inside the circuit to see what is happening. Even with a circuit laid out before you on a workbench and powered up it may seem like you're in the..... Listed under: [Other Projects](#)
752.  [ClimSensio – Climate Sensing and Insect Infestation Control](#) Climate Change, a highly debated high school topic, but do we really care about it? We see politicians, scientists, researchers, philanthropists, conservationists and almost everyone blaming each other for every climate catastrophe occurring today. The real question is what climate change or change are we..... Listed under: [Solar energy project Ideas](#)
753.  [Arduino Memory Game](#) Background This is a project that was started 2 years ago which I recently decided to pick up again and finish. The purpose of the product is to test a person's ability to memorize patterns. It does this on a 2x2 button layout where the user must replicate the LED pattern that..... Listed under: [Game – Entertainment Project Ideas](#)
754.  [Digital Book Cricket Game with ATtiny 85 using Arduino](#) The project described here is a digital implementation of "book cricket game" which Indian students normally use to play in their childhood time. The heart of the project is 8 bit MCU from AVR family called ATtiny85. ATtiny85 are small and cheap microcontrollers which are..... Listed under: [Game – Entertainment Projects, Projects](#)
755.  [Arduino Weather Station Part2](#) So my last project was a Arduino wind chill machine. <http://www.instructables.com/id/Arduino-Wind-Chill-Machine/> Naturally, this Lazy Old Geek wanted to add a weather vane (wind direction) to my weather station. Who cares, you may ask? Well, I am a Geek. Actually, wind direction has some importance. Here..... Listed under: [Arduino Programmer Projects, Projects, Security – Safety Project Ideas, Sensor – Transducer – Detector Project Ideas](#)
756.  [DIY Hot Plate With Arduino Temperature Sensor](#) Hello, everyone, in this instructable I will show you how to make the most useful a DIY enthusiast must-have in their workshop; a hot plate for SMD reflow soldering using a Thermocouple sensor controlled by an Arduino nano to monitor the temperature! Keep reading to..... Listed under: [Temperature Measurement Project Ideas](#)
757.  [Interactive Arduino Powered Coffee Table](#) One quick fore note: this is my first Instructable and my first large Arduino project, so if you see any stupid errors or have an idea of how things could be done better, then please let me know. Now that that's out of the way I'll begin, I..... Listed under: [Game – Entertainment Projects, Home Automation Projects, LCD Projects, LED Projects, Projects, Sound – Audio Projects](#)
758.  [Rainbow Knotted LED Snow Globe](#) My purpose for this project was to take a knot and "show" its construction by tracing its path. It was only through happenstance that I discovered my chosen medium (2 metres of NeoPixel LED lights) fit so well with Adafruit's snow globe. You might choose..... Listed under: [LED Projects](#)
759.  [Light Palate–Selective Lighting for Your Next Feast](#) The permutations that fine food has gone through in the last 20 years has been quite amazing. Every nuance has been tweaked and romanced over. Growing up in the midwest where food was taken in merely to prevent bodily collapse until that one day when..... Listed under: [Other Project Ideas](#)
760. [Larson Scanner with Relay Module using Arduino](#) This time I'll show how I used an Arduino to control a relay module with eight channels. Arduino in offers several advantages such as: - Open

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

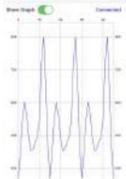
-  solution that allows a user to have up to 4096 button inputs using only 4..... Listed under: [Other Project Ideas](#)
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778.  [TSA Zombie Scanner Security Wand](#) Not even Zombies are exempt from a good pat-down. Scanner security wands are used at the most exclusive nightclubs and venues. Does not detect metal to indicate a presence of weapons but will indicate the lack of a soul which means a more rigorous body..... Listed under: [Security – Safety Projects](#)
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779.  [Automated Bioactive Tropical Reptile Vivarium \(using Arduino\)](#). I have multiple bioactive tropical vivariums for my crested geckos, and I always need to spray them morning and night, as well as when the humidity is too low (which happens multiple times per day), and I have to turn on and off the lights..... Listed under: [Other Project Ideas](#)
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780.  [Android-Controlled Pneumatic Cannon Powered By Arduino](#) Every summer, Qualcomm hosts a Battle of the Schools competition, which gives employees the opportunity to represent their home universities. This year, entries were to be homemade contraptions, and they were judged according to how cool they were perceived to be. Virginia Tech's cannon project..... Listed under: [Arduino Android, Internet – Ethernet – LAN Projects, Projects](#)
