BLUETOOTH CONTROLLED ROBOT

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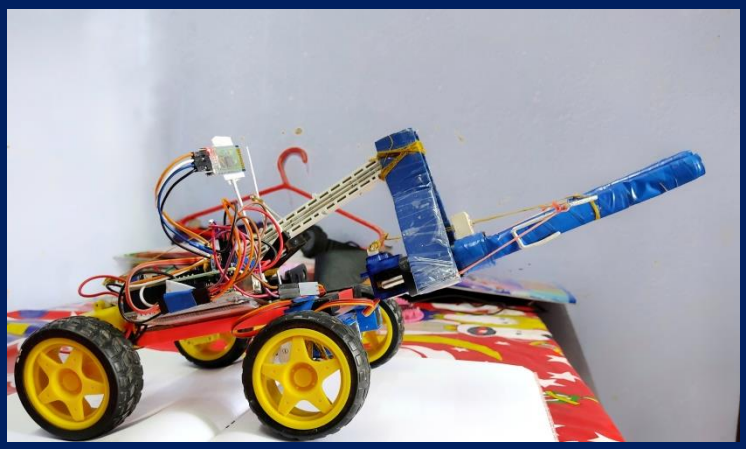
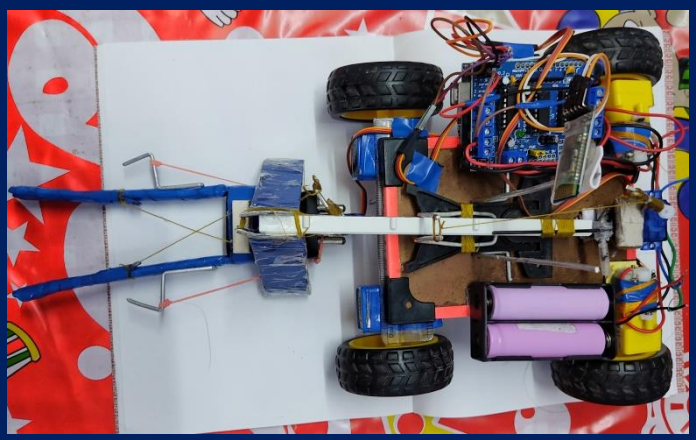


A SIMPLE ROBOT

ABLE TO CONTROL USING SMARTPHONE



About this project

This is an Arduino based Robot and can able to control using our smartphone.I will explain every single thing in this project. Hope this will be a perfect article for your DIY Arduino Bluetooth Robot.

Hardware components

- **ARDUINO UNO**
- **L293D MOTOR DRIVER**
- **HC-05 BLUETOOTH MODULE**
- **SG90 MICRO-SERVO MOTOR**
- **BO MOTOR 300 RPM**
- **WHEELS**
- **18650 LI-ION BATTERY**
- **18650 LI-ION BATTERY HOLDER**
- **CHASSIS FOR ROBOT BODY**
- **JUMPER WIRES**

Software components

- **ARDUINO IDE**

Hand tools

- **SOLDERING IRON**
- **GLUE GUN**

Before starting let's see first What you will learn from this instructable:

- Making the right hardware selection for your project depending on its functionalities.
- Prepare the circuit diagram to connect all the chosen components.
- Assemble all the project parts (mechanical and electronic assembly).
- Finally designing your own ARDUINO-based Bluetooth Controlled Robot.

How Arduino Bluetooth Controlled Robot Works?

