


Use Arduino for Projects


Advanced View Arduino Projects List

List of Projects using arduino with advance view:


1.




[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](#)
2.




[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](#)
3.




[A Facebook-Connected, Arduino-Powered Music Party](#) Music party is a new way to listen to music with others. By tapping an RFID/NFC device that is synced to a Facebook account on an Arduino RFID reader shield and sending that unique ID to Music Party server using the Arduino WiFly shield, we..... Listed under: [Internet – Ethernet – LAN Projects](#), [Sound – Audio Projects](#)
4.




[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](#)
5.




[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](#)
6.




[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](#)
7.




[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](#)
8.




[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](#)
9.




[Burning the Bootloader on ATmega328 using Arduino UNO as ISP](#) I had one remote controlled project that needed an Arduino running 24/7 but I didn't want to leave my \$32 Arduino UNO, so I decided to buy some pieces and created my own Arduino. The most important part was buying the microcontroller. These were my..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
10.




[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](#)
11.




[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](#)
12.



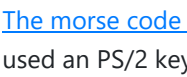
[Arduino camera Lens Controller](#) My Lumix GH2 Micro Four Thirds camera not only shoots fantastic high definition videos, but with inexpensive adapters I can use it with older manual lenses that are cheap and often very high quality. I shoot a lot of performance videos for my daughter's dance studio, and I..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
13.





















[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](#)
14.





[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](#)
15.




[The morse code generator by a PS2 keyboard using Arduino](#) Hi, all! Today I'm trying to explain you my last project: "The morse code generator by a PS2 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](#)
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16.  [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](#)
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17.  [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](#)
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18.  [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](#)
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19.  [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](#)
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20.  [Interface Arduino to MySQL using Python](#) Here's a brief tutorial that should get you up and running interfacing your Aduino with a MySQL database. For the sake of this tutorial, I am assuming you know how to set up and use MySQL. This tutorial does not require much Python experience, but..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Internet – Ethernet – LAN Projects](#)
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21.  [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](#)
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22.  [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](#)
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23.  [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](#)
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24.  [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](#)
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25.  [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](#)
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26.  [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](#)
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27.  [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](#)
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28.  [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](#)
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29.  [Starting with robotics \(Arduino\)](#) Starting with robotics can be hard, if you don't know where and how to start. Best way to start is to make mobile robot. In this step-by-step we will show you, how to make cheap robot with parts available in your local store and household..... Listed under: [Robotics – Automation Projects](#)
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30.  [Compact 3-in-1 Stripboard DIYduino with Integrated Sensor and L298N Motor Shield](#) I am presenting a compact design of a stripboard Arduino board (DIYduino) that includes a 2A motor driver and has additionally the functionality of a sensor shield. The 2-channel version cost approximately \$29.43 and is more affordable compared to \$39.00 for a commercially available system..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Motor Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
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31.  [Rainbow Word Clock using Arduino](#) At long last I have managed to finish the Rainbow Word Clock! Once again, this one was inspired by Doug and his creations <http://www.instructables.com/id/The-Wordclock-Grew-Up/> I have a fixation with RGB LED's at the moment and I wanted to do something a little different. So, while it..... Listed under: [Clock – Timer Projects](#), [Projects](#)
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32.  [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](#)
-
33. [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](#)
34.




[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](#)
35.




[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](#)
36.



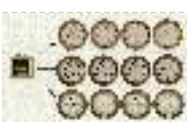
[Arduino powered Solar Battery Charger](#) The following design is for a Solar battery charger ran by an Arduino Nano. It can handle a standard lead acid 12V battery, like for a scooter or a car. Furthermore the design has been tested and runs with 90% efficiency under 70°C (158°F). It..... Listed under: [Battery Projects](#), [Solar energy projects](#)
37.




[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](#)
38.




[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](#)
39.




[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](#)
40.




[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](#)
41.




[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](#)
42.




[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](#)
43.




[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](#)
44.




[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](#)
45.



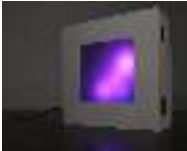
[Put a Cylon in it!](#) Last year the comedy sketch show 'Portlandia' made fun of an arts and craft trend, where craft artists would take ordinary items and 'put a bird on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and..... Listed under: [LED Projects](#)
46.




[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](#)
47.




[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](#)
48.





















[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](#)
49.


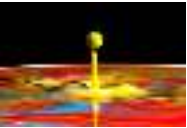













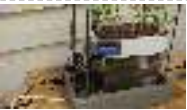



[64 pixel RGB LED Display – Another Arduino Clone](#) This display is based on an 8x8 RGB LED Matrix. For testing purposes it was connected to a standard Arduino board (Diecimila) using 4 shift registers. After getting it to work I permatized it on a fabbed PCB. The shift registers are 8-bit wide and..... Listed under: [LED Projects](#), [Projects](#)
50.



[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](#)


51.  [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 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](#)
52.  [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](#)
53.  [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](#)
54.  [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](#)
55.  [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](#)
56.  [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](#)
57.  [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](#)
58.  [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](#)
59.  [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](#)
60.  [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](#)
61.  [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](#)
62.  [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](#)
63.  [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](#)
64.  [Arduino Servo Basic Code](#) In arduino projects, you might add servo to your projects. This short tutorial, show you the basic how arduino and servo works together. Instruction; 1) Connect all jumper wire as shown in diagram. 2) Connect the signal wire from servo to digital pin 9..... Listed under: [Motor Projects](#), [Projects](#)
65.  [Arduino EMF Detector](#) Here's a small, quick project you can do with an arduino, the EMF Detector! Step 1: Circut All you need for this project is 10- 330 ohm resistors 10- LED's 1-3.3m resistor 1-Solid core wire (this will serve as the probe) breadboard, wires, battery &..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
66.  [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](#)
67.  [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](#)
68.  [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](#)

69.  [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](#)
70.  [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](#)
71.  [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](#)
72.  [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](#)
73.  [How to use a 1602 16X2 LCD display with Arduino, TI Launchpad, and standalone MSP430 video instructions](#) I show how to use a standard 16X2 LCD display in three different use cases. 1. With an Arduino Uno 2. With a TI Launchpad MSP430 running Energia 3. Directly on a breadboard on an MSP430G2553 running Energia This LCD display is low cost -..... Listed under: [LCD Projects](#), [Projects](#)
74.  [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](#)
75.  [Home automation system using Arduino and SIM900 GSM module](#) Hi there! As I've almost finished my studies at Faculty of Engineering, I had to make a graduation project and my thought was to make a jaw-dropping thing (I know that's hilarious 😊) to show everybody that I'm a good prototype maker and I..... Listed under: [Home Automation Projects](#)
76.  [How to control 8 leds using Arduino UNO](#) hey guys this is my first arduino project plz comment how u feel. Step 1: Things u need As this is easy project for beginner's so parts are also simple Parts: 1- Arduino uno or any other board will work 1-Beardboard 9- jumper wires or..... Listed under: [LED Projects](#), [Projects](#)
77.  [Arduino LED Bar Graph Code](#) The bar graph - a series of LEDs in a line, such as you see on an audio display - is a common hardware display for analog sensors. It's made up of a series of LEDs in a row, an analog input like a potentiometer,..... Listed under: [LED Projects](#), [Projects](#)
78.  [Arduino Guitar Tuner](#) Build your own electric guitar tuner using the Arduino! I decided to make this because I wanted to experiment with audio input and frequency detection. I used Amanda Ghassaei's method for Arduino Frequency Detection in order to get frequency readings using the Arduino. I used LEDs that..... Listed under: [Sound – Audio Projects](#)
79.  [Paper Electronics: Make Interactive, Musical Artwork with Conductive Ink using Arduino](#) If you've ever wanted to bring a piece of paper to life, now is your chance. This instructable will take you through all the necessary steps to create an amazing interactive flyer or artwork. This event flyer is no ordinary piece of print. It is printed using..... Listed under: [Projects](#), [Sound – Audio Projects](#)
80.  [Arduino-based master clock for schools](#) If your school, or kids school, or other location relies on a central master clock that is broken, you may have a use for this device. New master clocks are available of course, but school budgets are under extreme pressures, and it really is a..... Listed under: [Clock – Timer Projects](#), [Projects](#)
81.  [Rainbowduino Sign using Arduino](#) The Rainbowduino is a variant of the Arduino and among other things is capable of driving an 8x8 RGB LED matrix. I had just finished a backyard re-model and was in need of an entrance sign. Step 1: Carving and Painting the Sign I had..... Listed under: [LED Projects](#)
82.  [Another Arduino Traffic light](#) After working with the arduino and not knowing what the heck I'm doing I made Another simple traffic light. I looked around the web to find one that looks about normal and came across none. They seemed too fast. So, I found and modded some..... Listed under: [Car Projects](#), [Projects](#)
83.  [Electronic Music Box Powered by Arduino \(sort of\)](#) Music is the most universal means of expression. Regardless cultural language or age the idea conveyed though music would not differ much. It is safe to say everyone loves music, one type or another. When one's favourite piece is played there is a overwhelming desire..... Listed under: [Sound – Audio Projects](#)
84.  [Aqua Garduino Mini @hydroFishAqua82](#) Arduino Powered Micro Aquaponic System with Pi Camera and Twitter Feed We are creating an automated aquaponic system with mobile updates via Twitter. Sensors and motors will be controlled from an Arduino while the entire system, including mobile updates, will be orchestrated by a Raspberry..... Listed under: [Home Automation Projects](#)
85.  [Homemade arduino printer](#) If you want to make your own high resolution printer (maybe not so high res), you are at the right place. This Instructable will show you how to do with two dead cd/dvd drive and a pen (pilot, whiteboard marker, whatever you have) at the..... Listed under: [How To – DIY – Projects](#), [Projects](#)
86. [My Arduino In Circuit Programmer](#) This Lazy Old Geek is also an Arduino Geek. If you are an Arduino Geek, one of the common microcontrollers used by Arduinos is the Atmega328 chip. In order to use Arduino software, the Atmega must have bootloader software on it. Okay, so I bought..... Listed under: [Arduino Programmer Projects](#)




[Projects](#)


87.




[BLDC Motor Control with Arduino](#) There is a lot of interest these days among hobbyists in controlling brushless DC (BLDC) motors, which have improved performance and better energy efficiency over traditional DC motors, but are more difficult to use. Many off-the-shelf products exist for this purpose. For example, there are..... Listed under: [Motor Projects](#)
88.




[Beginner Programming of Arduino](#) This video is from a meeting of the Kids and Technology Meetup group in Washington DC. The youth who show up to these free meetings are eager to learn advanced uses of computers. The presenters were John Dukovich and Hugo Estrada.... Listed under: [Arduino Programmer Projects](#), [Projects](#)
89.




[Arduino Button 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 five pushbuttons to move the onscreen cursor. Four of the buttons are directional (up, down, left, right) and one is for a..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
90.




[Arduino String Character Functions Code](#) The String functions charAt() and setCharAt() are used to get or set the value of a character at a given position in a String. At their simplest, these functions help you search and replace a given character. For example, the following replaces the colon in..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
91.




[Arduino-Radio Controlled Hydrogen Blimp](#) The blimp is controlled by a transmitter on the ground, operated by a human. There are three control levers-- one for each motor, and one for the servo that rotates the axis they're attached to. You push / pull to make the motors speed up..... Listed under: [Projects](#), [Radio Projects](#)
92.




[Arduino Switch \(case\) Statement, used with serial input](#) An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
93.




[Potentiometer or variable resistor control LED Code](#) The if() statement is the most basic of all programming control structures. It allows you to make something happen or not depending on whether a given condition is true or not. It looks like this: if (someCondition) { // do stuff if the condition is true } [Get Code]..... Listed under: [LED Projects](#), [Metering – Instrument Projects](#), [Projects](#)
94.




[MultiSerial Mega using Arduino](#) Sometimes, one serial port just isn't enough! When trying to communicate with multiple serial enabled devices, while also sending info back to the main serial window, a few extra RX/TX ports can be a welcomed thing. This example makes use of one of Arduino Mega's..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
95.




[Arduino 7 segment Displays Digital Clock With Charlieplexing LEDs](#) This is my second instructable. I just had a mood of making a digital watch. But wanted to make it a learning process. I already had a sanguino i could have easily used that Atmega644 chip. it would have been more than enough. But i..... Listed under: [Clock – Timer Projects](#), [Home Automation Projects](#), [Projects](#)
96.




[Autonomous Arduino Car](#) My questions for the Make-to-Learn Youth Contest 😊 What did you make? This goal of this project was to take commonly available electronic equipment and create an inexpensive, self-controlled vehicle. In simpler terms, this is an attempt at basic autonomy. It uses an arduino logic..... Listed under: [Car Projects](#), [Game – Entertainment Projects](#), [Projects](#)
97.




[Remake the Mosquito Killer using Arduino](#) Hi, everyone, i would like to introduce how i remake my mosquito killer here. With this remaking, my mosquito killer become "Smart", and really facilitate my life. I rented a room in very remote place to save my money, in the summer, the biggest trouble..... Listed under: [Home Automation Projects](#), [How To – DIY – Projects](#), [Projects](#)
98.




[Instagram Inspired DIY Photo-Booth using Arduino](#) I decided to build a simple photo-booth as a fun addition for events, this goes through the basic steps of how i went from a few pieces of wood to a fully functional booth. I have also included a photo of what the images look..... Listed under: [Arduino Video – Camera – Imaging Project Ideas](#), [Ideas](#)
99.




[How to connect Arduino and RFID](#) On this instructable I will try to show how to interface a RFID sensor with the Arduino. I am using the RFID sensor from seeedstudio the serial version of it. There are a few parts you will gonna need. I also bought some RFID keys..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
100.




[The Arduino Weather Station](#) I've always been interested in monitoring my local weather, and noticed the difference between what weather.com and accuweather.com think my local weather is, and what I see out the window. I also wanted better control over my heating and A/C system. As a computer and..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
101.




[Arduino GPS Datalogger](#) Do you want to log some GPS data onto an SD card using your Arduino? Do you already own a Sparkfun microSD shield and GPS module? Did you try the Adafruit Sheild (although it is awesome and cheap) but it stole all of your pins?..... Listed under: [GPS Based Project Ideas](#), [Ideas](#)
102.



[Serial Communications with Arduino](#) At this point you should have a robot that can think on its own, we need to be able to tap into its thought process. See what he sees. Make some of his decisions for him. in essence, we need to be able to guage..... Listed under: [Ideas](#), [Interfacing\(USB – RS232 – I2c -ISP\) Project Ideas](#)
103.




[Make Money with Arduino](#) **** ENTERED IN THE HURRICANE LASERS CONTEST**** What would I do with a Laser Cutter? Build Simple Robotic Kits to teach people a Hobby that I Love.Ever wanted to make some money from your projects?This Instrutable will show you how to Simply interface a coin..... Listed under: [Ideas](#), [Other Project Ideas](#)
104.




[Build an RFID time-clock system using Arduino](#) With this project you can build an RFID time-clock system to keep track of employees, children and more. Updated 18/03/2013 Recently I was listening to a friend who has three teenage children, of whom needed to arrive home before their parent. Unfortunately the parent needs..... Listed under: [Clock – Timer Projects](#), [Projects](#), [RFID - NFC projects](#)


105.




[Drifter – Arduino controlled RC car](#) Drifter is based on a cheap RC toy car I found at Toys'r'us, named 'Fast lane Monster Drift'. I think it's the same model Frits h in an episode of TLIHR. It doesn't work well, you get what you pay for. But it is a..... Listed under: [Car Projects](#), [Projects](#)
106.




[House Temperature Monitor using Arduino](#) Recently a family member had his furnace fail while he was away from his house for a long period of time in the winter. His pipes burst and caused quite the mess. This project describes a temperature sensor that broadcasts the temperature in his house to the..... Listed under: [Home Automation Projects](#), [Projects](#), [Temperature Measurement Projects](#)
107.




[Time Lapse Digital Camera using Arduino](#) Following the instructable here, I was able to turn an old digital camera into a time lapse camera using an arduino, a relay, and an open source software program called makeAVI (windows). To modify the camera I disassembled the camera cover and removed the button that..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
108.




[Arduino Knight Rider Code](#) Arduino Knight Rider light effect, a simple variation of blink code. Instruction; 1) Connect all LED as diagram below, make sure cathode lead of LED at ground wire. 2) Connect all 330Ω resistor to anode lead of LED. 3) Connect all jumper wire to digital..... Listed under: [LED Projects](#), [Projects](#)
109.




[The Self-Balancing Robot using Arduino](#) Introduction The idea of this project was to design and construct a robot that consists of a body and two wheels that would be able to balance on its own. This behavior is similar how a segway (a new mode of transportation) works. Our goal..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
110.




[Arduino Thermal Camera](#) My recent arduino project was to build thermal camera on the cheap using an ir sensor and some pan/tilt hardware. If you look at the device picture to the left there is also acoustic range finder mounted to the top. The device works by sweeping..... Listed under: [Projects](#), [Video – Camera – Imaging Projects](#)
111.




[Arduino MP3 Player](#) I present this new Arduino project: A full MP3 player based on Arduino. As you can see in the photo, the idea was to build a standalone player, in the style of antique radios or 'tapes', in the age of iPhones The player uses a small..... Listed under: [Projects](#), [Sound – Audio Projects](#)
112.




[Analog VU meter and Clock using Arduino](#) This project brings back the old time Analog VU Meter, with the added functionality of a neat looking clock! When you turn off your music the meters automatically swing into to clock mode. Behind it all is the popular and easy to use Arduino. This..... Listed under: [Calculator Projects](#), [Metering – Instrument Projects](#), [Projects](#)
113.




[Arduino MIDI Foot Pedal Keyboard](#) The Origin My dad is a musician. He can play a multitude of instruments. However, he only has two arms, BUT he also has legs! That's when we decided that we would reuse the foot pedals from an old organ and convert them into an..... Listed under: [Game – Entertainment Projects](#), [How To – DIY – Projects](#), [Projects](#)
114.




[Arduino Police Strobe Light Code](#) Arduino Police Strobe Light effect, another simple variation of blink code. Arduino Police Strobe Light effect, another simple variation of blink code. Parts List; 1) 2x 5mm red LED 2) 2x 5mm blue LED 3) 1x Arduino 4) 4x 330Ω resistor 5) 1x 10kΩ potentiometer..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)
115.




