Advanced View Arduino Projects List

List of Projects using arduino with advance view:

1. Arduino mood lighting This instructable will show you who to build a rgb lighting system with an arduino. You can also control it with an ipod/iphone/ipad usi touchOSC. In my previous instructable I showed how to control one rgb led in this you can control heaps with a single chip...... Listed under: LED Projects, Projects

2. Combination Circuit for Digital and Analog Goals Understand the Analog Signals and use your knowledge to program your Arduino and let it play music Get known of the Seven-segment display and use your Arduino Board together with the Shift Register to control the number. In the Second Week you will be...... Listed under: CNC Machines Projects
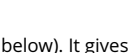
3. LilyPad Arduino Sensor Demo Mat This tutorial shows you how to create a sensor demo mat for the LilyPad Arduino. I wanted a place where I could experime with the different sensors, but also something that I could use to show examples of what can be done without constantly uploading...... Listed under: Sensor - Transducer – Detector Projects

4. Build Your Own BARBOT using Arduino Ever wanted a robotic liquor server? I purchased a Lynxmotion robotic arm last year and an Arduino (deci) to play around with. I had it serial controlled with a joystick and it was a great way to start in robotics. More recently I wanted to...... Listed under: Robotics – Automation Projects

5. Highly maneuverable search and rescue robot Finalized Prototype 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 10 inches per second, battery...... Listed under: Medical – Health based Projects, Robotics – Automation Projects

6. How to make and use the arduino as an Isp for an ATtiny85 In this instructable I will show you how you can make your own Atting programming shield for the arduino and then use the arduino as a programmer. Usually If you don't have a shield you can do a breadboard version to program the ATtiny. (Step1)...... List under: Arduino Programmer Projects, Projects

7. DIY Super Bright LED Skate Lights You might remember my first set of lights that I put on my dad's skates. Well those weren't bright enough and they were a l of work because I didn't know how to make PCBs. In this i'ble I'll cover how to make your own...... Listed under: LED Projects

8. Interactive LED box Project Goal The goal of this project is to create a low resolution display of graphical art that interacts with people who are handling it. My basic idea is to create such a "magic box" with a LED matrix on one side. It should be...... Listed under: LED Projects

9. Brushless Gimbal with Arduino This is a Spring 2014 Electronics project at Pomona College created by Andreas Biekert and Jonah Grubb. Thanks to Professor Dwight Whitaker, Tony Grigsby and the Pomona Physics Department. Our goal with this project was to create a 2 axis brushless gimbal controlled solely by..... Listed under: Video – Camera – Imaging Projects

10. Biometric Sensing Computer Mouse In the past five weeks, we have considered and built three projects, ranging from: optical sensing, electromyography (EM and galvanic skin response detection. Initially, our project was using an optical sensor and EMG to detect finger movement for applications, such as: playing piano and Morse...... Listed under: Sensor – Transducer – Detector Projects

11. BabyTrackr I found a pressure sensor matrix that we could adapt to a pressure sensor patch on the stomach of the women in labor on this webpage (see below). It gives instructions how to build a pressure sensor by using two pieces of cloth and conductive...... Listed under: Medical – Health based Projects

12. Custom Arduino Shield and Sensors Overview: This instructable will construct a series of custom sensor modules and an Arduino shield. Such modules are available from many different sources, but fans of the Instructables website would probably find satisfaction in making their own. Each module will be a set si of...... Listed under: Sensor – Transducer – Detector Projects
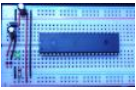
13. How To Make The Easiest Breadboard Arduino-Compatible Sanguino-Equivalent Okay so the Title is indeed a bit of a mouthful lol ! Ive been needing to mess around with a desire for MORE Input/Output pins than the Arduino UNO and nowadays the UNO uses an Atmega328 microcontroller, & its limited to only abo 20...... Listed under: Development Board – Kits Projects

14. Head Mouse – Game controller or disability aid using Arduino My kids wanted to have a head controlled mouse for playing Minecraft - they wanted to move their heads and have the field of view move. I decided that was a challenge I couldn't resist, so I decided to build a movement controlled mouse using...... Liste under: Game – Entertainment Projects, Medical – Health based Projects

15. Build Your Own Arduino Web server The Arduino Ethernet Shield is a sweet toy!!! Everybody, from the beginner who got their Arduino yesterday and hasn't slept since, to the hard core pro who learned c as a second language, can learn how to use the Ethernet Shield and have lots of...... Listed under: Arduino Programmer Projects
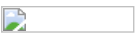
16. Connect 4 Binary Clock using an Arduino Welcome ladies and gents! As an entrepreneur, I'm always looking for great projects to share. Myself and two other classmates recen put together a project for our Master's of Engineering program in Technical Entrepreneurship, and we're thrilled to share our vision with you. Remember that...... Listed under Clock – Timer Projects, Projects

17. Speech-controlled Game Boy Advance using arduino This is a project I worked on for my electronics class at Pomona College. Thanks to Professor Dwight Whitaker and Tony Grigsby for their help and guidance throughout this project, and credit to Jonathan Wong for the idea for this project! Also, here's a list...... Listed under: Game – Entertainment Projects

18. Sign Language Translator using Arduino First of all, this project is not finished. We're still trying to improve and fix some problems. Right now, we're only able t translate letters from "A" to "E". The program still have problems while identificating those letters, the values for each of them match...... Listed under: Other Projects, Projects

19. AC Dimmer Circuit: 46 Green wire is zero_cross signal, goes to Arduino digital pin 2 in. Yellow wire is light dimming signal, comes from Arduino digital pin 11. T LED on board should dim or fade along with the AC light source. Fading will not work until AC power...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Proje

20. 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, e 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

21. 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

22. 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

23. 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

24. 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 i 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

25. 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

26. 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

27. 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-canvassed 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

28. 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

29. 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 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

30. Machine Design 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

31. 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

32. Simon Game 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 butto corresponds to one LED and the 4th LED is used to indicate an error. The game starts...... Listed under: Game – Entertainment Projects

33. 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 play an individual's music while they are active?...... Listed under: Game – Entertainment Projects, Sound – Audio Projects
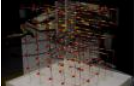
34. ANDROID BASED ROBOTICS While the field of robotics is continuously expanding at a remarkable rate and better performing robots are created every year, robotics still remains out of reach for many students and researchers. The main reasons for this difficulty are the high complexity of the hardware and...... List under: Robotics – Automation Projects

35. 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 feedi I used an Arduino Yún and a capacitive touch sensor, Adafruit CAP1188, to detect and record the birds feeding. On...... Listed under: Home Automation Projects

36. 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

37. 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

38. SoundBox Group #1 Avneesh Sarwate (asarwate@) John Subosits (subosits@) Joe Turchiano (jturchia@) Kuni Nagakura (nagakura@) Yaared Al-Mehairi (kyal@) 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...... Listed under: Sound – Audio Projects

39. 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; 15 161] 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

40. 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

41. Capture the image of a falling object 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 tim using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I...... Listed under: Video – Camera – Imaging Projects

42. 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

43. 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

44. 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. Whenyou type the right code, an LED lights up an the servo...... Listed under: Security – Safety Projects

45. Make your pet dishes tweet You give your pets everything: Food, water, a home, toys, and love. Why not give them a twitter account? This project allows you t 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

46. 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 t 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

47. AlarmingTweet 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 AlarmingTweet you can enable it to...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

48. Maze Solving Robot In this instructable I will be showing you how to build a maze solving robot. This is actually my 3rd attempt at making one. The first was a complete failure. The second was alright at finding the end of the maze, but it could not...... Listed under: Robotics – Automation Projects

49. 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 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

50. 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

51. Electric Turtle Robot 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

52. 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

53. 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

54. Giant Leaf Planetarium 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

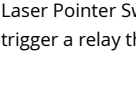55. Universal Gripper – Syringe Powered The "universal gripper" developed by researchers from Cornell University, the University of Chicago, and iRobot inspired me to create my own version. The YouTube video is quite impressive. The gripper can form around very asymmetrical and smooth shapes and still pick up the object. I...... Listed under: Robotics – Automation Projects

56. Arduino Project Board The Arduino Project Board is basically a board to transer 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

57. Turn your Arduino Uno into an USB-HID-Mididevice 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

58. 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 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

59. 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

60. 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

61. Pan/Tilt Motion System for Control Education 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

62. 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 ge my…… Listed under: Game – Entertainment Projects, Robotics – Automation Projects

63. DIY Parking Sonsor using Arduino The last time I was home visiting my parents I noticed bumper imprints caused by my mother suburban on the stairs leadin 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

64. 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 sour 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

65. 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

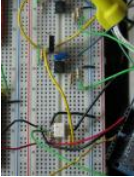**66.** Diy Xbox wireless controller adapter for Pc This instructable will go over the steps to connect a RF module from an RROD xbox to your computer so you can u a wireless controller with your computer. ******DISCLAIMER******* DONT TRY THIS IF YOU DONT HAVE ANY EXPERIENCE WITH ELECTRONICS/SOLDERING O COMPUTERS IM NOT…… Listed under: How To – DIY – Projects, Internet – Ethernet – LAN Projects