- 
781.  [IR Remote Agent using Arduino](#) Remote control is almost a standard accessory for most home applications, like TV, Hi-Fi, air conditioner and so on. Though remote control brings us leisure, when you really need it but have completely no clue where it is, or which one it is, you have..... Listed under: [Arduino Android, Internet – Ethernet – LAN Projects, Projects](#)
- 
782.  [Sliderpusher for Digital Painters](#) No it's not a name for some obscure industrial goth band... though that would be sick af! Anyway, If you ever used a graphics tablet to draw, paint or sculpt, you know how awkward it can be to click and drag something precisely with a..... Listed under: [Other Projects](#)
- 
783.  [Making Music with Makeblock](#) Makeblock is an aluminum extrusion based construction system that provides an integrated solution for aspects of mechanics, electronics and software design. With Makeblock you can make professional robots, toy machines or even art-ware. It's super easy-to-use and helps bring your creations to life. The only..... Listed under: [Sound – Audio Projects](#)
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784.  [First Ever Bluetooth Home Automation Shield for Arduino](#) This is my first instructable post, and it is about the Home Automation shield for Arduino that I have created. A little about myself my name is Krrish. I am 16 years old and currently in my senior year of high school. I love making..... Listed under: [Home Automation Project Ideas](#)
- 
785.  [How to use an array with Arduino](#) This variation on the For Loop example shows how to use an array. An array is a variable with multiple parts. If you think of a variable as a cup that holds values, you might think of an array as an ice cube tray. It's like a series..... Listed under: [How To – DIY – Projects, Projects](#)
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786.  [Reading RFID Tags with an Arduino](#) In this project, you'll learn to read an RFID tag using the Innovations ID-12 reader and an Arduino Duemilanove. Step 1: Let's Get Started! We'll be using the ID Innovations ID-12 to perform the task of reading an RFID tag. At a minimum, it requires..... Listed under: [Arduino RFID Project Ideas, Ideas](#)
- 
787.  [Arduino MKR IoT Carrier As a Game Console](#) In this instructable I'm exploring the capabilities of the MKR IoT Carrier as a game console. The Carrier has everything and a bit more you need for a proper game console. [https://youtu.be/\\_t40IsB9nrk](https://youtu.be/_t40IsB9nrk) A really cool circular colour display, width 256 pixels. Five touch buttons. Five RGB..... Listed under: [Game – Entertainment Project Ideas](#)
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788.  [Driving two Nixie tubes with an Arduino via a shift register and two SN74141s](#) Nixie tubes are really cool looking and are becoming quite popular for their 'retro' look. Although there are a number of tutorials out there on using nixie tubes and some nice pre-packaged units (see these nice ones from ogi lumenand ArduiNIX) I hadn't seen a simple tutorial..... Listed under: [Development Board – Kits Project Ideas](#)
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789.  [Arduino Based LED City Model \(with Temperature Sensor\)](#) everything is boring without LEDs, so lets make a city out of it! Basic Idea: so we build a City mode out of cardboard, then illuminate it with a LOT of RGB LEDs and let the temperature of color change according to room temperature using..... Listed under: [LED Projects](#)
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790.  [Play a Melody using the tone\(\) function with Arduino](#) This example shows how to use the tone() command to generate notes. It plays a little melody you may have heard before. Circuit image developed using Fritzing. For more circuit examples, see the Fritzing project page Connect one terminal of your speaker to digital pin 8 through..... Listed under: [Projects, Sound – Audio Projects](#)
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791.  [Color Smoke Bubble Machine \(For Kids Safe Incense Smoke\)](#) Bubbles are always like by all ages. Its fun to see smoke filled bubbles. But color smoke using potassium nitrate are not advice to inhale. Also color from smoke fireworks also not safe for kids so if use smoke fire works dont allow the kids..... Listed under: [Other Projects](#)
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792.  [Arduino Web Enabled RGB Lighting](#) I just happened to see some large strips of LED lighting when I was picking up some parts at Maplin which were on sale (if I remember correct they were around £12 per approx. 2m strip) however the controller/driver was still around £40, so I..... Listed under: [LED Projects](#)
