

Use Arduino for Projects



Arduino Mega 2560 projects list

The Purpose of designing Arduino Mega 2560 is to create bigger and more ambitious projects that comes in mind. We've compiled a list of some great projects for your enjoyment.



The large number of analog and digital pins, together with a larger memory makes it ideal for devices like 3D printers and other demanding applications.



ARDUINO MEGA FOR BEGINNERS In this post I will discuss about the detailed ARDUINO MEGA FOR BEGINNERS. In the previous post I have discussed about brief introduction of the Arduino MEGA there I have discussed...



<u>Tele Vaidya – Remote Health Monitor</u> Every human being requires health care as one of their basic needs. However, many poor countries are unable to achieve the requirements due to a lack of medical health experts...



Arduino Cable Tracer Instantly diagnose the type and integrity of USB cables with this Arduino Cable Tracer. Suitable to trace USB A, Mini, Mico, and USB-C cables this is very useful to identify...



Arduino Text I/O for Real World Applications Quick Start This tutorial will take you through the steps you can use to successfully process Real World text I/OYou should avoid using any Serial methods in your loop() code...



Homemade CNC Machine From DC Servo Motors and Wooden Wine Boxes Today, I would like to share how to build a 3 axis CNC machine at home using available or discarded materials. Specifically in this project, I reused 2 old DC...



<u>BLACKBOARD V-PLOTTER</u> In this instructable, I'd like to share how to build a vertical plotter that can draw texts and images on the blackboard. Let's getting started. https://youtu.be/YTYxPt15hTQ Time-lapse video with hatch...



<u>Painless WiFi on Arduino</u> Communication with the outside world is a great feature for Arduino Projects and mandatory for many of them. In this instructable, we will, painlessly, create an Arduino WiFi project that...



<u>Line Follower Robot – Arduino Mega/uno – Very Fast Using Port Manipulation</u> Line follower robot is a useful robot that is used in ware houses, industries, and stores etc, where it follows a dedicated path. The presented robot captures line position with IR Sensors. If...

9. <u>Arduino Star-Finder for Telescopes</u> Space is big. Really big. Owning a small telescope can give a lot of pleasure, but it's often a struggle trying to locate specific objects in the nig... sky. In this



<u>TerraDome: Mini Tropical Greenhouse With Arduino</u> TerraDome is an indoor greenhouse for plants and tropical flowers shaped octagonal dome. It is driven by an Arduino Mega that regulates temperature and lighting through different sensors and an...



Retro Arcade Clock – Arduino Build an interactive arcade bedside clock, with a touchscreen, and animated arcade figures that you can record a sound of your choice for the alarm. This is an update of...



<u>IoT Split-flap Weather Forecast Powered by XOD</u> Hi everyone! In this instructable, I tell you how to make split-flap display and show the current weather conditions on it. Also how to fetch the weather information from the...



<u>Simulated Sports Scoreboard</u> I am the theatrical technical director for a local high school. Their winter production was "Disney's High School Musical". During meetings with the director, he said it would be cool...



Spaceship Control Panel – Laser Cut Arduino Toy. A few months ago I decided to become a member of the local maker space, since I've been wanting to learn the tools of the maker trade for ages. I...



Oceania Midi Controller (for Make Noise 0-Coast and Other Synths) In the past few years, a number of synthesizer manufacturers have been releasing "desktop semi-modular" instruments. They generally take the same form factor as the Eurorack modular synthesizer format and...



<u>UCL-Embedded – Arduino Door Lock</u> This project was created by Daniel Månsson [], Flemming Andersen [flem781a] and Mikkel Pavia [mikk24b9] as an exam project at the school University College Lillebælt. As a part of one...



<u>Play Songs(MP3) With Arduino Using PWM on Speaker or Flyback Transformer</u> This is my first instructable, I hope you will Like It!! Basically, In this Project I have used the Serial Communication between my Arduino and my Laptop, to transmit music...



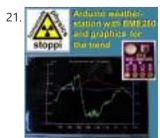
<u>Low Cost Bioprinter</u> The goal of this project is to develop a low-cost bioprinter to make bioprinting more accessible to research institutions. Currently, low-end bioprinters cost approximately \$10,000 while high-end bioprinters cost approximately...



<u>Home Presence Simulator and Security Control Device</u> This project allow us to simulate presence and to detect movements in our home. We can configure a network of devices installed in differents rooms of our home all of...



HAVE FUN WITH BICOLOR MATRIX 32×32 Today I will share following topics base on a bicolor matrix led 32x32: D.I.Y a bicolor led matrix 32x32. How to control led board above with NodeMCU ESP8266 via B.A.M method.Introduce...



<u>Weather-station With Arduino, BME280 & Display for Seeing the Trend Within the Last 1-2 Days</u> Here on instructables weather stations have already been introduced. They show the current air pressure, temperature and humidity. What they lacked so far was a presentation of the course within...

22. VFD Alarm Clock IV-27M Alarm Clock Project date: March 2019 – May 2019 Overview After the successful completion of the XIV Nixie Clock which was Direct/Static Driven, I was keen to start work...



23

RS485 – ARDUINO AND INDUSTRIAL DISTANCE SENSOR I have in my hand a distance laser sensor with high precision and speed. It is used in industrial environments for object positioning or detection applications. According to technical documents,...

24.

<u>Upright Laser Harp</u> https://youtu.be/_1oTBekbUT4 Laser harps are musical devices with laser beam "strings." When the beam is blocked, a note is played by the instrument. Usually laser harps have the beams travel vertically...



<u>SteamPunk Radio</u> This project is without doubt the most complex I have undertaken, with sixteen IV-11 VFD tubes, two Arduino Mega cards, ten LED Neon light circuits, a servo, an electromagnet, two...



Gesture Controlled Robotic Arm Using Kinect & Arduino This is a Simulink Model to Control a Robotic Arm By Gestures that are captured using Kinect. A Robotic Arm is developed using Servo Motors. Step 1: Things Used in...



<u>WiFi Enabled Arduino – Interfacing With Web APIs</u> Are you familiar with Arduino, but are looking for a little more connectivity in your projects? This Instructable goes over a new (and cheap) wireless module that has hit the...



<u>DIY Standalone Weather Station Powered by Arduino</u> Hello Makers out there Again this is not a Step by step Instructable. Like always i forgot to take take snaps since the inception of this project. The idea of...



<u>DIY Bare Minimum Arduino Mega 2560</u> [2017 Update] Eagle files please click here. The objective of this project is to create a version of Arduino Mega 2560 board that has lower component count and smaller board size....



<u>Use Arduino Code on a TI Launchpad MSP430</u> You can now use Arduino sketches to program your TI Launchpad MSP430. The video show me programming an Arduino Mega 2560 and a TI Launchpad MSP430 with the same Arduino...



Arduino LED Matrix https://youtu.be/Eu9ExmHkklk https://youtu.be/_srC_gPAEP0 In this short tutorial you will learn how to make an Arduino-powered LED matrix. Unlike several other designs, this one uses a "companion" computer to notify the Arduino...



<u>VU Meter – LED Noise-o-Meter for Classrooms</u> I built this a short while ago as an idea to use in a primary classroom setting. Poster displays are often used by primary teachers wanting to control the noise...



<u>Arduino Xylophone</u> I made a xylophone that uses an Arduino Mega to detect when a note is struck, and generate MIDI output. This project is wondeful because I essentially made a xylophone,...



XYLD PHONE

Gesture-Controlled Robot A gesture-detecting wearable sleeve that can direct a robot in different directions. Things used in this project Hardware components Arduino MKR1000 × 1 Arduino Motor Shield × 1 Arduino UNO...



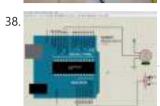
Arduino as AVR Programmer For my project I need two Arduino boards, but I have only one Arduino Mega 2560 board (refer Fig. 1). I can either buy an Arduino Uno board (that costs...

36. <u>Voice-Controlled Home Automation System</u> This is a project for a voice controlled home automation system to control appliances with your voice through an Android app. An Arduino Mega board is used for controlling the...





The Sensometer: 22+ Sensors This is the "Sensometer", a great example of IoT! Get all sensors working at once! Things used in this project Hardware components Arduino MKR1000 × 1 Arduino Mega 2560 &...



<u>ARDUINO LIBRARY FILES PROTEUS</u> The Proteus simulation program works especially well for testing microcontroller projects, but at least it gives some insight. Proteus libraries for Arduino Arduino Proteus Models Proteus Arduino Mega1280 Proteus Arduino...



Adaptable Sensor and Notification System A easy to use adaptable sensor and notification system that is designed to be used as a temporary change of state notifier. Things used in this project Hardware components Arduino...



<u>Arduino Mega Tutorial – Pinout & Schematics</u> First of all, Why Arduino Mega? When cheaper boards are available, why go with Arduino Mega? The main reason behind this is the additional features that are inbuilt with this...