[Arduino RFID Lock](#) The Arduino RFID lock How does it work? The Arduino RFID lock is a lock that can be opened easily, but is secure. The lock works with a server database that can register card codes. On the door there is a RFID reader connected to..... Listed under: [Projects](#), [RFID - NFC projects](#), [Security – Safety Projects](#)
116.




[48×8 SCROLLING MATRIX LED DISPLAY USING ARDUINO CONTROLLER](#) A monochrome (single colour) LED dot matrix display is used for displaying the Characters and Symbols which is interface with a microcontroller. This project will deliberate on displaying a scrolling text message on a 48×8 LED dot matrix display. The microcontroller used is Arduino Uno..... Listed under: [LED Projects](#), [Projects](#)
117.




[Connecting Arduino LCD Display Code](#) LCD display is great way to display output from your arduino when it not connected to your computer. The common display used in arduino projects is 16×2 parallel LCD display which compatible with the Hitachi HD44780 driver. It can easily recognize with it 16 pin..... Listed under: [LCD Projects](#), [Projects](#)
118.




[Build a fully featured Arduino Thermostat](#) In this post I will attempt to describe the steps I took to build the arduino based thermostat shown in the following videos. The first video was taken when around just half of the coding of the menu system was complete, but gives you a..... Listed under: [Projects](#), [Temperature Measurement Projects](#)
119.




[DIY FSK RFID Reader using Arduino](#) This page is describes the construction of an RFID reader using only an Arduino (Nano 3.0 was tested, but others may work), a hand-wound wire coil, and some assorted low cost common components. Credits The hardware and software designs for this project are based in..... Listed under: [How To – DIY – Project Ideas](#), [Projects](#), [RFID - NFC projects](#)
120.





















[Arduino Voltmeter Code](#) This arduino projects show how to make voltmeter with your arduino. It use voltage divider concept to estimate the voltage input. Instruction; 1) Connect all jumper wire as shown in diagram. Upload this code to your arduino /* Voltmeter Voltmeter base on voltage divider concept. Code based on: <http://www.clarenceho.net:8123/blog/articles/2009/05/17/arduino-test-voltmeter> Coded by: arduinoprojects101.com */..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
121.




















[Arduino Temperature Sensor Code](#) This arduino projects show how to read Celsius and Fahrenheit temperature with LM35 temperature sensor. Parts List; 1) 1x 16×2 parallel LCD display (compatible with Hitachi HD44780 driver) 2) 1x Arduino 3) 1x 10kΩ potentiometer 4) 1x LM35 temperature sensor 5) Jumper wire Instruction; 1)..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
122.



[Web Server using Arduino](#) In this example, you will use your Ethernet Shield and your Arduino to create a simple Web server. Using the Ethernet library, your device will be able to answer a HTTP request with your Ethernet shield. After opening a browser and navigating to your Ethernet..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#)

123.  [Arduino Stopwatch Code](#) Arduino projects, running stopwatch on arduino. Arduino projects, running stopwatch on arduino. Parts List;1) 1x 16x2 parallel LCD display (compatible with Hitachi HD44780 driver)2) 1x Arduino3) 1x 10kΩ potentiometer4) 1x 10kΩ resistor5) 1x switch6) Jumper wire Instruction; 1) Connect all jumper wire as shown in..... Listed under: [Clock – Timer Projects](#), [Projects](#)
124.  [LED Show using Arduino Esplora](#) This example shows you how to read the values from the joystick. The output will be displayed through the serial monitor and as a color on the RGB LED. The joystick has two axes, X and Y. Each axis controls a color of the RGB..... Listed under: [LED Projects](#), [Projects](#)
125.  [Arduino RPM Counter / Tachometer Code](#) Arduino projects, make arduino rpm counter with arduino. Instruction;1) Connect all jumper wire as shown in diagram. 2) Connect IR LED to digital pin 13. 3) Connect IR Phototransistor (dark) to digital pin 2. Make sure shorter lead connected to digital pin 2 and..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
126.  [Arduino HC-SR04 How to use Ultra Sonic Sensor](#) Arduino HC-SR04 The Arduino HC-SR04 is different from most of those commonly seen on the market, which have 4 pins compared to 3 pins. But the operation principle is the same, transmit signal, and depends on when the signal is received to estimate the distance..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#)
127.  [Arduino Hexapod Robot](#) Arduino Hexapod Robot Design I will show you how to build an arduino hexapod robot, from building the body, to how to implement the algorithm. To learn about the implementation of the algorithm, read this first, if you are not sure what is IK, read..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
128.  [Real-Time Arduino GPS Tracker with iPhone app](#) [INTRO] This past semester, I decided to build a GPS receiver with an iPhone app that tracks it for my semester project. Here is a step-by-step tutorial to show you how you can build your own. [OVERVIEW] Architecture of my Real-Time GPS Tracker project. I'll..... Listed under: [Blog](#), [GPS Based Projects](#), [Phone Projects](#), [Projects](#)
129.  [Arduino GPS Tracking System](#) This was easily the most time I've spent producing an Arduino Tutorial. I've been sporadically walking around NYC with this Arduino GPS for weeks as I've tweaked the code and gotten it just right. If it wasn't obvious from the title, this tutorial will teach you..... Listed under: [Featured](#), [GPS Based Projects](#), [Projects](#)
130.  [A library for the MAX7221 and MAX7219](#) These two chips provide an easy way to control either an array of 64 Led's or up to eight digits made of 7-segment displays with a minimum of electronic components. Besides the chip itself you will need only a single resistor and one or two..... Listed under: [Other Projects](#), [Projects](#)
131.  [An amplifier for Arduino](#) For my project, the Arduino output is not enough so digging on the net and asking to a friend some help, I managed to build an amplifier to feed my 3 computer fans. This circuit can be used as an amplifier to switch on and..... Listed under: [Interfacing\(USB – RS232 – I2c -ISP\) Projects](#), [Projects](#), [Sound – Audio Projects](#)
132.  [Arduino temperature controlled PC Fan](#) Oscar Gonzalez gives us a simple tutorial for speed controlling a PC FAN and reading a LM35 temperature sensor with an Arduino microcontroller. He covers the use of an optocoupler, PWM (Pulse Width Modulation) and reading analog voltages with the Arduino. He even has a..... Listed under: [Projects](#), [RTOS – OS Projects](#), [Temperature Measurement Projects](#)
133.  [Power \(Energy\) Meter using Arduino](#) Part 1. Analog Front-End. Opto-Isolator. Looking at the Power Quality Analyzer display, I was wandering, if there is any error in the measurement results, introduced by transformer. Overall THD picture doesn't change much, suspiciously drawing same chart in the morning and in the evening, when..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
134.  [Audio VU Meter using Arduino](#) Biasing AC input using resistor divider and scaling up / down if necessary; Sampling fast and accurately using direct access to Control Registers of ADC and Timer1; Subtract whatever was added at step #1 from result of Analog / Digital conversion and Square; Average /..... Listed under: [Metering – Instrument Projects](#), [Projects](#), [Sound – Audio Projects](#)
135.  [True Analog Audio Volume Control using Arduino](#) ow my Arduino can precisely measure audio input (VU meter), and obviously, next thing that comes to mind right after measurements, is regulation or control. There are many different ways how to electronically adjust audio volume or level of AC signal. I'll name a few:..... Listed under: [Projects](#), [Sound – Audio Projects](#)
136.  [Sound Localization using Arduino](#) Well, it's elementary simple in theory, how to do sound localization based on phase difference of signals, that received by two spatially distant microphones. The Devil, as always, in details. I've not seen any such project created for arduino, and get curious if it's possible at..... Listed under: [Projects](#), [Sound – Audio Projects](#)
137.  [Speech Synthesizer using Arduino](#) Synthesized speech was for a long time the Holy Grail of computing, and back in the 1980s when a 4MHz CPU made your computer the fastest machine in the neighborhood it just wasn't practical for software to create intelligible speech. In those days the only..... Listed under: [Sensor – Transducer – Detector Projects](#)
138.  [Spectrum Analyzer, Arduino project with FFT algorithm](#) The basic idea was to create color organ / spectrum analyzer on arduino board, trying to minimize quantity of external components, like analog filters, LED display drivers, etc. Spend a lot of time in search on internet I was able to find only two !..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
139.  [Arduino Sound Alarm](#) I've just completed my second Arduino project, a sound level detector which sets off an "alarm" when there's the sound level is to high for too long. I built it for use in a school that wants to provide visual feedback to students when they..... Listed under: [Projects](#), [Security – Safety Projects](#), [Sound – Audio Projects](#)
140.  [MEGAsshield KIT for Arduino MEGA 2560 R3 and Arduino DUE](#) ARDUINO MEGA 2560 REV3 The MEGA 2560 is designed for more complex projects. With 54 digital I/O pins, 16 analog inputs and a larger space for your sketch it is the recommended board for 3D printers and robotics projects. This gives your projects plenty of..... Listed under: [Development Board – Kits Projects](#), [Projects](#)