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793.  [Programming a ATtiny2313 with Aceduino](#) What is an ACEDUINO? It is the Philippine Arduino clone. See pic 2 and 3. Quote from Fall Electronics: If you have already tried you have found out you can't use the ATTiny chips in Arduino. This is because it doesn't have the cores for..... Listed under: [Arduino Programmer Projects, Projects](#)
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794.  [PC Palette – a Macro Keypad With Limitless Possibilities](#). Do you edit? Do you design? Do you Game? Do you use a computer? Well the PC Palette perfectly fits your needs, be it editing, be it designing, be it gaming or even just using a

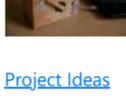
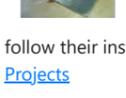
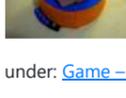
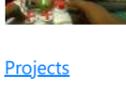
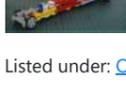
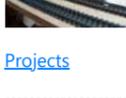
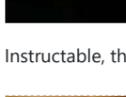
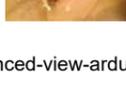
computer this accessory can help you do your work..... Listed under: [Game – Entertainment Projects](#)

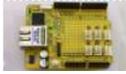
795.  [Make a Mini LED Siren powered by Arduino](#) This is one of the first projects I have made with Arduino. It's a little siren with a LED that fades and blinks on and off. It demonstrates basic use of LEDs and speakers. Also check out this article: 8-Pin Programming Shield Constructive criticism is..... Listed under: [Arduino LED Project Ideas](#), [Ideas](#), [Sound – Audio Project Ideas](#)
796.  [Simple 18dof Hexapod, Arduino nano \(optionally with pololu maestro\)](#) Hello, Here is a simple hexapod that can be built by hand very quickly. The mechanical design is not great, but it is very much in the KISS (keep it stupidly simple) style and should be doable in a weekend for builders of novice to..... Listed under: [Other Projects](#)
797.  [Table Tennis Bat With Machine Learning AI \(Arduino Nano 33 BLE Sense + TensorFlow Micro\)](#) Since the pandemic started, me and my housemates bought a Table Tennis table and started playing a lot of Table Tennis. I made this project so that I could monitor and test how well I perform my shots based on what the device is telling..... Listed under: [Game – Entertainment Project Ideas](#)
798.  [A watering controller that can be home networked using an Arduino](#) A couple of weeks ago, I published a great little controller module that provided 6 relays able to be controlled from a computer via a network. After I published it, I got to thinking that the same basic design, with a couple of changes could..... Listed under: [Home Automation Projects](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
799.  [DIY ESP32 Wifi Self Balancing Robot – B-Robot ESP32 Arduino Programing](#) <https://youtu.be/tZynlj1StpM> This article is proudly sponsored by PCBWAY. PCBWAY make high quality prototyping PCBs for people all over the world. Try it for your self and get 10 PCBs for just \$5 at PCBWAY with very great quality, Thanks PCBWAY. The ESP32 Balancing Robot Shield..... Listed under: [Robotics – Automation Projects](#)
800.  [Hourglass Using Arduino](#) In ancient times people used Hourglass to measure the passage of time. Hourglass is a simple device that consists of two glass bulbs that are connected vertically with a narrow neg and that allows the flow of sand or fluid from top to bottom. most..... Listed under: [How To – DIY – Projects](#)
801.  [3D Printed Arduino Controlled Eggbot/Spherepot](#) First off this project was a combination of two great online resources. I had been looking into building an eggbot for a while and since I had a lot of ping pong balls on hand after one of my other videos the time was right for..... Listed under: [Robotics – Automation Projects](#)
802.  [TDS Measuring in Aquarium](#) I have an idea to build a smart aquarium by improving my fish tank. It sounds very difficult for it: monitoring the water, automatic water changing, automatic feeding and so on. these are the functions that the smart aquarium required. Now I plan to do..... Listed under: [Temperature Measurement Projects](#)
803.  [Arduino – Simple Simon Says Game](#) In this instructable, I will show you how to make a simple Simon Says Game using an Arduino. it's not just simple but we can get a psychological benefit. I have a bad memory to remember something fast or a new things. So this project..... Listed under: [Game – Entertainment Projects](#)