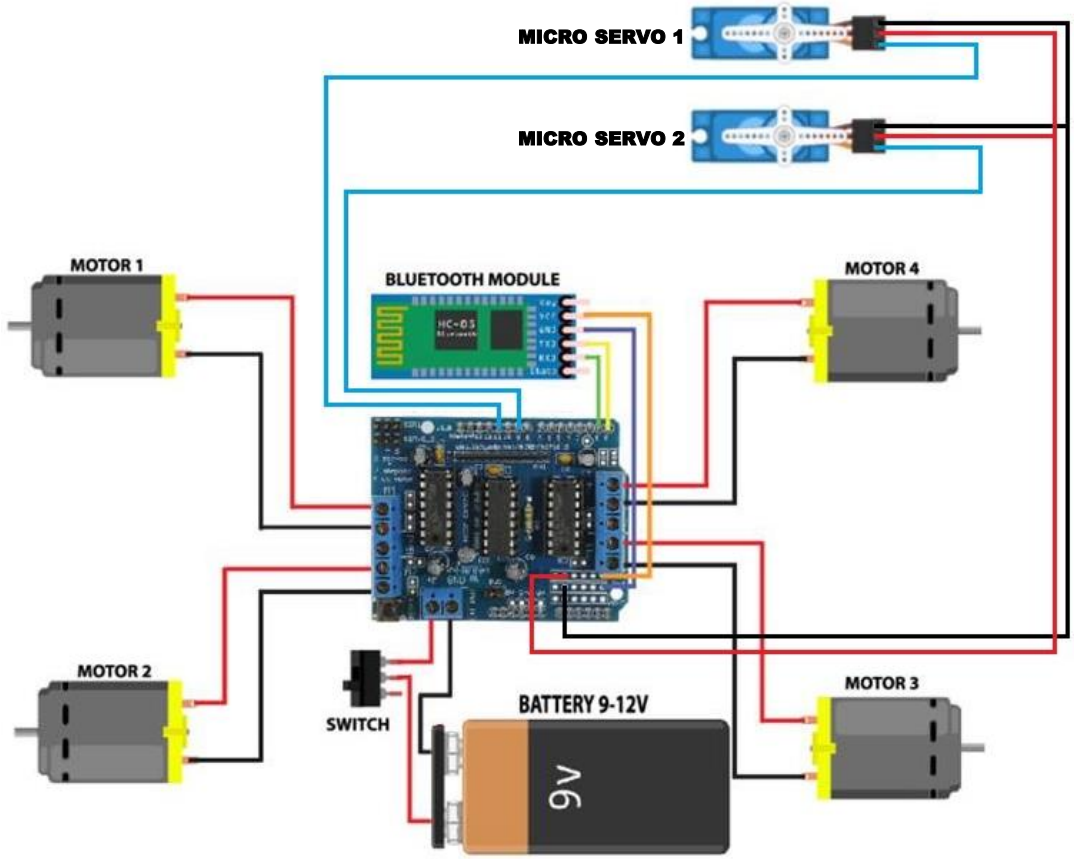
This is a simple Micro-controller based robot. The Micro-Controller is connected to the robot. The Arduino is doing all this job. For receiving data wirelessly we are using the HC-05 Bluetooth module.

At first, We have to connect/ pair the Bluetooth module with the phone (Android) you want to control. Now, we are doing different operations such as when we press the forward button then the Phone sends a data value to theBluetooth module.

Next, we have to code in a way that if Arduino Gets a Certain Data (Suppose 'F' for forwarding) we have to make a certain condition for running the robot in a certain direction. So, basically, there are many switch cases in the Arduino code. For a known condition or a switch case, the robot will perform the added functions in the code.

In the Same way, F, B, L, R, are used for moving the robot Forward, Backward, Left, Right movements and W for lifting the robot arm upward and downward, U for clipping the object using arm of the robot.

Schematics of the Bluetooth Control robot with L293D:



Step 1

Now you can connect the components using this circuit diagram.
Make hardware of this robot in the way of your design.

Step 2

Now we need to upload the code to the Arduino UNO. Attached the USB cable that comes with the Arduino UNO board and follows the steps mentioned below

- Download the source code.
- Open Arduino IDE on your PC
- Connect ARDUINO with PC via USB Cable
- Go to Tools > manage libraries > Search for AF Motor driver and download
- Go to Tools > