Gesture Controlled Robot Using Arduino And Bluetooth

by **sanchitagarwal2** on September 1, 2016

Table of Contents

Gesture Controlled Robot Using Arduino And Bluetooth 1
Intro: Gesture Controlled Robot Using Arduino And Bluetooth 2
Step 1: Parts Required 2
Step 2: Interfacing the Bluetooth (HC-05) With Arduino 3
Step 3: Interfacing the Motors with Arduino Using L293D 4
Step 4: Programming Arduino Using Windows/MAC 4
File Downloads 4
Step 5: Downloading the application from Google Play 5
Step 6: Power Up and Have Fun 5
Related Instructables 5
Advertisements 5
Comments 5


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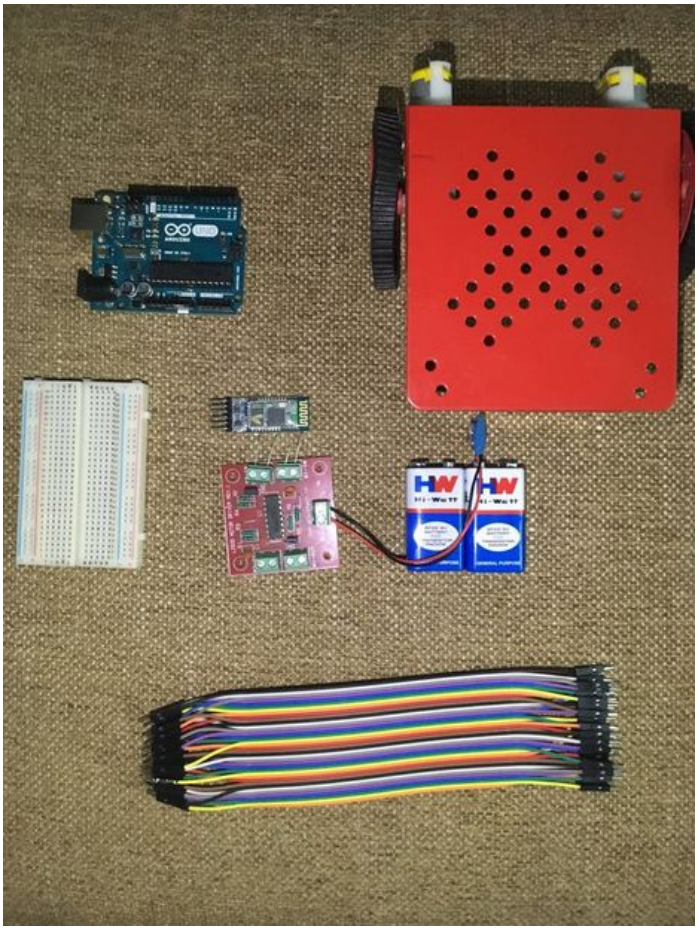
Intro: Gesture Controlled Robot Using Arduino And Bluetooth

Hello Everyone,

Today we are going to make a car that can be controlled using the accelerometer in a android phone. We can use the data from the accelerometer and transmit it to arduino using bluetooth module HC-05. With simple programming this project will be done.

Follow the steps to make this project on your own.



Step 1: Parts Required

The Following parts are required for this project:

1) Arduino Uno R3 (Clone will do)

2) HC-05 or HC-06 (I will be using HC-05)