804.  [Climate | Material | Machine](#) <https://youtu.be/TQm3vCLWM7Y> This project was completed by Alexandra Pittiglio, Christelle El Feghali and Christian Steixner for our Computational Design and Digital Fabrication 'Material Manipulation Machine' Project, Semester 2, ITECH M.Sc Programme Step 1: Concept How can the material and machine be one entity We wanted to..... Listed under: [CNC Machines Projects](#)
805.  [The LED Blinky ball using Arduino](#) Update: I'll add some clarifications after reading comments on various forums. It doesn't need a 70Mhz ARM CPU, all it does is shift bits into a shift register, that'd be a total waste. There aren't 16 CPU's. the slices are designed to be either slave..... Listed under: [LED Projects](#), [Projects](#)
806.  [Drive a webpage in real-time using Arduino, SensorMonkey and Processing.js](#) Remote visualization of real-time sensor data. This tutorial describes in detail how to use the free SensorMonkey service to push real-time sensor data from an Arduino to a webpage for visualization using Processing.js. No server-side coding or Ethernet shield is required. A standard, run of the mill..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)
807.  [P-CNC Plotter Disguised As a Quadruped Robot](#) This is my P-CNC plotter which is laid out and disguised as a quadruped robot. Today, I'd like to share how I made it. It was quite simple, no 3D printer required, just need my meticulousness, care and a little patience. Please check the brief..... Listed under: [Robotics – Automation Projects](#)
808.  [Google Play Music Internet Radio \(Raspberry Pi and Arduino\)](#) I was looking for a project to do with my Raspberry Pi and found thisInstructable and thought I would have a go at something similar which worked with Google Play Music. I had a rough idea of what I wanted the final item to end up like and was..... Listed under: [Radio Projects](#), [Sound – Audio Projects](#)
809.  [Display Your Photo on OLED Display](#) The tiny 0.96 inches OLED display is the most popular among the Arduino fraternity for displaying data like room temperature, humidity, and text messages. Have you ever thought of displaying your own photo on the display! Yes, it's possible. In this Arduino-based project, we learn..... Listed under: [LED Projects](#)
810.  [Memsic 2125 Accelerometer using Arduino](#) The Memsic 2125 (datasheet) is a two-axis accelerometer capable of measuring acceleration up to plus or minus 2g. It has a simple digital interface: two pins (one for each axis) emit pulses whose duration corresponds to the acceleration of that axis. By measuring the length..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
811.  [FOOT PEDAL ACTIVATED WATER TAP](#) Greetings everyone! We hope you are in good health. We live in a world where any form of physical contact between two human beings is starting to pose serious health issues. Keeping this in mind, a while ago, we had worked on an automatic water..... Listed under: [Sensor – Transducer – Detector Projects](#)

812.  [R/C LEGO® "The Bull" Buggy](#). There are more than 20 models of LEGO®'s Dune Buggy type car, even more than the models in LEGO® Race Car category. Dune Buggy is usually four wheels drive off road vehicle, which would not be used on the road. Now that I got excited on..... Listed under: [Game – Entertainment Projects](#)
813.  [Arduino Esplora Microphone \(Sound Sensor\)](#). This sketch shows you how to read the microphone sensor. The microphone will range from 0 (total silence) to 1023 (really loud). It uses the sound level to set a brightness level for the green LED. When you're using the sensor's reading (for example, to..... Listed under: [Projects, Sound – Audio Projects](#)
814.  [Pinewood Derby Car Scale With Center-of-Gravity \(CG\) Calculation](#) A key factor when building a pinewood derby car is its weight. The Boy Scouts of America and other organizations specify a weight of no more than 5 ounces. To improve performance many builders will add as much weight (mass) as possible up to that..... Listed under: [Calculator Projects](#)
815.  [Beach Buddy: 3-in-1 Solar Phone Charger, Boombox, and Sunburn Timer Calculator](#) Imagine the ideal beach trip. The sun is shining, the skies are blue, the water is warm, and the humidity is low. You and your friends have everything you need to soak up the sun, sand and surf: a cooler filled with drinks and snacks,..... Listed under: [Battery Projects, Solar energy projects](#)
816.  [Electronic Dice With Arduino Nano](#) The electronic dice presented here, built around a tiny Arduino Nano board, mimics the dice we play in different games like snake and ladders the most popular. Plastic and wooden dice are subject to wear and tear with time and might show biasing toward a specific number..... Listed under: [Game – Entertainment Projects](#)