<u>Automatic AC Temperature Controller using Arduino, DHT11 and IR Blaster</u> An AC (Air Conditioner) which was once considered to be a luxury item and was only to be found in big hotels, movie halls, restaurants etc... But, now almost everyone...



<u>Cell Phone Controlled AC using Arduino and Bluetooth</u> In today's modern world, where ever we go we have lots of electronic devices around us. But, out of all, there is only one device that we personally have in...



<u>Create a Motion-Sensing Alarm with an Arduino and IR Sensors</u> Infrared (IR) sensors are normally used to measure distances, but they can also be used to detect objects. By connecting a couple of IR sensors to an Arduino, you can...



<u>deCart</u> Description deCart is an attachment to a shopping cart that uses social pressure to make the shopping a more productive, connected experience for society as a whole. List of Materials...



<u>Datura 6 home automation – 2015 improvements</u> News: In this latest months I've made some important fixes and improvements to the code and to the webserver of the project. See datura_mega_v19.ino for the latest code. The most...



<u>Nerd++: Controlling Dioder RGB LED Strips with Arduino, Pt. 1 – Getting Started</u> A few weeks ago, it came to my attention that IKEA do a set of colour-changeable LED strips. I've been looking for a decent way of providing some lighting behind...



<u>DIY- G-force measurement system</u> So this time around, it's another fun and functional microcontroller based DIY, a g-force measurement system with data logging to SD card. HARDWARE USED: 1) Arduino UNO w/ATmega328P 2) 3-axis...



<u>The DIY Arduino Telescope GOTO control project</u> Why make your own Arduino control system? After completing my homemade telescope mount it was powered by a Meade DS motor kit. This system was extremely slow, underpowered and unreliable....

49. Control a Furby with Arduino (or other microcontroller) The Million Dollar Furby: We can rebuild him. We have the technology. Continued from the previous Instructable where v excised Furby's primitive brain, it's now time to replace it...



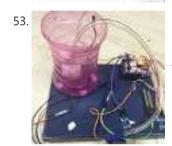
Modifying an Arduino Mega and chipKIT Max32 for 5V Operation Max's Arduino Mega and chipKIT Max32 both require 9V external supplies, but he really wishes to power them from a single 5V supply. Well, nothing is simple, is it? I...

51.

<u>Simulating and controlling GE Color Effects Lights with Arduino</u> Overview This project builds a Christmas lights controller for the GE Color Effects lights allowing programmed control of up to 8 sets of Christmas lights. Furthermore, it provides a function...



<u>Traffic light and pedestrian crossing implemented with an Arduino</u> This video shows the Traffic light and pedestrian crossing I've implemented with an Arduino. It's a reproduction of the crossing near my home, timings taken from a video of it. Incidentally,...



Arduino automatic watering system [caption id="attachment_19540" align="alignright" width="210"] Fig. 1: Author's prototype[/caption] During summers, most people are too lazy to water the potted plants on their rooftop gardens every day. Explained in this section...



<u>Drive with PID Control on an Arduino Mega 2560</u> This example shows how to simulate a simple closed-loop control algorithm in Simulink and how to run it on an Arduino Mega 2560 board. Contents Introduction Prerequisites Required Hardware Task...



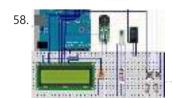
<u>Haptic Feedback device for the Visually Impaired [Project HALO] using arduino</u> I recently watched an episode of Stan Lee's Superhumans which featured a blind man who used a series of clicks, like a bat, to echo locate his surroundings. I got...



<u>Boozeduino using arduino</u> Now with more LED. Arduino mega powered breathalyser using the MQ-3 sensor. A relative gauge for judging how intoxicated you are. NOT TO BE USED AS MEANS OF BREATHALYZING...



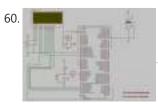
<u>TiDiGino Contest using arduino</u> The project TiDiGino We developed a new GSM remote control called TiDiGino. The name recalls the initials (TDGxx) of our previous GSM remote control and is also based on the Arduino project. All the details of this circuit can be found...



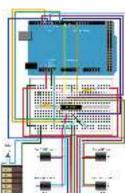
<u>Temperature Detecting Heating Control System with Arduino Mega2560</u> Web site: http://www.icstation.com/product_info.php?products_id=3517 Project Summary: To help electronic DIY hobbyists, will show you how to use Temperature Detecting Heating Control System with Arduino Mega2560. Full Project: The temperature detecting heating...