67. 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: Cloc Timer Projects, Home Automation Projects

68. 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

69. 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 LED 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

70. 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 had the opportunity of working at LED Engin last summer, which is why I…… Listed under: LED Projects

71. The Wondrous Weather Cube We created an Internet-enabled companion cube for your computer, which displays different kinds of information by glowing r 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

72. 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

73. 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

74. 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. Th 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 – Imagin Projects

75. DC motors Relays 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. Her one I like. Warning: SFWBN (safe for work but nerdy). V = voltage measured in volts -...... Listed under: Motor Projects

76. 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

77. making art interactive 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 such a way that we could program other functions, but we...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Phone Projects

78. 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

79. 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) case you want to build...... Listed under: Home Automation Projects

80. 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

81. 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 sens 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

82. 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

83. 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

84. 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

85. 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 wor documenting. The Huge Arduino Animatronic LED Eyeball is one of them. Background Most animatronic eyeball projects that I found were more or less life-si They were usually...... Listed under: LED Projects

86. Brain-Computer Interface Introduction Our goal was to build a brain-computer interface using an AVR microcontroller. We decided that the least invasive way 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

87. Happy Androids with Arduino Video instructions Arduino + Android Normally smartphone events are tightly coupled to your phone device itself. When your ce 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

88. 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 control 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

89. Finalized Prototype 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

90. 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

91. 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

92. Traffic Signal 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: Interfacing(USB – RS232 – -ISP) Projects, Other Projects, Projects

93. 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 spac 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

94. Zigbee Wireless Relay Control and Power Monitoring System Introduction We designed a system for wirelessly controlling relays and monitoring current. This used for a home load simulation. By wirelessly turning relays on and off by sending commands from a PC to a microcontroller we can change the total load (current) to our...... Listed under: Metering – Instrument Projects

95. 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

96.

Bidirectional motor control 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

97.

Fab Lab Barcelona SuperNode [assigment] 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 [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...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

98. 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
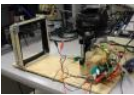

99.

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

100. 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

101.

Rubik's Cube Solver using arduino This robot that can solve a Rubik's cube using Arduino. I learned how to solve a Rubiks 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
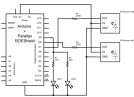
102.

Connecting an IR Sensor 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
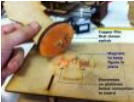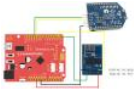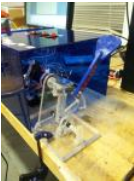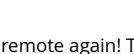
103.

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

104.

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

105. 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
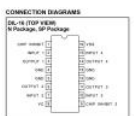
106. How to connect a servo to the Arduino Servo Cable The continuous rotation servos that come with the BOE Shield-Bot have a 3-wire cable for connecting it to the power and controller. The black wire is the ground, the red wire is the power (positive) and the white wire (sometimes yellow, depending on...... Listed under Motor Projects

107. 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

108. Pneumatic Inverted Pendulum Construction Mechanical structure Compressed air comes from air compressor and goes in the proportional valve. Coming ou 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

109. Make your own TV ambilight 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

110. Step Sequencer Drum Machine Overview [top] 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...... Listed under: Sound – Audio Projects

111. 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

112. Programming an ATTiny13A using Arduino & servo interpreter So there I was, browsing eBay, looking for some cheap deals on Atmel chips when i came acros 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

113. 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 & interfa [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

114. 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 the right. When the servo is turning, corresponding LED will be switched on to indicate the operation. Result: Because Arduino...... Listed under: Motor Project Projects

115. Desktop Fist Bumper using arudino This simple device sits on your desk at work, ready to give you fist bumps throughout the day as you need them. A 3D pri by a servo attached to a rack and pinion mechanism. An ultrasonic range finder detects when you...... Listed under: Battery Projects

116. 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 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

117. $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

118. Katrina And Maya bOunce is a haptics-based learning game system that teaches the concepts behind wave dynamics, and in particular, resonance. The bOun 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

119. 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 DAC is...... Listed under: Projects, Sound – Audio Projects

120. 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

121. 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: Project Sensor – Transducer – Detector Projects

122. MOTOR SWITCH LED Here is how to connect a motor, a swtich 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

123. 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

124. 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
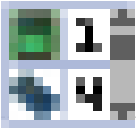
125. Pololu Dual MC33926 Motor Driver Shield for Arduino This shield makes it easy to control two brushed DC motors with your Arduino or Arduino-compatible board. Its dual MC33926 motor drivers operate from 5 to 28 V and can deliver a continuous 3 A per motor. These great drivers also offer current-sense feedback and accept ultrasonic...... Listed under: Motor Projects
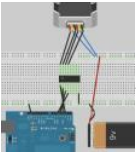
126. Stepper Motors Stepper motors are not smooth - they move in "steps". Different motors have a different number of steps to make one complete rotation. You use software to step the motor forward or backward at different speeds. There are two kinds of stepper motor bipolar and...... Listed under: Motor Projects

127. 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
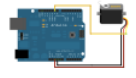
128. Sweep Sweeps the shaft of a RC servo motor back and forth across 180 degrees. This example makes use of the Arduino servo library. Hardware Required Arduino Board (1) Servo Motor hook-up wire Circuit Servo motors have three wires: power, ground, and signal. The power wire...... Listed under: How To – DIY Projects, Motor Projects

129. 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

130. 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
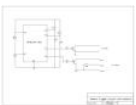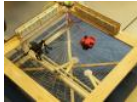
131. Capture the image of a falling object using Arduino The aim of this project is to create a setup to capture the image of a falling object or any object in motion at a precise time using a DSLR and Arduino microcontroller. It can be done in many different ways, but the method I...... Listed under: Video – Camera – Imaging Projects

132. 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

133. 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
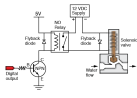
134. Cheap wireless transmission between two Arduinos with Infrared Hi all, For a project, I was looking for a cheap solution to send data from an Arduino to another one. The serial port was already taken, and my transmission (unidirectional) needed to be wireless. My researches has brought me to discover these kinds...... Listed under: Internet – Ethernet – LAN Projects

135. 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 Thing 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

136. 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

137. 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

138. 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, BLue) 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

139. 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

140. 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

141. 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

142. 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

143. 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

144. 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). Step...... Listed under: Sensor – Transducer – Detector Projects

145. 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

146. 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

147. 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

148. 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

149. 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

150. 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 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

151. Breathalyzer using an Arduino What is a breathalyzer you may ask? It is a device for estimating blood alcohol content (BAC) from a breath sample.In simple terms it is a device test weather a person is drunk or not. As the title suggests it runs on the arduino.Our breathalyzer...... Listed under: Medical – Health based Projects, Projects

152. 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

153. 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

154. 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

155. How to Make a PIP-Boy using an Arduino So what exactly is a PIP-Boy, you ask? For those unfamiliar, a PIP-Boy is a device used by the protagonist in the popular Fallout series of video games for navigation, radiation detection, data storage/playback, and inventory management. Being a major fan of the franchise, I...... Listed under: Game – Entertainment Projects, Projects

156. 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 because we are working on this in...... Listed under: Other Projects, Projects

157. 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 to17th 2013, at Timelab,...... Listed under: Game – Entertainment Projects, Radio Projects

158. 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

159. The machine of answers 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

160. 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

161. 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

162. 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

163. 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

164. 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 on 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

165. Love Gauge 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

166. 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 und Car Projects

167. 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 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

168. 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

169. 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

170. 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

171. Arduino ADK LED Lighting Have you ever wanted to control electronics with your smartphone? The Arduino ADK (Android Development Kit) is the Arduino Me 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

172. 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

173. Arduino Leonardo Pinout Diagram Arduino Leonardo Introduction: The Arduino Leonardo is a microcontroller board based on the ATmega32u4 (datasheet). It has 20 digital input/output pins (of which 7 can be used as PWM outputs and 12 as analog inputs), a 16 MHz crystal oscillator, a micro USB connection, a power jack, an ICSP...... Listed under: Pinouts

174. 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

175. Create an internet controlled robot using Livebots Here you will learn how to create an internet controlled robot or other installation using Livebots. Livebots 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

176. 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

177. Using the Arduino Uno to program ATTINY84-20PU Using the Arduino Uno to program ATTINY84-20PU (Newark item # 68T3783). This Instructable shows how 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

178. 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

179. MaKey MaKey Monome using Arduino Objective: build a monome - a complex electronic music instrument - using easy-to-learn, inexpensive components and 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

180. 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

181. 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

182. 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

183. 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 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

184. 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

185. Boot Bot Arduino Bootload Shield The Boot Bot Shield lets you burn the arduino boootloader onto a blank Atmega 328 chip. The bootloader is that magic pie 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