817.  [Add Linux, WiFi, Ethernet and USB to Arduino](#) Web site: <http://www.dragino.com/products/yunshield/item/86-yun-shield.html> Project Summary: The model of this shield named Yun Shield, the feature of this shield is as its name. User can add this shield into Arduino (Leonardo, UNO, MEGA2560 etc) and "turn" the Arduino into device which has similar features as Arduino..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Internet – Ethernet – LAN Projects](#)
818.  [Bike Turn Signal & Brake Light Handlebars](#) This project was inspired by a very cool kickstarter called Helios Bars. Essentially what this project does, is put an arduino, LEDs, and buttons into your bike handlebars. The LEDs can be used as turn signals, brake lights, or display ambient colors while riding. It's..... Listed under: [Car Projects, LED Projects](#)
819.  [Blood Oxygen Heart Rate Meter](#) This instructables show how to use MAX30102, XIAO and a tiny display to build a blood oxygen and heart rate meter. Step 1: Sensor & Algorithm This project use Maxim Integrated MAX30102 Biosensor to detect pulse oximeter and heart rate. However, the official sample is..... Listed under: [Metering – Instrument Projects](#)
820.  [A Robotic lawn mower powered by Solar Energy with an Arduino heart](#) This robot will mow the grass of your garden, staying within a defined area, avoiding all obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with solar energy and able to..... Listed under: [Robotics – Automation Project Ideas, Solar energy projects](#)
821.  [Paddle for People With Limb Differences and Agenesis to Play Flute](#) In France and some other countries playing the flute is included in music lessons at school. This project is to share a possible solution for children or music lovers with limb differences and agenesis to play flute. Basic Idea: Use an Arduino board to make..... Listed under: [Sound – Audio Projects](#)
822.  [Arduino Control via a Web Service with Teleduino](#) Convert your Arduino into a sophisticated web control platform using Teleduino. Teleduino is both a product and a service. Once the Teleduino sketch has been loaded on your Arduino (the 'product'), it then connects to the Teleduino server awaiting your instruction from anywhere in the..... Listed under: [Ideas, Internet – Ethernet – LAN Project Ideas](#)
823.  [Arduino based Graph](#) This example shows you how to send a byte of data from the Arduino to a personal computer and graph the result. This is called serial communication because the connection appears to both the Arduino and the computer as a serial port, even though it..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects, Projects](#)
824.  [How to Make Powerfull Laser Engraver](#) Hello Guys Whats up, In this instructable, I am making an Awesome mini laser engraver from old DVD writers. It's very interesting project for any electronics hobbyist & Engineers. You can use this laser engraver machine to make any kind of design, logo, art on..... Listed under: [CNC Machines Projects](#)
825.  [Hexapod: tiny hexapod 3D printed, Arduino controlled](#) A few time ago, i found out a 3d printed Micro-Hexapod on Thingiverse. I started to work on it in the following ways: - create new accessories/components 3D printable - explore the possible ways to drive this hexapod. Here the results: - a parametric battery holder that fits..... Listed under: [Arduino Programmer Projects](#)
826.  [Arduino Based Counting Tree for Children](#) Counting can be a fun task for young children. Children as young as two may start saying numbers in no particular order. A lot of parents start teaching their kids numbers by counting objects around their home. For example, snacks could be counted as the..... Listed under: [Other Projects](#)
827.  [DIY Binary Clock with Arduino](#) Yesterday I was going to start watching a movie, when me and my friend pedro decided to give up on the movie and build a binary clock. After sometime thinking on how to program it, we made it. It works beautifully, so I decided to show here..... Listed under: [Clock – Timer Projects, How To – DIY – Projects, Projects](#)
828.  [Arduino stepper motor and servos shield](#) This instructable will show you show to build an Arduino shield which can be used to control 3 servos and 1 stepper motor using 4 potentiometers. You will need: access to a laser printer/cnc router/etching chemicals 7 x 3 pin 3.5mm terminal blocks 2 x..... Listed under: [Motor Projects, Projects](#)

829.  [How to Drive 4-Digits Seven Segment With Arduino Using Just 3 Pins](#) Hello every body, Welcome to this tutorial. In this tutorial we gonna talk about How to drive a 4-digits 7segment with Arduino using minimum pins. To do this we are going to use very popular IC called 74HC595. It's a 8-bits shift register that has..... Listed under: [Other Projects](#)
830.  [Track-and-explode wolf collar...](#) Don't worry! First, this is a rebuild out of a movie so it won't explode for real and it won't be worn by a real wolf. However there is fursuiting for which I am a big fan of and my own character (fursona) is a..... Listed under: [Game – Entertainment Projects](#)