3) Chassis With Motors

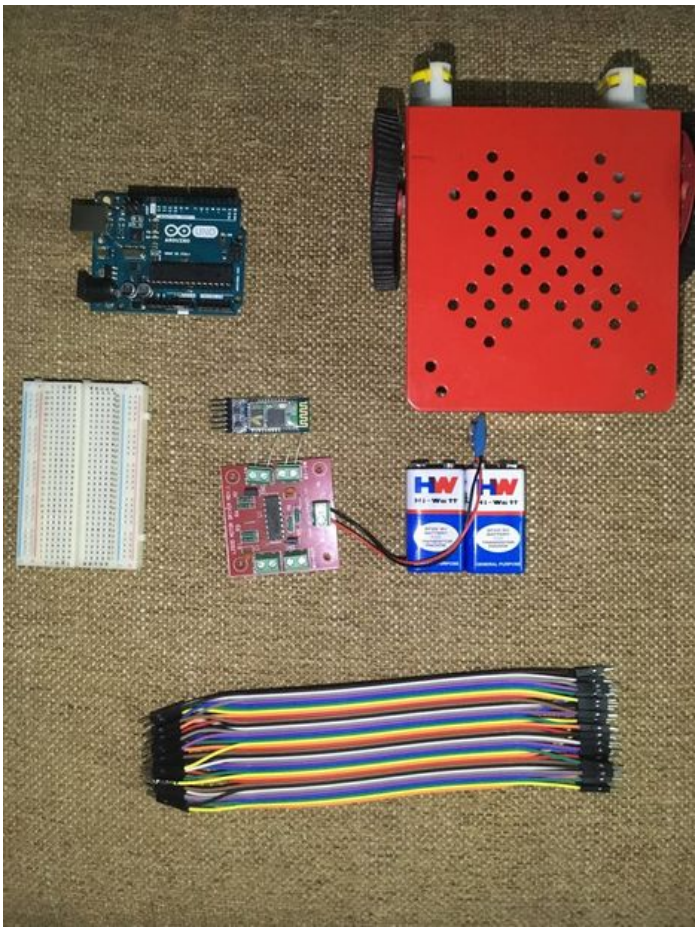
4) Breadboard

5) L293D Motor Driver Board

6) 9V Batteries with battery Caps (2 battery and 2 caps)

7) Jumper Cables

8) Android Phone for controlling the bot



Step 2: Interfacing the Bluetooth (HC-05) With Arduino

Simply Connect

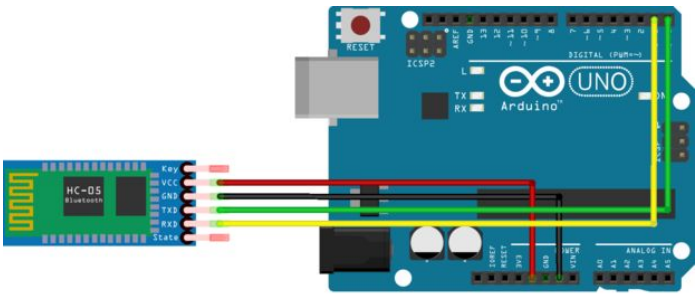
1) The VCC of HC-05 to 5V of Arduino

2) The GND of HC-05 to GND of Arduino

3) The TX of HC-05 to RX of Arduino (Digital power pin 0)

4) The RX of HC-05 to TX of Arduino (Digital power pin 1)

Then Power on the Arduino. The HC-05 should power up if all connections are perfect. The LED on the HC-05 Module will continuously blink which means the device is now discoverable. Go to the settings of the Android phone search for bluetooth. Make sure your device is discoverable. The default name of the module is HC-05 and the default password is 1234. Pair the device with your phone. If paired Successfully you will see a change in the blinking of the LED on HC-05 Module. The LED will blink less frequently if the device is paired Successfully.