186. 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 y 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

187. Arduino Orb Build Warden An Arduino based Ambient Orb designed explicitly for monitoring Source Code Autobuild systems. This orb can easy be repurpose 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

188. 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) Wire ·...... Listed under: LED Projects

189. 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 i Instructables, I didn't know anything about programming, and little about electronics, yet I was able to build it...... Listed under: LED Projects, Projects

190. 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

191. Monitor – Thinking Skins using Arduino This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectural Desig (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 Giv were small shared space containers for 6/8...... Listed under: LED Projects

192. 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

193. 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 as the...... Listed under: Battery Projects, Projects

194. 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

195. 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

196. 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 th 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

197. 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 Projec Projects

198. SmartMesh – Arduino and Android Controlled Pneumatic Facade This project was part of Multimodal Media Madness 2014, hosted by the chair for Computer Aided Architectu 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 During this

project, the students were asked to...... Listed under: Arduino Android

199. 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

200. 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

201. 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: Project, RTOS – OS Projects

202. 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

203. 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

204. 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

205. 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

206. 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

207. 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

208. 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

209. 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

210. 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

211. 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

212. 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 908 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

213. 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

214. Using Servos with Arduino made easy ! Servomotors or simply servos are essential components of a robot which convert electrical energy into mechanical energy.They are widely used in the field of RC hobby and robotics. But unlike simple geared motors , these servos are made by integrating a geared motor wit a...... Listed under: Motor Projects

215. 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: Intern – Ethernet – LAN Projects, Projects, Sensor – Transducer – Detector Projects

216. 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

217. 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

218. 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

219. iAndroidRemote – Control Android mobile using an Apple Remote I love to integrate devices which are not supposed to be integrated and this guide shows yo 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...... List under: Internet – Ethernet – LAN Projects

220. Arduino Digital Switch Code This is basic for your arduino projects, input switch read from digital input. When ever switch pressed, LED will turn on.   [caption id="attachment_4235" align="aligncenter" width="600"] PushButton_arduino_code[/caption]   Instruction; 1) Connect cathode lead of LED (shorter lead) to ground pin and anode lead of LED...... Listed under: How To – DIY – Projects, Projects

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

222. 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

223. 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

224. 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
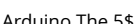
⬆

225. 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

226. Rock Paper Scissors Spock Lizard using Arduino Introduction: Okay, I cheated. Any similarities between previous Instructables uploaded by me and the graphi 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

227. ADXL3xx Accelerometer using an Arduino This tutorial shows you how to read an Analog Devices ADXL3xx series (e.g. ADXL320, ADXL321, ADXL322, ADXL330) accelerometer and communicate the acceleration to the a personal computer. This tutorial was built using the breakout boards from Sparkfun. The adafruit accelerometer breakout board also works, though...... Listed under: Metering – Instrument Projects, Projects

228. 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 dislay how the plant "feel"....... Listed under: Game – Entertainment Projects, Home Automatic Projects

229. 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 o ridiculous if I should bring my tank along. When I won a Sparkfun...... Listed under: Home Automation Projects

230. 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 "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

231. 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 en 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

232. 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 light 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

233. 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 Moto 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

234. Make your own 1×1 22 IO pin Ardunio Compatible Tested ExtraCore boards and kits are now available for sale from Rugged Circuits. What is it? This Instructab 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

235. 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

236. 4x4x4 LED-cube based Arduino and Flower protoboard This instructable will teach you how to build your 4x4x4 LED cube with Flower ProtoBoard and control Arduino. Why is Flower ProtoBoard ? not ProtoBoard ? Because of I often use protoboards to test out if a new idea works in practice. I do not use...... Listed under: Game – Entertainment Projects, Home Automation Projects, LED Projects, Projects

237. 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

238. Arduino The 5$ Karduinoss pad So, looking at these Kaoss pads and alike hardware, I found that there is hardly any point in this device being so expensive, when you just want to use it as MIDI controller. Going through my parts bin, I found a Synaptics touchpad from an old...... Listed under: Sensor – Transducer – Detector Projects
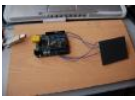
239. Arduino Modules – Flame Sensor Quick and simple start guide for using and exploring the Flame Sensor module with an Arduino. The model in the example I am using is from Deal Extreme [DX] and can be found HERE. (The instructable for the Rain Sensor is now available!) Materials needed:...... Listed under: Sensor Transducer – Detector Projects

240. Arduino Row-column Scanning to control an 8×8 LED Matrix Code LED displays are often packaged as matrixes of LEDs arranged in rows of common anodes and columns of common cathodes, or the reverse. Here's a typical example, and its schematic: These can be very useful displays. To control a matrix, you connect both its rows...... Listed under: LED Projects, Projects

241. Read ASCII String using Arduino This sketch uses the Serial.parseInt() function to locate values separated by a non-alphanumeric character. Often people use 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

242. 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

243. 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 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

244. 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

245. 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 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

246. 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 thou it's probably not practical due to it's size, repetitive use of the equals button (due to the lack...... Listed under: Calculator Projects

247. DIY AM Radio with Arduino After I finished my last project, I coudn't stop thinking how to build an AM receiver, that would also operate in conjunction with m 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

248. 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
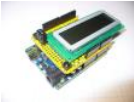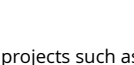
249. DIY navigation device for blind people using Arduino and Android smart phone In this project you can cover your eyes and let your smartphone navigate you avoid obstacles, the application is mainly a DIY navigation device for blind people. I knew that 1Sheeld is about to launch a new text to speech shield, and so I...... Listed under: Arduino Android, Home Automation Projects, How To – DIY – Projects, Medical – Health based Projects, Phone Projects

250. 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 t 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

251. 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 und Game – Entertainment Projects

252. 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

253. 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

254. 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

255. 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

256. Access control with Arduino plus Keypad 4×4 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

257. 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

258. 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

259. 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

260. 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

261. 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

262. 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 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

263. 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

264. 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 capab projects such as time, date, alarms and so on. We will use the inexpensive Maxim DS1307 real-time...... Listed under: Clock – Timer Projects, Projects

265. 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

266. Twitter Physical Client 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

267. 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

268. 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

269. 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

270. Bear With Me 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 Projec

271. 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 pitc 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

272. DIY Arduino FM Radio Shield I've been visiting local convenience store (Dollarama, here in Montreal, Canada) and notice nice looking FM Radio, just for only $3 Why not to try to interface it to my lovely Arduino? Idea looks quite challenging, the same time what is the point in interfacing...... Listed under: How To – DIY – Projects, Projects, Radio Projects

273. 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

274. 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

275. 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

276. 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 Automatio Projects, Security – Safety Projects

277. 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 ca be a solution to your problem! The Arduino breadboard shield is again, an accessory for your arduino board...... Listed under: Development Board – Kits Proje

278. 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, sens 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

279. 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

280. 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 or 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

281. Arduino home energy monitor shield Although products are becoming more and more available for monitoring your home power usage, I'm one of those idio 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

282. 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 – Audi Projects

283. 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 pho data on SD Card? then this instructable is for you. In this instructable you will learn...... Listed under: Phone Projects

284. Soundgraffiti with arduino mega So we haven been working on the new soundgraffiti board. This is an installation wich creates sounds using sprayed water. T 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

285. 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 desig 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...... Listed under: Other Projects, Projects

286. 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

287. Fifty Dollar Box Bot The objective is to construct a programmable hobby bot that is affordable and simple to make. The parts will be purchased from places su 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 – Automatic Projects

288. 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
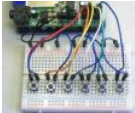
289. Arduino Interrupts and Debouncing Interrupts are an extremely useful, yet often feared element of microprocessors. Interrupts allow you to run a program, while still being able to react to asynchronous input from the outside world. [box type="note" color=" #202020 " bg="#ffbb00 " font="verdana" fontsize="14" radius="20 " border="#000" float="right" head="Attributes"]Thanks to...... Listed under: Other Projects, Projects

290. 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
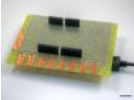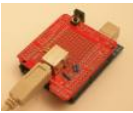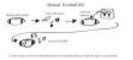
291. Monkey Automatons! This instructable will guide you through the process of building a set of automaton monkeys in the style of "Hear No Evil, See No Evil, Speak No Evil." Our design ends with two monkeys reacting at the push of a button located in the Speak...... Listed under: Game – Entertainment Projects

292. SOLAR POWERED ARDUINO WEATHER STATION In country like India most of the people are dependent on agriculture.For effective planning in agriculture weather forecast is of utmost importance.So farmers are always interested in the Weather Forecasts.As farmers stay in remote areas, they have to wait for th news updates in tv,...... Listed under: Solar energy projects
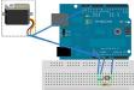
293. Arduino Controlled Motion Sensor In this Instructable, I'll be explaining how to build a motion activated alarm! It uses an Arduino microcontroller, a PIR (passi and a type of alarm. You can use an LED indicator, a buzzer, or a piezo. That's the easy part. I will...... Listed under: Projects, Sensor – Transducer – Detector Projects