831.  [Aquarium Light V1](#) Version 0 My first attempt at an LED Aquarium light started as an excuse to buy some of those LED light strips off of eBay. I gutted the old 18" fluorescent fixtures and soldered together row after row of 18" RGB LED strips. They mounted..... Listed under: [Home Automation Projects](#)
832.  [Basic Arduino MIDI Arpeggiator](#) In this instructable I will show you how to make a basic MIDI instrument using an Arduino Uno. This instrument plays three notes (a triad) in a row. Using the different potentiometers, you can move up and down the notes as well as up and down..... Listed under: [Other Projects](#)
833.  [Super Brite LED Sneakers 1.0 using an Arduino](#) Create your own Super Bright LED-lined sneakers that blink with multiple patterns. 1.0 FEATURES: - 1 color LEDs - 6 patterns - reed sensors + magnets that give you control to step through patterns - detachable velcro design - small, wearable microcontroller + power Step..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
834.  [Control Android mobile by an Apple Remote using Arduino](#) I love to integrate devices which are not supposed to be integrated and this guide shows you how you can control an Android mobile using Apple's Remote. (Who said Apple devices work only with Apple products 😊 ) Also this is my entry to the..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
835.  [DIY ESP32 Security CAM](#) Hey guys and welcome back, <https://youtu.be/cb393Lbfjx4> This is my DIY Security Cam which is made from an ESP32 connected with a 5V Charger circuit that converts 240V AC into 5V DC for ESP32 to run. The goal for making this project was to make a..... Listed under: [Security – Safety Projects](#)
836.  [Psychic Fortune Teller – An automaton that reads the mind of Twitter](#) Creepy fairground attraction and Twitter App! The Psychic Hive-Mind Fortune Teller is a fairground arcade-type attraction which can tell your fortune. Even better than that though - it's also a web-connected Twitter application that can harvest tweets and regurgitate them as fortune readings! The Fortune..... Listed under: [Internet – Ethernet – LAN Projects](#), [Robotics – Automation Projects](#), [Sensor – Transducer – Detector Projects](#)
837.  [Bike Dashboard](#) In this Instructable I'll show you how to make a electronic dashboard for a bicycle. We'll be using an Arduino and a few off-the-shelf parts to create a system with light control and an LED speedometer. Step 1: Materials Arduino Micro (RadioShack #: 276-258) 12V..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#)
838.  [Miter Saw Measuring Device](#) Some of my favorite projects are making tools that I can use with other hobbies. I am not a master woodworker by any stretch, but I do enjoy it and have created several jigs with my 3D printer that have been useful. If you use..... Listed under: [Temperature Measurement Projects](#)
839.  [Game maker Rover using an Arduino](#) In this Instructable I will be giving you step-by-step instructions on how to interface The Arduino, A Motor Controller (L293D), and a laptop to make a Wifi controlled rover you can drive around your house or work from anywhere in the world. I started and..... Listed under: [Game – Entertainment Projects](#), [Projects](#)
840.  [Medicine Safe](#) <https://youtu.be/Xhga17ytQ4> We created this project for MSReva as an assignment from school. Supplies Laser or print all parts (see github): printed parts: 1x: 14 lock pin sleeve large 1x: 15 lock pin sleeve smal 1x: 17 lock counter pin 1x: 18 pin shooter 14x: 19 tray..... Listed under: [Security – Safety Projects](#)
841.  [Star Wars Adafruit Flora Theremin LED Bra](#) Use the force, Luke. Close your eyes, hold on tight to your light saber and..... Don't touch that dial. No tweaking the knobs. Just wave your hands in front of the two sensitive sensors embedded in this bespoke piece of wearable tech. The garment has..... Listed under: [Game – Entertainment Project Ideas](#)
842.  [IoT Demo](#) The following model was created as a teaching aid for a demonstration of IoT concepts. The associated PowerPoint is attached to the end of this Instructable. This Instructable will cover: Creating the Telegram chat group and associated bot.Programming the ESP32.Building the model and electronic circuit..... Listed under: [Other Projects](#)
843.  [Bluetooth Controlled Message Droid using Arduino](#) This is an instructable for a bluetooth controlled Message Droid. I call it R2Blue2. It moves around and displays messages that you type using your phone or computer. Atleast it was supposed to. Due to many problems such as underpowered batteries and bad cable management..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