Intro to Arduino An Arduino is an open-source microcontroller development board. In plain English, you can use the Arduino to read sensors and control things like motors and lights. This allows you to...



Tag Archives: arduino speaking clock How to: Speaking Clock Hello Setup and Procedure The wave shield is interfaced with the Arduino Mega 2560 as normal. A couple of pins were remapped because the wave shield...



Drive with PID Control This example shows how to simulate a simple closed-loop control algorithm in Simulink® and how to run it on an Arduino® board. Supple Arduino Leonardo Arduino Mega 2560 Arduino...

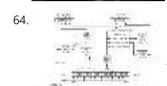
62.



<u>TiDiGino, the Arduino-based GSM remote control</u> Using an ATmega 2560 and therefore the heart of Arduino, we have developed a universal remote control with GSM. This allows to control 2IN/2OUT, DTMF key, gate control and GSM...



8x8x8 LED Cube with Arduino Mega (+Sound +PS controller +Game). This is a instructable which is based on the Cube by Chr, (http://www.instructables.com/id/CHRs-8X8X8-LED-Cu...) and by das-labor.org, (http://www.das-labor.org/wiki/Borg3d_Bauanleitung...) but i think its...



<u>Digital Clock</u> Introduction This design project utilizes an Arduino MEGA2560 with an ATMEGA1280-16AU microcontroller to create a digital clock. The clock will be able to save time when disconnected from power, and...



Make an Oscilloscope Using the SainSmart Mega2560 with the TFT LCD shield and the 3.5 "color touch screen This instructable will show you how to build a portable Touch Screen Oscilloscope for less than 40 U\$! The oscilloscope is one of the most powerful electronic instruments that is...



<u>Talking Darth Vader Binary Clock</u> In this instructable I am going to show you, how to paint a black and white image of Darth Vader and bring it to life by adding a binary clock...



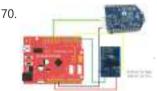
<u>Sign Language Translator using Arduino</u> First of all, this project is not finished. We're still trying to improve and fix some problems. Right now, we're only able to translate letters from "A" to "E". The...



<u>The Touch module – a robotic dog toy</u> The idea was to invent an Arduino-based, robotic toy that my dog could interact and play with. One that could record scores, automatically deliver treats, and grow more advanced as...



<u>Arduino Scouting Robot</u> 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...



<u>Arduino Basic Wifi Project using ESP8266 wifi module</u> Overview ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host...



Arduino ADK LED Lighting Have you ever wanted to control electronics with your smartphone? The Arduino ADK (Android Development Kit) is the Arduino Mega with a built in USB host device, ready for your...



Robot Arm Set using Arduino I made use of Smart Tank Chassis in the past 4 projects and I wanna do something very different. After searching in google and consider different stuffs for a couple...



<u>Arduino Seismic Activity Monitor – Ethernet Shield</u> 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...

74. <u>4x4x4 LED-cube based Arduino and Flower protoboard</u> This instructable will teach you how to build your 4x4x4 LED cube with Flower ProtoBoard and control by Arduino. Why is Flower ProtoBoard? not ProtoBoard? Because of I often use...



<u>Six wheeled All Terrain Vehicle (6WD) using Arduino</u> 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...

76.

<u>USA Flag made with diffused LED using Arduino</u> 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...

77. Walcome to APDuino Online!

<u>Automate Your Garage Opening Times</u> 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...



<u>Ethernet Switching – with Arduino</u> Aim: Switch relays from the ethernet or the internet, using your mobile, tablet or computer with a nice graphical user interface. Update V4.06 Please read the below steps to Step...



<u>Build a fully featured Arduino Thermostat</u> 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...

80.

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...



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 digital I/O pins, 16 analog inputs and a larger space for your sketch it is...



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...



Arduino Mega Pinout Diagram Arduino Mega Introduction: The Arduino Mega is a microcontroller board based on the ATmega1280 (datasheet). It has 54 digital input/output pins (of which 14 can be used as PWM outputs),...



<u>LED Matrix with Game Controller using an Arduino</u> This project was built for my introductory electronics class at the University of Waterloo in Canada. This was my first introduction to electronics and therefore, my first project. Follow these...

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	Metering – Instrument Projects
***	Arduino Motor Projects
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· lop	Temperature Measurement Projects

Useful Resources

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Huge List of tutorials & Components based resources & info

<u>Sitemap</u>

Projects list

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