141.  [How To Control A Stepper Motor With An Arduino Uno](#) Overview Stepper motors fall somewhere in between a regular DC motor and a servo motor. They have the advantage that they can be positioned accurately, moved forward or backwards one 'step' at a time, but they can also rotate continuously. In this lesson you will..... Listed under: [Motor Projects](#), [Projects](#)
142.  [Arduino controlled Bluetooth-bot](#) This instructable will show you how to convert an old toy R/C car from the thrift-store (\$1.50) into a bluetooth controlled robot. To make the conversion, you will need an Arduino (any type), an L298N dual 2-amp motor-controller (or similar), and a bluetooth serial adapter..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
143.  [Arduino Battery](#) As many of you may know, this Lazy Old Geek loves Arduinos. Many of my projects are portable and need a battery source: <http://www.instructables.com/id/Arduino-Pedometer/> <http://www.instructables.com/id/Arduino-Nokia-LCD-Sensors/> <http://www.instructables.com/id/Ultrasonic-Tape-Measure/> All pricing was determined about early 2012. So, I've been using Adafruit 6 AA Battery holder \$5.00 <https://www.adafruit.com/products/248>..... Listed under: [Battery Projects](#), [Projects](#)
144.  [Data Logger Project using an Arduino](#) This is a data logger I made for my class. I couldn't find any instructions that I could use to make the Arduino record the light brightness and the temperature. Then display the temperature and the light value on the LCD then Save it to..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#), [Temperature Measurement Projects](#)
145.  [Arduino & Visual Basic 6 Light Controller](#) This instructable is something like a tutorial for new VB users. It shows how to create a parser base VB6 program to interact with Arduino circuit. Basically, interaction is in the form of serial communication via the USB port. This is my practice after learning..... Listed under: [Other Projects](#), [Projects](#)
146.  [Arduino LCD Twitter display](#) a.k.a. the gratuitously complicated bidirectionally communicating Arduino-based scrolling Twitter display and notifier. ---- This project was mainly done as an excuse to learn how to use character LCD displays with my Arduino, and figure out how to make a bidirectional serial protocol. One major design..... Listed under: [Internet – Ethernet – LAN Projects](#), [LCD Projects](#), [Projects](#)
147.  [Arduino Touch Screen Room Control](#) Hey everyone, I finally finished my touch panel for my bedroom wall and am here to show you how i made it. Unfortunately its not installed in my wall yet as I might be moving and don't want to make anymore holes in my walls,..... Listed under: [Home Automation Projects](#), [Projects](#)
148.  [Very Simple Arduino Electric Lock](#) This is a instructable for a very simple Arduino controlled electric lock. The key idea here is to be very simple as this was more of a proof of concept prototype type of thing. The Arduino is used as a switch to control the lock..... Listed under: [Projects](#), [Security – Safety Projects](#)
149.  [Simple Parking Sensor using Arduino](#) My car has only parking sensor for the Reverse, so when I enter the Garage there is no way to know if I am close enough to the wall to allow the door to close or too close that I can hit the wall with..... Listed under: [Car Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)
150.  [Arduino Weather Station Part3, Rain](#) So one of my last projects was adding a weather vane to my Arduino weather station. <http://www.instructables.com/id/Arduino-Wind-Chill-Machine/> <http://www.instructables.com/id/Arduino-Weather-Station-Part2/> This Lazy Old Geek decided to add a rain gauge to it even though we don't get much rain in the high desert. Most digital rain gauges..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
151.  [simpleTweet_01_python using Arduino](#) Arduino Python Twitter (Windows) In this instructable we'll modify my simpleTweet_00 and rewrite the Processing code with Python. You can expect an ignorant walkthrough by an illiterate noob, but maybe that's just what you're looking for. Before you begin: If you need help installing Python,..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
152.  [Arduino Home automation](#) This is a relatively simple controller for controlling equipment in your home. At the moment I control my central heating, security and lighting. By sending commands from my home computer. My homeeasy central heating controller hack. http://www.instructables.com/id/BampQ_homeeasy_home_automation_central_heating_c/ I am also able to login remotely from..... Listed under: [Home Automation Projects](#), [LED Projects](#), [Projects](#)
153.  [Arduino 4x4x4 LED Cube](#) Overview: This instructable will cover the building process of an 4x4x4 LED Cube. I will be using an Arduino to control the LEDs. Since the Arduino (Freeduino) has a total of 20 pins (including the analog pins) we will not need to have any multiplexing..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
154.  [Color Changing Night Light with ATtiny using Arduino](#) I wanted to create something for my wife as a present and this is what I came up with. This is a dark activated color changing night light. It has a sensor that can tell when the room light is turned off. This then will..... Listed under: [Game – Entertainment Projects](#), [Home Automation Projects](#), [LED Projects](#), [Projects](#)
155.  [LED Dot Matrix Display using an Arduino](#) In this project, you shall again use two sets of shift registers. These will be connected to the rows and columns of the dot matrix display. You will then show a simple object, or sprite, on the display and animate it. The main aim of..... Listed under: [LED Projects](#), [Projects](#)
156.  [Simple Relay Shield for Arduino](#) Shield to control 6 relay, 6 digital input and 6 analog input with Arduino Duemilanove, Arduino UNO. The digital inputs and relay outputs are equipped with an LED that indicates the status. The circuit diagram is very simple: Step 1: Schematics and PCB In this..... Listed under: [Development Board – Kits Projects](#), [Projects](#)
157.  [Squirt – Arduino, motion activated water cannon](#) Squirt is a motion activated water cannon using Arduino. This was designed for use in the garden but as it's winter we tested it in the bathroom. It works! True motion tracking is expensive and complicated so this system activates when the victim moves into..... Listed under: [Home Automation Projects](#), [Motor Projects](#), [Projects](#)
158. [Arduino Pedometer](#) Problem: So my nutritionist (doesn't everyone have a nutritionist) suggested I should increase my exercise which primarily consists of walking my dog. She even gave me a chart of activities and calories burned. Here's an example. <http://www.nutristrategy.com/caloriesburned.htm> Well, being a LAZY OLD GEEK, I decided..... Listed under: [Metering – Instrument Projects](#), [Projects](#)