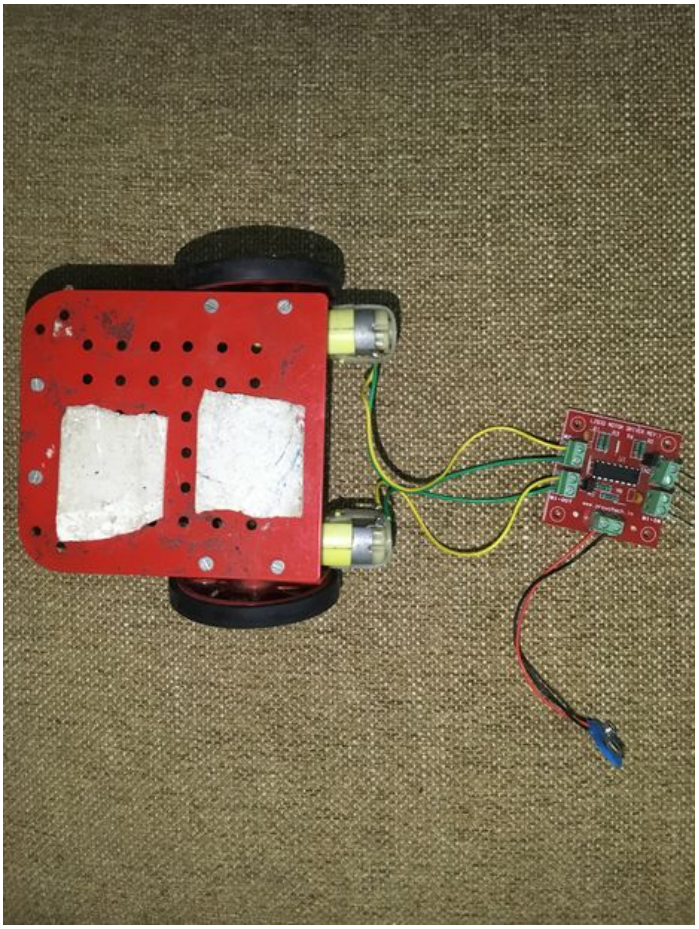


Step 3: Interfacing the Motors with Arduino Using L293D

We are using L293D Motor driver Board because arduino only gives a output of 5V from the digital pins. 5V are not enough to run 2 DC motors. L293D Motor driver board gives us the option to supply power to the motors externally using a battery.

If you look at the L293D carefully you will find 4 Pins for output and 4 Pins for input. Connect the Output Pins to the motors and input pins will later be connected to the arduino.

There Will Also Be A Set Of Pins + and - Which Need To Be Powered By External Battery



Step 4: Programming Arduino Using Windows/MAC

Arduino Can be easily be programmed by using its IDE.
The IDE is available free of cost on www.arduino.cc

According to the program you can choose your output pins on arduino.
According to my program i have chosen PIN3,PIN4,PIN10,PIN11 as Output Pins.

Connect The Input pins from L293D to the output pins as stated above.

The Program is attached in this step.

Download the INO file and run it with the IDE.

File Downloads

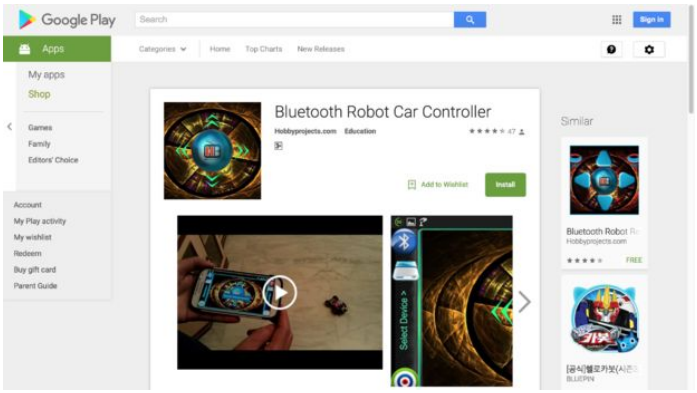
Gesture Controlled Bot.ino (2 KB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'Gesture Controlled Bot.ino']

Step 5: Downloading the application from Google Play

Download The application Called Bluetooth Robot Car Controller by Hobbyprojects.com.

LINK- https://play.google.com/store/apps/details?id=appi...

Open the Application and connect the bluetooth.



Step 6: Power Up and Have Fun

Power the circuit and start app. Connect phone with module.

You are ready to go! Play and have fun!

Write to me on sanchitagarwal2@yahoo.com for any doubts or help.

Related Instructables

Easy, affordable way (guide) to homemade RC car. by kkedar

Gesture Controlled Robotic Arm by curiositygym

Gesture Based Home Automation Using Intel Edison(Intel IoT)) by rvardekar

Gesture control car(robot) with Arduino and Android(bluetooth by vijay maraviya

Android / Arduino - BLUETOOTH DOOR LOCK ACCESS CONTROL for Electric Strike Lock by vandenbrande

Simple arduino car using HC-06 Bluetooth Module by Naufuu

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