844.  [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](#)
845. [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](#)

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846.  [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](#)
847.  [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](#)
848.  [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](#)
849.  [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](#)
850.  [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](#)
851.  [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](#)
852.  [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](#)
853.  [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](#)
854.  [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](#)
855.  [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](#)
856.  [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](#)
857.  [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](#)
858.  [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](#)
859.  [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](#)
860.  [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](#)
861.  [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](#)
862.  [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](#)
863.  [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](#)
864.  [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](#)
865.  [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](#)
866.  [Arduino \(an Arduboy Compatible Clone\)](#) 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](#)
867.  [Lite Brite LED clock using an Arduino](#) Lite Brite pegs look like LED's don't they? That's what I thought 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](#)
868.  [Cheapest Plug & Play Room Automation Setup](#) There 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](#)
869.  [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](#)
870.  [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](#)
871.  [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](#)
872.  [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](#)
873.  [Arduino Game Controller for Both PC and Android](#) In this instructables session we are going to see . How to make your joystick . Which is compatible for PC, Laptop , Smart Phone . By Using UnoJoy Library. With this library we can convert a arduino uno into USB game Controller . People..... Listed under: [Game – Entertainment Projects](#)
874.  ["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](#)
875.  [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](#)
876.  [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](#)
877.  [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](#)
878.  [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](#)
879.  [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](#)
880.  [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 of uses for..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
881.  [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](#)
882.  [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](#)
883.  [Self-balancing skateboard/segway project Arduino Shield](#) General purpose Arduino shield for self-balancing machines. Why did I make it? I previously made an Instructable in 2010 on how to build a self-balancing skateboard. <http://www.instructables.com/id/Easy-build-self-balancing-skateboardrobotsegway/> There are >500 comments on this and many express confusion setting up the balance sensors, software and electronics..... Listed under: [Development Board – Kits Projects](#)
884.  [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](#)
885.  [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](#)
886.  [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](#)
887.  [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](#)
888.  [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](#)
889.  [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](#)
890.  [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](#)
891.  [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](#)
892.  [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](#)
893.  [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](#)
894.  [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](#)

- 895.  [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](#)
- 896.  [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](#)
- 897.  [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](#)
- 898.  [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](#)
- 899.  [EDISON Radio](#) This project is bases on the internet radio by Ed Smalenburg. 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](#)
- 900.  [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](#)

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