159. [Arduino Mega Pinout Diagram](#) Arduino Mega Introduction: The Arduino Mega is a microcontroller board based on the ATmega1280 (datasheet). It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB..... Listed under: [Pinouts](#), [Projects](#)



160. [Traffic Lights Beginner Arduino Project](#) This is a beginners project for the Arduino. I am using the Arduino Uno but should work with little or no modification on other arduino models. Setting up the hardware is very easy. This project is more of a training tool for learning how to program..... Listed under: [Car Projects](#), [LED Projects](#), [Projects](#)



161. [Arduino + Temperature + Humidity](#) A simple temperature sensor using one LM35 Precision Temperature Sensor , Humidity Sensor and Arduino, so you can hookup on your future projects. The circuit will send serial information about the temperature and humidity so you can use on your computer. I have taken data..... Listed under: [Projects](#), [Temperature Measurement Projects](#)



162. [Marble Disorder – a marble maze simulator with tilt switches using Arduino](#) Marble Disorder is a borderline case of Marble Madness 😊 It simulates a marble maze by sensing the box's orientation with 2 tilt switches. Stop the press: there's a new and more intuitive version that doesn't require the spin knob (See video). I keep documenting the original..... Listed under: [Game – Entertainment Projects](#), [Projects](#)



163. [Turing Alarm for Arduino](#) NOTE: This Instructable is currently incomplete. I will finish it before September 19. I started this project after seeing Nick Johnson's Turing Alarm clock. I found that the PIC chip he used was a little too advanced for me, so I decided to use the..... Listed under: [Projects](#), [Security – Safety Projects](#)



164. [Arduino Electronic Dice using random numbers](#) This instructable will show you how to make an electronic dice with minimal experience using 7 LEDs, resistors, jumper wires, and of course the arduino (or arduino clone). I wrote this instructable for anyone to easily follow along and learn more about the arduino. Questions..... Listed under: [Development Board – Kits Projects](#), [Projects](#)



165. [LED Hat Display with Pong using an Arduino](#) A while ago, as my first microcontroller project, I made a Pong game on a 5x7 LED display, but then nothing became of it. Recently I was given a hard hat as part of a uniform (for an engineering competition) and told to customize it,..... Listed under: [Game – Entertainment Projects](#), [LED Projects](#), [Projects](#)



166. [Temperature Control For Kitchen Appliances using Arduino](#) In this Instructable, I will step through controlling the temperature of most kitchen appliances. As an example, I will use an old Westbend Poppery popcorn maker (aka. coffee roaster), but these same techniques will be applicable to most hot plates, coffee makers, and waffle irons..... Listed under: [Home Automation Projects](#), [Projects](#), [Temperature Measurement Projects](#)



167. [Arduino Binary Alarm Clock](#) This Instructable will show you how to build an binary alarm clock, with a touch sensor snooze button. This is my first instructable and my first real arduino project, I hope you like it! I bought an arduino a while back and I think it's..... Listed under: [Clock – Timer Projects](#), [Projects](#)



168. [Arduino RFID Door Lock](#) ***Updated 8/9/2010*** I wanted to make an easy and secure way to enter my garage. RFID was the best way to unlock my door, even with my hands full I can unlock the door and push it open! I built a simple circuit with a..... Listed under: [Home Automation Projects](#), [Projects](#), [RFID - NFC projects](#), [Security – Safety Projects](#)



169. [Wireless Altoids Display using an Arduino](#) This Instructable will show you how to modify an Altoids tin for a wireless 2x16 character display. Using an Altoids tin was inspired by the need to have a small yet protective enclosure for a pair of Xbee modules recently bought from Sparkfun. I purchased the..... Listed under: [LCD Projects](#), [Projects](#)



170. [Fun Sun-tracking Arduino](#) The Just-For-Fun Sun-tracker using the Arduino and two servos. This device, along the lines of the most useless toy, is not so much for function as it is for fun. But as with many things, you can't spell function..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)



171. [Reaction Time Tester using an Arduino](#) A month ago I knew nothing about Arduino and now.....my first project! Looking back, this project combines almost all of the tutorials that I have read in this short period: blinking LED, push button, piezo and LCD display. A useful project for every beginner! I..... Listed under: [Clock – Timer Projects](#), [Projects](#)



172. [Kid's Game to Arduino Enigma Machine](#) The technology behind Enigma machines and the work done to crack them has influenced cryptography, cryptanalysis, and computer science in general. If you're unfamiliar with Enigma machines, it's a device that was developed near the end of World War I, then used extensively by the..... Listed under: [Game – Entertainment Projects](#), [Projects](#)




173. [DIY Arduino or The DIY-Duino](#) THIS ENTIRE TUTORIAL IS ALSO AVAILABLE ON MY WEBSITE AT <http://www.theparsley.com/arduino/diy/> To quote the Arduino website: "Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments."..... Listed under: [How To – DIY – Projects](#), [Projects](#)




174. [Steering Wheel Drive R/C Car with Arduino](#) IP Control Car was launched in 2001. I make the similar function car utilizing commercialized products. The concept of Car No.02 is to utilize commercialized products, and I am an amateur in electrical. So, do not blame me that the system is not sophisticated, i.e..... Listed under: [Car Projects](#), [Projects](#), [Robotics – Automation Projects](#)


175.




[Make A Digital Clock From Scratch using arduino](#) In some point in the life of every electronics hobbyist the need to make a clock is borned, in my case it was about a month after I soldered my first part on a board, but back then I didn't have the right tools, parts..... Listed under: [Clock – Timer Projects](#), [Projects](#)
176.




[Arduino Processing Audio Spectrum Analyzer](#) In this Instructable I am going to show how to make a program in Processing that analyzes sound on your computer and sends data to an Arduino that controls an LED matrix to show the spectrum analysis. I will be explaining where to get materials,..... Listed under: [LED Projects](#), [Projects](#), [Sound – Audio Projects](#)
177.




[Plantduino Greenhouse using an Arduino](#) This summer I wanted to combine my two loves of plant science and engineering. Thus I am constructing my very own greenhouse in my backyard. I am an undergrad, and as any former student knows, this means I move around constantly, and I am not..... Listed under: [Home Automation Projects](#), [Projects](#)
178.




[Arduino Solar Tracker](#) What is does: It searches for the brightest light source like the sun. Step 1: How it works How it works: I'd made a sensor of 4 LDRs with sheets between them The withe stips are the LDRs When the stick on top is..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
179.




[Tyco RC Arduino Robot](#) Wanted to make your own robot but couldn't afford the fancy H-Bridge IC's or etch your own PCB? Want a quick and dirty method of making your own wheeled robot? Then you're in luck, but if you want to make your own wheeled robot AND..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
180.




[My Arduino WordClock](#) The initial project, and certainly the one to which many were inspired is that of Doug Jackson. <http://www.instructables.com/id/The-Word-Clock-Arduino-version/> also inspired by <http://www.highonsolder.com/blog/2011/1/8/arduino-word-clock.html> <http://www.instructables.com/id/Sleek-word-clock/> Step 1: The Materials The list of materials for the board depends on how you plan to make the electronics, if you..... Listed under: [Clock – Timer Projects](#), [Projects](#)
181.




[Chicken Light Timer using an Arduino](#) The wife is into raising chickens and now that the daylight savings is getting near she wanted a way to keep the egg laying production in high gear. According to the material that she reads, chickens will maintain their egg laying production if they get..... Listed under: [Clock – Timer Projects](#), [CNC Machines Projects](#), [Projects](#)
182.




[Ultrasonic Range Finder with an ATtiny85 using an Arduino](#) I'm here to show you how to use a HC-SR04 Ultrasonic Range Finder with an ATtiny85 as well as programming the ATtiny85 using the wonderful shield that randofo created. List of materials: ATtiny85 Programming Library Arduino Uno HC-SR04 Ultrasonic Range Finder and Library Jumper Wires Breadboard ATtiny85 Step 1: Program..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
183.




[Auto Leveling Laser Cross using Arduino](#) So this Lazy Old Geek purchased a Laser Cross. I created a manual leveling Laser Cross to use for aligning stuff on my drill press: <http://www.instructables.com/id/ManualLevelingLaserCross/> Well, being a Geek I decided to make an automated platform that adjusts automatically with an Arduino. Well, the..... Listed under: [Projects](#), [Sensor – Transducer – Detector Projects](#)
184.




[Arduino 2-axis servo solar tracker](#) What is a solar tracker? A solar tracker can increase the efficiency of a solar panel by up to 100%! It does this by always keeping the panel perpendicular to the incoming rays of sunlight. here's an equation to prove this: $P = AW \sin$ Listed under: [Sensor – Transducer – Detector Projects](#)
185.



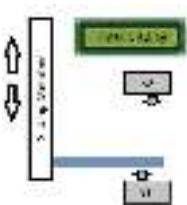
[Arduino True Random Number Generator](#) This is just a fun project I have been working on in the last little while. If you like this instructable, consider voting for it in the Arduino Challenge! Anyone who has experience with programming will have probably used random numbers in their code. These random..... Listed under: [Calculator Projects](#), [Projects](#)
186.




[Bubble Alarm Clock Makes Waking Up Fun using Arduino](#) Waking up to a buzzing alarm clock sucks. I'm one of those people who doesn't like to wake up before the sun is out (or has been out for many hours). So what better way to make waking up fun than having a bubble party..... Listed under: [Clock – Timer Projects](#), [Game – Entertainment Projects](#), [Home Automation Projects](#), [Projects](#)
187.