294. MaKey MaKey Shield for Arduino MaKey Makey is a project created by Eric Rosenbaum und 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

295. 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

296. 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

297. 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 und Robotics – Automation Projects

298. The CoaTracker 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/whateve 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

299. 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 usin switch to turn everything and off we used a photodiode. For our car the photodiode signal is a simple on off...... Listed under: Game – Entertainment Projects, Projects

300. 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 neith 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

301. 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 Proje Home Automation Projects

302. 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

303. 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. n 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

304. Froggy World 3 The Seesaw 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

305. 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 w 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

306.	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 device 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
307.	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
308.	The Musical FootBall This project is to construct a musical football. The reason for my project is that I was inspired by a little kid with austim who love sports a music. So what better way to have fun then have a ball that you can play with...... Listed under: Game – Entertainment Projects
309.	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
310.	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
311.	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 muc 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
312.	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
313.	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 alread 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
314.	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 previou 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
315.	Light Suit 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 ve excited, I'd made LED's flash and buzzers sound but now I wanted to make something new and interesting,...... Listed under: LED Projects
316.	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 attentio 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
317.	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
318.	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
319.	How to build an Arduino WiFi 4×4 with Android Controller RC cars can be WiFi Cars...? RC cars are cool, but cheap RC cars have limited range and can only be controlled with the particular controller that was included with the car. I purchased a RC jeep, complete with 4 wheel drive, flexible suspension, and...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

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320. 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

321. 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 cabl 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 momenta button...... Listed under: Robotics – Automation Projects

322. 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

323. Adding CV inputs to the Auduino granular synth When I first got into the Arduino I went looking for audio projects. One of the first things I built was TobaTobia Auduino granular synth. I was so impressed I built a permanent unit in a heavy duty enclosure and incorporated it into my occasional...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

324. GoFly – paragliding/hangliding/gliding altimeter-variometer from Your car navigation using Arduino GoFly is a project based on PNA (car navigation devices wi Windows CE), LK8000 tactical fligh computer software and variometer (altimeter) external input based on Arduino board and pressure sensor. Why? -You can build this for about 150$, -Your ordinary PNA (Personal Navigation Assistant) changes...... Listed under: Car Projects, Metering – Instrument Projects, Projects

325. 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 yo wake up with a need to do something whatever that may be (bathroom, forgotten homework assignment, project due in...... Listed under: LED Projects

326. 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, the 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

327. 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

328. 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

329. 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

330. 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

331. 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, was desperately trying to find...... Listed under: How To – DIY – Projects

332. 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, Proje

333. Arduino Wireless Animatronic Hand BTW!!!!! This instructable is awsomeeeeeeThis is a very simple but at the same time a very hard project depending on you 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

334. 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 tha 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

335. 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

336. 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 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

337. 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 Bluetoot 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 und Other Projects, Projects

338. 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 aw 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

339. 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

340. 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

341. '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 pi that listens for a knock from...... Listed under: Sensor – Transducer – Detector Projects

342. 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

343. Arduino Tutorial: Capacitive Touch Sensors Hello everyone! This instructable is a tutorial that will guide you on using the Capacitive touch sensors with Arduin 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

344. 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 P 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

345. 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 u 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

346. 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 Apr 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 met watch into...... Listed under: Clock – Timer Projects, Phone Projects, Projects

347. 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

348. 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

349. 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

350. Assembling the 8×8 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

351. CatGenie: A smart, resettable SaniSolution cartridge The project This project follows on from the excellent work by ScotSEA and his Arduino reset program (se 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 conta board instead. I had previous updated Scott's program to...... Listed under: Security – Safety Projects

352. 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

353. 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

354. 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

355. Arduino and L293D Robot (Part 1) Here is part 1 of the Arduino and L293D Robot.This is part of a series of instructables leading to a Line follower Robot. This is a basic Robot made by controlling two motors via the L293D chip through an Arduino Board. I have done this project in...... Listed under: Projects, Robotics – Automation Projects

356. Mini BillBoard using Arduino Designing a Mini BillBoard using LED Lights(different colors) , Arduino and Bread Board. Thought of creating a mini billboard, tha 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

357. 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 Project
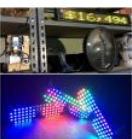
358. How to Make Musical Floppy Drives using an Arduino My brother posted a video about this on facebook almost a year ago. Some old floppy drives playing Bach's masterpiece Toccata & Fugue and it got me really interested. So I read about it when the author posted a how-to on his blog and did a couple of tweaking...... Listed under: Game – Entertainment Projects, Projects, Sound – Audio Projects

359. 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 a 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 – Entertainme Projects

360. 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

361. SYNTHDUINO The synthduino is a fun arduino project to do and as a beginner it is a great way to learn new things about arduino's many features. With only using household items to build the synthduino you will be satisfied with the finishing project and feel...... Listed under: Game – Entertainment Projects

362. 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

363. 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

364. Personalised Word Clock using Arduino Build a unique personalised gift that's cool and reflects the character of the recipient. What's different about this Word Clock is that it is small enough to sit on a bedside desk, displays the recipients name and has personalised messages that appear at different times...... Listed under: Clock – Timer Projects

365. Arduino String Instrument Sure you can use LDR's, potentiometers and buttons to generate sounds, but what about strings? When I began thinking about an Arduino string instrument, I realized what I wanted to create was a soft potentiometer. I found my inspiration from Hannah Perner-Wilson's Fabric Potentiometer http://www.kobakant.at/DIY/?p=543. Step...... Listed under: Metering – Instrument Projects

366. 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

367. 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: Project Robotics – Automation Projects

368. 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

369. 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

370. 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

371. Kickstarter Backer Alert with Stats Scroller, using Arduino Yun The Arduino Yún is a curious addition to the Arduino family. There is a fairly widespread community surrounding the Arduino concept, platform and software. There's another popular community dedicated to hacking and improving inexpensive wireless routers, which often run Linux. The Yún combines the two...it's...... Listed under: Car Projects

372. 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

373. 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 st 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

374. 8×8 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

375. 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 amazing 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

376. 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 seri 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 -IS Projects, Motor Projects, Projects

377. 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

378. DIY a Spelling Game with an Interactive Robot using Arduino Did you hear before about Social Robot? Did you you see the Pepper Robot or Jibo robot? These kinds of robots that can hear you, understand you and make a social contact with you via sound, facial expressions and body gestures. Social robots have various...... Listed under: How To – DIY – Projects, Robotics – Automation Projects

379. 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

380. 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
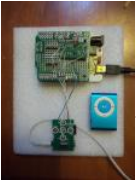
381. Ethernet Switching – with Arduino Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.0 Please read the below steps to Step 2 if you are viewing this article for the first time. Please go to step...... Listed under: Internet – Ethernet – LAN Projects

382. 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

383. 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. O of the popular...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

384. 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 avoidanc robot, with an Arduino UNO microcrontroller on board. I designed the TurtleDuino using material from the hardware store (Home Depot) and all the electroni from sparkfun.com...... Listed under: Projects, Robotics – Automation Projects

385. 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
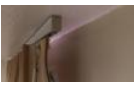
386. Convert a toy piano to work as a midi device and use it with Synthesia Goal of this project: Convert a cheap toy piano to work as a midi device and use it with Synthesia (http://www.synthesiagame.com/) Other programs that use midi inputs can also be used. Approach: The pushbuttons of the piano are used to make simple pull-down circuit…… Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Sound – Audio Projects

387. 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

388. 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 disabilitie Summary Begin with…… Listed under: Sound – Audio Projects

389. An FM Stereo Broadcaster PLL using Arduino I have two good AM transmitters - one I'd built using a single 6888 Tube plus an old KnightKit Broadcaster that I'c refurbished, as well as a high-quality solid state transmitter from SSTRAN that I use to play music over the several antique AM radios I've repaired…… Listed under: Projects, Radio Projects

390. 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,…… Liste under: Home Automation Projects, Projects

391. 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 decide would try something small and fun! This robot is exactly that, and in fact fits inside of an altoids…… Listed under: Robotics – Automation Projects

392. 5×5 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

393. 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

394. 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 c 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

395. 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 purpo 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

396. 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 t 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

397. Bubble Wall | Interactive, Inflatable Panel Bubble Wall | Breathing Wall Panel System Interactive, Inflatable, Playable Wall Brief Project Description This was ar 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 this panel,…… Listed under: Game – Entertainment Projects, LED Projects

398. 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 und Game – Entertainment Projects, Home Automation Projects, Projects

399. 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


400. 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 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

401. 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

402. 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
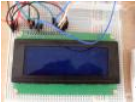
403. Garduino-Automated Gardening System using Arduino This instructable is a guide for setting up an automated gardening system using an arduino and other cheap electronic parts. It allows sustainable gardening by using sensors to determine soil moisture, as well as a webscraper to determine future weather. It uses this information to save water by only...... Listed under: Home Automation Projects, Projects

404. 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 som 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
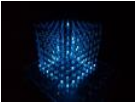
405. Burning the Bootloader on ATMega328 using Arduino UNO as ISP I had one remote controlled project that needed an Arduino running 24/7 but I didn't want t leave my $32 Arduino UNO, so I decided to buy some pieces and created my own Arduino. The most important part was buying the microcontroller. These we my...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects
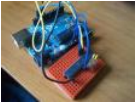
406. How To Make A Board Game Using Arduino In this Instructable, we'll teach you how to create your own "Would you rather... " board game using conductive paint, an Arduino microcontroller, and some electronics components. Players take turns moving along the game path as directed by an electronic dice roll. Along the way,...... Listed under: Game – Entertainment Projects, Projects

407. 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

408. 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

409. Capacitive touch Mood light using Arduino This instructable is a quick write-up of my experience creating a multifunctional moodlight. Some basic knowledge 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

410. 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 und Development Board – Kits Projects

411. 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

412. 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

413. 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

414. 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

415. 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

416. Interface Arduino to MySQL using Python Here's a brief tutorial that should get you up and running interfacing your Adruino 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

417. 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

418. 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 readin period with no timeout...... Listed under: Game – Entertainment Projects, Projects

419. 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 mechnical construction requires ingenuity I tried...... Listed under: Metering – Instrument Projects

420. 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

421. 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

422. Clock with Tics (presentation prototype) using Arduino Clock with Tics is an Arduino-powered 24-hour digital clock that displays expletives at random intervals 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

423. 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

424. 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

425. 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

426. 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

427. 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

428. 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

429. 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! Hole 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

430. 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

431. 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 70ºC (158ºF). It...... Listed under: Battery Project, Solar energy projects

432. 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

433. 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

434. 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
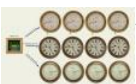
435. Arduino-powered LED Clock A fun, simple LED clock, that will give you the time to the nearest half hour using single-color LEDs. Parts needed are as follows: Arduino Nano 400 tie-point Breadboard Ribbon Cable DS1307 RTC IC 32.768 kHz Crystal (12) 10mm LEDs (12) 180 Ohm resistors (2)...... Listed under: Clock – Timer Projects, LED Projects

436. 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

437. 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...... List under: Internet – Ethernet – LAN Projects, Projects

438. 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 ka so I had some trouble finding a way to attach the gas petal. Well...... Listed under: Car Projects, Motor Projects
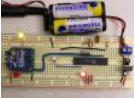
439. Programming Arduino Wirelessly The Arduino system offers an easy and open-source method for programming microcontrollers. Normally this means using serial cable or USB cable attached directly to the microcontroller project. But what if your project is floating in a weather balloon, glued to the bottom of a swimming pool...... Listed under: Arduino Programmer Projects, Projects

440. 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 b on it'. I fell victim to a similar trend in the geek crowd: Take an ordinary silver item and...... Listed under: LED Projects

441. 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...... List under: Other Projects

442. 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

443. 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 creat 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

444. 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 Ardui 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

445. 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 project

446. 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

447. 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

448. 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

449. 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 walki 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

450. 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

451. 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. t 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

452. 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 – D – Projects, Security – Safety Projects, Sensor – Transducer – Detector Projects

453. 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 Androi 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

454. 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...... Liste under: Other Projects, Projects

455. 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
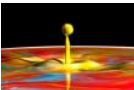
456. Daft Punk Coffee Table 5×5 LED Matrix using an Arduino Yes, I know this has been done before, but I wanted to build my own, using as few parts as possible. built this as a table top or wall mount model, but it can be scaled up to make a coffee table. I built...... Listed under: Home Automation Projects, LED Projects, Projects
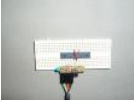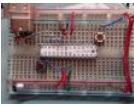
457. Capacitive-Touch Arduino Keyboard Piano Using only an Arduino, a few resistors, a buzzer, and some bits of aluminum foil, you can create your own touch-sensor piano keyboard in just a few minutes! Using an Arduino Uno, you can create a piano with up to 18 keys; or with an...... Listed under: Development Boar – Kits Projects, Sound – Audio Projects

458. 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 bas 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 optocoup with some resistors to decouple the...... Listed under: Projects, Radio Projects
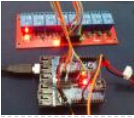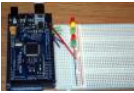
459. Arduino Servo Basic Code In arduino projects, you might add servo to your projects. This short tutorial, show you the basic how arduino and servo works together.   Instruction 1) Connect all jumper wire as shown in diagram. 2) Connect the signal wire from servo to digital pin 9....... Listed under: Motor Projects, Projects

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460. 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

461. 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

462. Scratching with Arduino MIT has developed a fantastic visual programming language called Scratch. It is also an amazing learning tool for children, because it 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

463. 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 workin 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

464. 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 Projec Video – Camera – Imaging Projects

465. 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 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

466. 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

467. 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

468. 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

469. 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 wit components to build myself the system: http://iwup.altervista.org/shop/reference_list.pdf 1.-) Arduino UNO with USB cable 2.-) Ethernet Shield Arduino 3.-) Relay (for arduino 5 V)...... Listed under: Home Automation Projects, Interfacing(USB – RS232 – I2c -ISP) Projects, Phone Projects, Projects

470. 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

471. 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 w 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

472. 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

473. 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 Projec

474. 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

475. 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

476. 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

477. 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

478. 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

479. 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

480. 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

481. 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

482. 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

483. 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

484. 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 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

485. 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

486. 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

487. 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

488. 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

489. 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

490. 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

491. 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

492. 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

493. 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

494. 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 sig or "window sticker." Arduino controlled! Also includes Windows, Mac, and Linux code for converting .xbm image files into Digital Window Sticker files. Perfect a shop...... Listed under: LED Projects, Projects

495. 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 powere 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

496. 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 a 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

497. 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

498. 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 we perceived to be. Virginia Tech's cannon project...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

499. 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 Androi Internet – Ethernet – LAN Projects, Projects

500. 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......
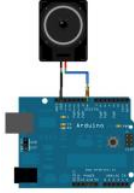
Listed under: Sound – Audio Projects
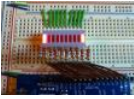
501. How to use an array with Arduino This variation on the For Loop example shows how to use an array. An array is a variable with multiple parts. If you think of variable as a cup that holds values, you might think of an array as an ice cube tray. It's like a series...... Listed under: How To – DIY – Projects, Projects

502. 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

503. 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 remember correct they were around £12 per approx. 2m strip) however the controller/driver was still around £40, so I...... Listed under: LED Projects

504. 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

505. 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

506. 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

507. 3D Printed Arduino Controlled Eggbot/Spherepot First off this project was a combination of of two great online resources. I had been looking into building an eggbot for a while and since I had a lot of ping pong balls on hand after one of my other videos the time was right for...... Listed under: Robotics – Automation Projects

508. 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

509. 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

510. 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 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

511. 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

512. 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

513. Memsic 2125 Accelerometer using Arduino The Memsic 2125 (datasheet) is a two-axis accelerometer capable of measuring acceleration up to plus or minus 2 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

514. 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

515. 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

516. 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 wa 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

517. 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 similiar features as Arduino...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Internet – Ethernet – LAN Projects

518. 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

519. 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 al obstacles and working in complete autonomy, automatically charging itself with a solar panel. In this post we present a robotic lawn mower, powered with so energy and able to...... Listed under: Robotics – Automation Project Ideas, Solar energy projects

520. 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

521. Hexapoduino: tiny hexapod 3D printed, Arduino controlled A few time ago, i found out a 3d printed Micro-Hexapod on Thingiverse. I started to work on it in th 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

522. 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

523. 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 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

524. 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

525. 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 ther is fursuiting for which I am a big fan of and my own character (fursona) is a...... Listed under: Game – Entertainment Projects

526. 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

527. 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 LED 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

528. 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

529. 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

530. 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

531. 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

532. Bluetooth Controlled Message Droid using Arduino This is an instructable for a bluetooth controlled Message Droid. I call it R2Blue2. It moves around and dis 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

533. 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 grea 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 Project How To – DIY – Projects, Projects

534. 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

535. 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

536. 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

537. 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

538. 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 simpl mechanical device that provides a varying amount of resistance when its shaft is turned. By passing voltage through a potentiometer and into an analog inpu on...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

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539. 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

540. 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 b[...] 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

541. 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. [...] 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...... List[...] under: Home Automation Projects, LED Projects, Projects

542. 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 experimen[...] in building an arduino platform for...... Listed under: Projects, Sound – Audio Projects