[Uno The Arduino Robot](#) Age: 13 Meet Uno the Arduino powered robot. Some functions include a blinking nose, moving antennas, rotating head, IR distance sensor, twin motor gear box and rotation counters. Uno is made with relatively easy to obtain parts. This project provides a good introduction to Arduino. robot.skp475 KB Step 1: Materials Material and tools • Foam board..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
188.



[Arduino Based Auto Timer](#) The Need: Last week around at work I had another usual un-usual problem to face with. Having to make lots of mechanisms n components to work with-in seconds or fracs at times I kind-of knew this was always coming. And invariably so my poor mind..... Listed under: [Clock – Timer Projects](#), [Projects](#)
189.




[Carduino- A simple Arduino robotics platform with its own library](#) This is, as the title says, an Arduino-based robotics platform, with its own library. The "standard" model comes with two back motors, two omni-wheels in the front, and a distance sensor mounted on the front. It also has breadboard space on top for adding whatever..... Listed under: [Projects](#), [Robotics – Automation Projects](#)
190.




[Building a semi Smart, DIY boat with Arduino and some other sensors](#) I based this off of this really nice instructables.com post for building a water bottle boat, with some additions for obstacle avoidance and light-guided control. I used Arduino as a microcontroller, an ultrasonic sensor in the front, a few simple switches on the side of the boat,..... Listed under: [Game – Entertainment Projects](#), [Projects](#), [Sensor – Transducer – Detector Projects](#)


191.




[Remote controlled webcam using Arduino](#) Web-enable your interactive sensors over desktop, smartphone and tablet devices. This tutorial describes in detail hc free SensorMonkey service to remotely control a pan and tilt webcam attached to an Arduino using nothing more than a simple webpage. The webpage can be..... Listed under: [Internet – Ethernet – LAN Projects](#), [Projects](#), [Video – Camera – Imaging Projects](#)
192.




[Bike Speedometer using an Arduino](#) Monitor your road speed using the Arduino. This project uses a magnetic switch (also called a reed switch) to measure the speed of one of the bike's wheels. The Arduino calculates the mph, and send this information out to the LCD screen on the handlebars..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
193.




[Waveform Generator using an Arduino](#) Waveform generators (also called function generators) are useful for testing and debugging circuits. I often use them to test the frequency response of electronics components like op amp and sensors. This waveform generator is powered by an Arduino. It outputs four waveshapes: sine, triangle, pulse,..... Listed under: [Metering – Instrument Projects](#), [Projects](#)
194.




[LED Matrix with Game Controller using an Arduino](#) This project was built for my introductory electronics class at the University of Waterloo in Canada. This was my first introduction to electronics and therefore, my first project. Follow these steps to build a 16 x 16 LED array with a wall (different colored LED..... Listed under: [LED Projects](#), [Projects](#)
195.




[Sous-vide Arduino Shield](#) *NOTE* THIS PROJECT IS DONE BY A GROUP OF STUDENTS FROM SINGAPORE POLYTECHNIC Sous-vide (/su ˈ ɛ ˈ vi ˈ d/; French for "under vacuum")[1] is a method of cooking food sealed in airtight plastic bags in a water bath for a long time—72 hours in some cases—at an accurately determined..... Listed under: [LCD Projects](#), [Projects](#)
196.




[Audio Output using an Arduino](#) Generate sound or output analog voltages with an Arduino. This Instructable will show you how to set up a really basic digital to analog converter so you can start generating analog waves of all shapes and sizes from a few digital pins on an Arduino. Listed under: [Projects](#), [Sound – Audio Projects](#)
197.




[Audio Input using an Arduino Board](#) Send sound into your Arduino. This Instructable will show you how to prepare audio so that it can be sampled and processed by an Arduino to make sound responsive projects and audio effects. (This article is a companion to another Instructable I've written about building..... Listed under: [Projects](#), [Sound – Audio Projects](#)
198.




[DIY Arduino Motor Shield](#) Today, I'm going to show you how to make an Arduino motor shield (driver) at a low cost. It works splendidly, its posses almost all the characteristics of the original Arduino motor shield. It's almost considered as a clone. The original Arduino motor shield has the..... Listed under: [How To – DIY – Projects](#), [Motor Projects](#), [Projects](#)
199.




[Arduino Board Step Sequencer](#) I was wondering about on making a sequencer, a big 16 step sequencer was what I wanted to make. To it's full extension with lots of features including single leds for each step, midi input and output, etc. Then I realised that I should start from a..... Listed under: [How To – DIY – Projects](#), [Projects](#)
200.




[Localizer with SIM908 module using Arduino](#) The device is based on a GSM/GPRS module with included GPS. Its main function is to detect and communicate its own geographical position using, on the choice, the cellular phone reference system or the GPS. Its small dimensions are due to the use, for the..... Listed under: [GPS Based Projects](#), [Phone Projects](#), [Projects](#)
201.




[GSM GPS shield for Arduino Board](#) Shield for Arduino designed and based on the module GSM/GPRS SIM900 or the GSM/GPRS & GPS module SIM908, to make calls, voice and data connections via GPRS. HARDWARE INNOVATIONS This new version (old Arduino GSM shield) has several new hardware features, that allow maximum customization..... Listed under: [GPS Based Projects](#), [Phone Projects](#), [Projects](#)
202.



[Easy Bluetooth Enabled Door Lock With Arduino + Android](#) Thanks to everyone who supported this project and voted for it in the Arduino Challenge! I was awarded second prize and hope to participate in more Arduino contests in the near future. This tutorial will explain a simple way to make a password protected bluetooth..... Listed under: [Arduino Android](#), [Internet – Ethernet – LAN Projects](#), [Projects](#)
203.



[Beginners guide to building Arduino robots with Bluetooth and Android](#) In this tutorial we are going to go over building a Arduino robot that can be controlled via bluetooth with an Android phone/tablet. This is a beginners guide that is going to briefly go over the process of wiring and programming your robot. Build list... The following is the list..... Listed under: [Arduino Android](#)
204.

































[LINUSBot – Line Follower Robot using Arduino](#) The operation of this Robot is quite simple. Infra-red sensors placed at the front of the chassis will monitor when our Robot is over a black line or when it is over a white background. In this project we will use the appropriate rounded chassis..... Listed under: [Projects](#), [Robotics – Automation Projects](#)

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