543. Lite Brite LED clock using an Arduino Lite Brite pegs look like LED's don't they? That's what I though the other day after working on an LED cube for a few hou[...] 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
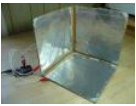
544. DIY 3D Controller using an Arduino Make a 3D interface using an six resistors, aluminum foil, and an Arduino. Take that, Wii. Update: a much more thorough explanation of this project is available from Make Magazine. It might be easier to follow their instructions, and I think their code is more...... Listed under: How To – DIY – Projects, Projects

545. Analog Fabric Joypad using an Arduino How to make an "analog" input device from fabric and a few other necessary materials. "Analog" in parenthesis becaus[...] 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

546. "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 piec[...] 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

547. 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 tryin[...] 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

548. 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

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

550. Online Thermometer using Arduino One of the projects in Practical Arduino is the "Online Thermometer", which combines an Ethernet shield with a number [...] 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

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

552. 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

553. 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

554. 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 de 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

555. 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. 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

556. 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

557. 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 instalme 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...... List under: Clock – Timer Projects, Projects

558. 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, 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

559. 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 beginner like me,...... Listed under: Calculator Projects, LCD Projects

560. DIY 3D Laser Scanner Using Arduino Maker Alessandro Grossi sent us this great DIY build for a 3D scanner built using a laser, a DSLR, and an Arduino controll Allesandro is a Mechanical Engineer, holding a Ph.D. in product design. His day job involves helping designers and manufacturing firms develop and...... Listed under: How To – DIY – Projects, Projects
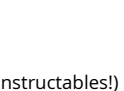
561. IPod Information Screen Rev. 2 I'm not usually one to revisit a project after I've finished it, but I made an exception because the problems with the original design were making this device unpleasant to use. For those of you just now viewing this project, it is the second iteration...... Listed under: LCD Projects

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

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

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

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

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

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

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

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

570. 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, Project

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

587. 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 sensor It's made up of a series of LEDs in a row, an analog input like a potentiometer,...... Listed under: LED Projects, Projects

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

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

590. How to use a Piezo element to detect vibration using Arduino This tutorial shows you how to use a Piezo element to detect vibration, in this case, a knock on a door, table, or other solid surface. A piezo is an electronic device that generates a voltage when it's physically deformed by a vibration, sound wave,...... Listed under: Projects, Sensor – Transducer – Detector Projects
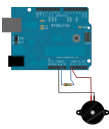
591. Paper Man: a machine created by Arduino and NFC Paper Man is a machine comprised of Arduino, NFC Shield, thermal printer and a papercraft shell—Iron Man. Thanks to the NFC Shield, you can directly sent messages from your mobile to the paper man, and the paper man will spit it out by printing with...... Listed under: CNC Machines Projects, Home Automation Projects

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

625. Arduino-controlled RGB LED Infinity Mirror Update 11/22/2013: Thanks to everyone who voted for this project in theMicrocontroller Contest! It was one of thr first-prize winners. Update 9/17/2013: Thanks to everyone who voted for this project in the Arduino contest (I was one of ten "second prize" winners)! If you want to try...... Listed under: LED Projects
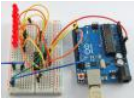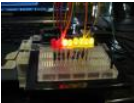
626. Visual Network Threat Level Indicator v2 using Arduino By popular request this is a new wireless version of the Visual Network Threat Level Indicator. This use a Roving Networks WiFly RN-XV Module to do 802.11 WiFi along with an Arduino to display the threat level on your network. Network monitoring is very important in todays...... Listed under: Internet – Ethernet – LAN Projects, Projects

627. A cardboard televisor (with arduino and LEDs) Recently I saw a documentary about the history of the television. And to my surprise they showed that there existed a mechanical television before the well known CRT televisions. Those mechanical televisions or televisors were pretty smart and simple. A CRT is simp an electron beam that...... Listed under: LED Projects
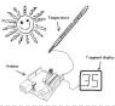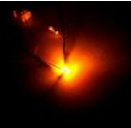
628. Arduino Target Practice A quick demo video for your pleasure. This is an instructable for a target practice system for airsoft and nerf weapons. The system ha been designed to test a shooter's reaction times and accuracy. Sam and I have been meaning to do this project for a...... Listed under: Game – Entertainment Projects, Projects

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

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

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

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

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

634. DIY Arduino Unit Converter: How to use LCD Step 1: Ingredients: Electronics Arduino Breadboard LCD* 2x 50k pots 150 ohm resistor Jumper wires, and tons o them! If you do not want to use a LCD then you will have to use serial monitor. Wherever you see lcd.print just change it to Serial.print....... Listed under: How – DIY – Projects, LCD Projects

635. CHR's 8X8X8 LED Cube – Revisited with improvements! SEE STEP 11 for uploadable code for this cube. This instructable has mutated over the past few months and you'll see a bunch of end results before we get into how to make the cube, and the improvements that have been made over the original...... Listed under LED Projects

636. Arduino 4 led madness In this instructables you will learn how to wire 4 LED'S and make them flash 10 times. This is a great Starter project!! what you will nee 1: arduino (I am using an Duemilanove) 1: breadboard 4: LED's 10-15: jumper wires 3: resistors Step 1:...... Listed under: LED Projects

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

638. 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 freq 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

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

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

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

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

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

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

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

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

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

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

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

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

651. Power off from an Arduino Sketch using the Pololu Power Switch If you need an Arduino to shut off from within your Sketch, this is the solution. We will explo wiring the Pololu Pushbutton Power Switch, programming the Arduino to shut off the power, and making the unit "power on" only. The Pololu Pushbutton Power Switch...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

652. Wireless nunchuk controlled animatronic doll using Arduino This instructable will attempt to show you how to make an animatronic doll controlled by a wirele nunchuk. This doll can only move its head though. I'm sure there are plenty of people out there who can take this and expand on it and make...... Listed under Game – Entertainment Projects, Internet – Ethernet – LAN Projects, Projects

653. Digital Read Serial using Arduino This example shows you how to monitor the state of a switch by establishing serial communication between your Arduino an your computer over USB. Hardware Required Arduino Board A momentary switch, button, or toggle switch 10k ohm resistor breadboard hook-up wire Circuit image developed using Fritzing. For more...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

654. Arduino Esplora Joystick Mouse This sketch shows you how to read information from the Esplora's joystick and use it to control the movement of the cursor on your computer You're making your Esplora into a mouse! This sketch will take over the mouse movement of your computer. If you...... Listed under: Game – Entertainment Projects, Projects

655. Hookup an LCD to an Arduino Adding an LCD display to Arduino projects can add real value but the cost of doing so can be significant. Not a financial cost - you can pick up 16 (characters) x 2 (rows) LCD for as little as £3.50. The cost is the pin...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, LCD Projects, Projects

656. The Tetris Pumpkin using an Arduino Who wants grinning faces and candles when you can have an interactive pumpkin this Halloween? Play your favorite block-stacking game on an 8x16 grid carved into the face of the gourd, lit by LEDs and using the stem as a controller. This is a moderately...... Listed under: Game – Entertainment Projects, Home Automation Projects, Projects

657. Switch Statement used with serial input using Arduino An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more than two options, you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you...... Listed under: How To – DIY – Projects, Projects

658. A laundry alarm for the hearing impaired and everyone else using Arduino This Arduino based project was designed to solve a recurring problem for my hearing impaired wife. Our laundry room is located remotely from our living area. If our laundry has finished washing and is not removed in time, it can sour or even get moldy. ...... Listed under: Home Automation Project Ideas, Projects, Security – Safety Projects

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

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

661. L.O.G. sous vide So have you heard of sous vide? Well, this Lazy Old Geek (LOG) hasn't or hadn't. http://en.wikipedia.org/wiki/Sous-vide It's French. So it's kind of like boil-in-a-bag only you don't boil it. The equipment can be rather expensive. http://www.sousvidesupreme.com/Shop_Online/SousVide_Supreme_Demi/Department.aspx?DeptID=3&&AdID=245&gclid=CN7PyM6uw7cCFWNp7AodomkA(I thought that was rather expensive for a...... Listed under: Home Automation Projects

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

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

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

665. Solar powered arduino on the back of a playing card Here's a six word tragedy: My arduino needs four AA batteries. Really? Isn't this 2012? Where's my jetpack?!! Here's a way to the future -- a way to make a solar panel, from scratch, that can power any arduino off of sunlight or even light...... Listed under: Battery Projects, Projects, Solar energy projects
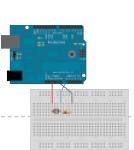
666. How to Build an Arduino Voice Controlled TV Remote #include <EEPROM.h> #include <Wire.h> #include <SoftwareSerial.h> #include <LiquidCrystal.h> SoftwareSerial voice = SoftwareSerial(15, 16); LiquidCrystal lcd(5, 6, 7, 8, 9, 10); int pulses, A_SIG=0, B_SIG=1, menu=0, datacount, i, buttoncoun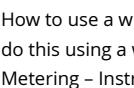t=0; int count, j, m, ready=0, even=0, fail, first_but=0, second_but=0; word Power[100]; word Remote[100]; //word Remote2[100]; word...... Listed under: Home Automation Projects, Projects
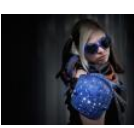
667. The useless alarmed Coke can using Arduino Hi all! This is the most useless project in the world! It consist in a Coke can attached to an Arduino trough a coax cable and two resistors that make a sound when an hand is near it. Step 1: Materials and Tools For make...... Listed under: Game – Entertainment Projects, Projects

668. Building the YaNis EOS Controller using Arduino The YaNis EOS controller is a device that allows you to wirelessly control your Canon DSLR from your Android phone. What's really exciting here is that the Android interface allows you to change most of the camera's settings (like Shutter Speed, Aperture Size, ISO, White...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects

669.

Arduino Combi-button Lock optional Android support Recently, I decided I would like to attempt to make a passcode lock with my newly acquired Arduino Un but all the tutorials I could find made use of a modified keypad, something that not every Tom, Dick and Harry has lying about. I therefore...... Listed under: Arduino Android, Internet – Ethernet – LAN Projects, Projects, Security – Safety Projects

670.

PEZ Robo Dispenser Using Arduino I was strolling down the candy aisle at the supermarket and there it was: the PEZ dispenser, conjuring up sweet (literally) childhood memories served up by my favorite cartoon characters in squarish sugary pellets. Then, all of a sudden, an LED went off in my...... Listed under: Game – Entertainment Projects, Projects, Robotics – Automation Projects

671.

Quality of Life Meter Harsh new rules at work getting you down? Overtime sucking the life out of you? Or maybe things are great, either way now you can sho your co-workers and management exactly how you feel about your job without a single meeting, memo, or team bonding...... Listed under: Metering – Instrument Projects

672.

Arduino Switch Statement used with sensor input An if statement allows you to choose between two discrete options, TRUE or FALSE. When there are more th you can use multiple if statements, or you can use the switch statement. Switch allows you to choose between several discrete options. This tutorial shows you...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects, Sensor – Transducer – Detector Projects

673.

Modifying a Robot Arm using Arduino Essentially another tutorial involving controlling DC motors. In this post I'm going to first alter a robot arm I had built previously from a beginners kit so that it can be controlled from Arduino. Then I'm going to write a series of posts on different...... Listed under: Projects, Robotics – Automation Projects

674.

RC Paper Tank – Bring your 3D models to life Bring your 3D models to life! In this instructable we will custom make a remotely controlled tank. We will infuse paper-craft with an arduino based system. This tank will be controlled on a android based phone though a bluetooth connection. I've strived to create something with...... Listed under: Game – Entertainment Projects

675.

Barcode Reading using Roborealm Output on Arduino LCD This Instructable shows how to create a Barcode Reader using only a webcam together with Roborealm and Arduino. The webcam used in this demonstration is the Logitech Quickcam and the LCD screen is labelled, JHD162A. What you need for this project: 1. Arduino UNO 2....... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, LCD Projects, Projects

676.

Analog In, Out Serial using Arduino This example shows how to read an analog input pin, map the result to a range from 0 to 255, and then use that result to s the pulsewidth modulation (PWM) of an output pin to dim or brighten an LED. Circuit image developed using Fritzing....... Listed under: Projects, PWM Projects

677.

Midi Light Show using Arduino For a class, my teammate and I decided to develop a MIDI based system that has a responsive light for each note played. For example, if you plug our little setup to a keyboard, pending on which note you press, you'll get a specific color....... Listed under: Projects, Sound – Audio Proje

678.

3D Printed Digital Camera This is a 3D printed digital camera that you can build yourself. By making your own digital camera, it takes away some of the myste around how such devices work, and are fabricated. Also, it allows you to fully customize the camera to your liking....... Listed under: Video – Camera – Imaging Projects

679.

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

680. How to use a while loop to calibrate the value of an analog sensor using Arduino Sometimes you want everything in the program to stop while a given condition is true. You ca do this using a while loop. This example shows how to use a while loop to calibrate the value of an analog sensor. In the main loop, the sketch below reads...... Listed under: Metering – Instrument Projects, Projects, Sensor – Transducer – Detector Projects
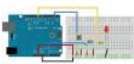
681. Arduino-l3dgecomm – Integrating L3DGEWorld and Arduino L3DGEWorld is a tool for monitoring and interacting with networks and computer systems. Within 3D world, entities bounce, spin, scale and otherwise change. These entities all represent an entity in another context - be it a server, phone, router or other monitorable device. The...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

682. Mailbox Phone Alert The mailbox phone alert sends you a text whenever you get mail. I remember anxiously checking my mail multiple times a day during the spring of my senior year of high school as I awaited letters back from colleges. Nervously, I would walk up to...... Listed under: Phone Projects

683. Tree Climbing Robot using Arduino After I got comfortable programming and building with an Arduino, I used my newly acquire microcontroller skills to build robot. Using a microcontroller, four high-torque DC gear motors, spiked legs, a linear actuator, rotation sensors, and 3 L298 H-bridge circuits, this robot can climb...... Listed under: Projects, Robotics – Automation Projects

684. Palm Arduino Board V3 I design and create this Palm Arduino V3 prototype PCB, as I was tired of recreating Arduino Compatible on perf board every time I prototyping a new project, especially when I had to spend a lot of time tracing the wiring to see that I...... Listed under: Development Board – Kits Projects, Projects

685. How to make a XY-plotter with Makeblock Last month, I made a XY-plotter by Makeblock and use it to built a Drawing Robot. This Drawing Robot was built wit two Linear Motion Shaft D8x480mm, two Long Beam0824, the timing belt, two stepper motors, two stepper motor driver, and a micro-controller Arduino. You...... Listed under: Robotics – Automation Projects

686. Best RGB LEDs for any project (WS2812) When we're working with LEDs, we often like to control their state (on/off), brightness, and color. There are many, many different ways of going about this, but none are as compact a solution as the WS2812 RGB LED. In its tiny 5mm x 5mm...... Listed under: LED Projects

687. DIY Skee Ball Machine The skee ball machine is a wonderful thing. The simple experience of rolling a ball into a target is so freakishly satisfying that I used to play as much as I could as a kid at the local amusement park/mini-golf course. The sound of the...... Listed under: How To – DIY – Projects

688. The Dryer Messenger using Arduino The dryer in our house is in an out-of-the-way corner where it's hard to hear the buzzer. When we miss it, the clothes sit the dryer getting wrinkly, so we start the dryer again, don't hear the buzzer again ... it's an endless cycle....... Listed under: Home Automation Projects, Projects

689. LED Shoulder Pads For this project, I was inspired by my best friend. She had been wanting some disco-fabulous armor-inspired wearable technology for mus costume parties for some time. I took a pair of construction/gardening knee-pads and turned them into glitterific shoulder pads that shine bright...... Listed under: LED Projects

690. How to Create an Arduino Compatible Bluetooth 4.0 Module I had been looking for a cheap alternative to some of the Arduino Bluetooth devices I'd seen, wh in my opinion are overpriced. Redbear's Mini: $39.95 (Note: This is a uC and BLE combo). Redbear's Uno Shield: $29.95 BLEDuino: $19.95 (if part of Kickstarte Bluegiga...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects

691. Homemade Arduino Friendly Pulse Sensor I saw the Open Hardware Pulse Sensor at thought I'd try to make it at home. Took me awhile, but here's my bumbling process. Step 1: Pulse Sensor -- Overview I've been working on re-making the the Open Hardware Pulse Sensor so it'd be "easy" to send off to...... Listed under: Medical – Health based Projects, Sensor – Transducer – Detector Projects

692. DIY Robotic Hand Controlled by a Glove and Arduino This project idea came to me when I was sitting on a bed on a hotel room on vacation. I thought: "It'd be really neat to have a robotic hand that I can control with my own hand!" Upon returning home, I embarked upon a...... Listed under: Robotics – Automation Projects

693. Arduino Barometric Pressure Web Server This example shows how to use SPI communications to read data from a SCP1000 Barometric Pressure sensor, and how to then post that data to the web by using your Arduino/Ethernet Shield combo as a simple web server. Using the Ethernet library, your device will...... Listed under: Internet – Ethernet – LAN Projects, Projects, Sensor – Transducer – Detector Projects

694. Create an Internet Connected Pill Dispenser The P.I.L. Box - A Better Medication Reminder System Studies show the consequences of patients not taking medications according to doctor's orders can be serious, especially in older patients.With today's low cost micro-controllers and sensors (and the incentive of the Radio Shack / Instructables Micro...... Listed under: Internet – Ethernet – LAN Projects

695. Android talks to Arduino This project slightly modifies the Google Android sample app called "Bluetooth Chat" so you can type a message in the Android app and that same message will appear on an LCD attached to an Arduino Uno. Functionality: Android talks to Arduino 1. Run the Android...... Listed under: Arduino Android, Interfacing(USB – RS232 – I2c -ISP) Projects, Internet – Ethernet – LAN Projects, Phone Projects, Projects

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

697. Make another Arduino LCD shield In this tutorial we make an LCD shield for using 20 character by four row LCD modules with Arduino Uno. Updated 18/03/2013 In this article you can follow the process of making another LCD shield for the Arduino Uno or compatible boards. In the past (which explains...... Listed under: LCD Projects, Projects

698. RGB LED Skate Light I like to go skating every week but I noticed that the my skates weren't cool enough so I decided it was time for some lights! I installed the lights on my Dad's skates as a thank-you present for taking care of the pool for...... Listed under: LED Projects

699. Homemade Infrared Rangefinder (Similar to Sharp GP2D120) using Arduino Here is my instructable on how to construct a pretty simple (for some!) short range infrared rangefinder/range sensor. Infrared rangefinders are very useful in a number of projects. The majority of these come from obstacle detection (in robot or generally detecting distances! The one shown...... Listed under: Internet – Ethernet – LAN Projects, Metering – Instrument Projects, Projects, Sensor – Transducer – Detector Projects

700. Make your own Enigma Replica EDIT: This Instructable has won Second prize in the 2013 Radio Shack Microcontroller Contest. Thank You to all who voted! This is our very first Instructable and this step by step guide will show you how to build a fully functional electronic replica of the...... Listed under: Game – Entertainment Projects, LED Projects

701. MIDI Note Player using Arduino This tutorial shows how to play MIDI notes from an Arduino. MIDI, the Musical Instrument Digital Interface, is a useful protocol for controlling synthesizers, sequencers, and other musical devices. MIDI devices are generally grouped in to two broad classes: controllers (i.e. devices that generate MIDI...... Listed under: Game – Entertainment Projects, Projects, Sound – Audio Projects

702. Serial Call and Response with ASCII-encoded output using Arduino This example demonstrates string-based communication from the Arduino board to the computer using a call-and-response (handshaking) method. The sketch sends an ASCII string on startup and repeats that until it gets a serial response from the computer. Then it sends three sensor values as ASCII-encoded...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

703. Trinity Assembly Hey dudes! Lets build the trinity synt! ! More information about the synth at: www.bastl-instruments.com Before you start: the board solders from both sides and the component goes always above its printed sign so it hides the sign! You should know that there are some...... Listed under: Other Projects

704. Serial Call and Response using Arduino This example demonstrates multi-byte communication from the Arduino board to the computer using a call-and-response (handshaking) method. This sketch sends an ASCII A (byte of value 65) on startup and repeats that until it gets a serial response from the computer. Then it sends three...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

705. A Self-Contained Data Logging Anemometer I love collecting and analyzing data. I also love building electronic gadgets. A year ago when I discovered the Arduino products, I immediately thought, "I'd like to collect environmental data." It was a windy day in Portland, OR, so I decided to capture wind data....... Listed under: Metering – Instrument Projects

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

707. *duino Keg Temp Monitor, or the Quest for the Perfect Pint I was looking for a project that combined my three favorite things - working in my shop, building cool stuff for my bar and of course, drinking beer. After a couple of weeks in the old country drinking "the Guinness", I decided my I'd put a keg...... Listed und Temperature Measurement Projects

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

709. 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

710. 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

711. 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 ju 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

712. 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

713. 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

714. Aqua Garduino Mini @hydroFishAqua82 Arduino Powered Micro Aquaponic System with Pi Camera and Twitter Feed We are creating an automated aquaponi 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
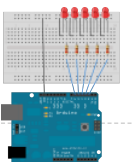
715. Homemade arduino printer If you want to make your own high resolution printer (maybe not so high res), you are at the right place. This Instructable will sho you how to do with two dead cd/dvd drive and a pen (pilot, whiteboard marker, whatever you have) at the...... Listed under: How To – DIY – Projects, Projects

716. 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: Ardui Programmer Projects, Projects

717. 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

718. 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 a eager to learn advanced uses of computers. The presenters were John Dukovich and Hugo Estrada.... Listed under: Arduino Programmer Projects, Projects

719. 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

720. 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

721. 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 f 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

722. 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 option This tutorial...... Listed under: Interfacing(USB – RS232 – I2c -ISP) Projects, Projects

723. Potentiometer or variable resistor control LED Code The if() statement is the most basic of all programming control structures. It allows you to make somethir 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

724. 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

725. 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 und Clock – Timer Projects, Home Automation Projects, Projects

726. 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

727. 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 kille 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

728. 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 t parent needs...... Listed under: Clock – Timer Projects, Projects, RFID - NFC projects

729. 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 has been used 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

730. 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

731. 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

732. 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 a ground wire. 2) Connect all 330Ω resistor to anode lead of LED. 3) Connect all jumper wire to digital...... Listed under: LED Projects, Projects

733. 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, Robotic Automation Projects

734. 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 t 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

735. 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

736. 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 y 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

737. 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 ha 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

738. 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

739. 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 ser database that can register card codes. On the door there is a RFID reader connected to...... Listed under: Projects, RFID - NFC projects, Security – Safety Project

740. 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

741. 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
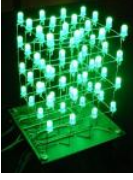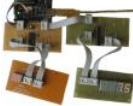
742. Build a fully featured Arduino Thermostat In this post I will attempt to describe the steps I took to build the arduino based thermostat shown in the following videos. The first video was taken when around just half of the coding of the menu system was complete, but gives you a...... Listed under: Projects, Temperatu Measurement Projects

743. 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 wor 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

744. 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. Cod 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

745. Arduino Temperature Sensor Code This arduino projects show how to read Celsius and Fahrenheit temperature with LM35 temperature sensor. Parts List; 1) 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

746. 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

747. Arduino Stopwatch Code Arduino projects, running stopwatch on arduino. Arduino projects, running stopwatch on arduino. Parts List; 1) 1x 16×2 parallel LCD display (compatible with Hitachi HD44780 driver) 2) 1x Arduino 3) 1x 10kΩ potentiometer 4) 1x 10kΩ resistor 5) 1x switch 6) Jumper wire Instruction; 1) Connect...... Listed under: Clock – Timer Projects, Projects

748. 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 an 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

749. 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...... Listed under: Metering – Instrument Projects, Projects

750. 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

751. 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

752. 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 semeste 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

753. 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

754. A arduino 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

755. 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

756. 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

757. 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...... Liste

under: Metering – Instrument Projects, Projects

758. 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

759. True Analog Audio Volume Control using Arduino ow my Arduino can precisely measure audio input (VU meter), and obviously, next thing that comes to min 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:...... Liste under: Projects, Sound – Audio Projects

760. 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 tw 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

761. 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

762. 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

763. 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 f 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

764. MEGAshield KIT for Arduino MEGA 2560 R3 and Arduino DUE ARDUINO MEGA 2560 REV3 The MEGA 2560 is designed for more complex projects. With 54 digi 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 plent of...... Listed under: Development Board – Kits Projects, Projects

765. 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 hav 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 y will...... Listed under: Motor Projects, Projects

766. 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 rob 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 und Projects, Robotics – Automation Projects

767. 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 $5.0 https://www.adafruit.com/products/248...... Listed under: Battery Projects, Projects

768. 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
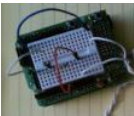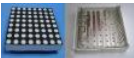
769. Arduino & Visual Basic 6 Light Controller This instructable is something like a tutorial for new VB users. It shows how to create a parser base VB6 program to interact with Arduino circuit. Basically, interaction is in the form of serial communication via the USB port. This is my practice after learning...... Listed under: Other Projects, Projects

770. 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

771. 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

772. 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 mo 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

773. 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 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

774. 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 – Detecto Projects

775. 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

776. 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

777. 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. Sinc 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

778. 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

779. 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

780. 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 rel 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: Developme Board – Kits Projects, Projects

781. 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...... Liste under: Home Automation Projects, Motor Projects, Projects

782. 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 LAZY OLD GEEK, I decided...... Listed under: Metering – Instrument Projects, Projects

783. Arduino Mega Pinout Diagram Arduino Mega Introduction: The Arduino Mega is a microcontroller board based on the ATmega1280 (datasheet). It has 54 digit 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: Featured, Pinouts

784. 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

785. Arduino + Temperature + Humidity A simple temperature sensor using one LM35 Precision Temperature Sensor , Humidity Sensor and Arduino, so you can ho 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

786. 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

787. 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

788. Arduino Electronic Dice using random numbers This instructable will show you how to make an electronic dice with minimal experience using 7 LEDs, resistor 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

789. 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 beca 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

790. Temperature Control For Kitchen Appliances using Arduino In this Instructable, I will step through controlling the temperature of most kitchen appliances. As 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

791. 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

792. 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, ev 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

793. 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

794. 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

795. Reaction Time Tester using an Arduino A month ago I knew nothing about Arduino and now.....my first project! Looking back, this project combines allmost all 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: Cloc Timer Projects, Projects

796. 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

797. 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

798. 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

799. 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

800. 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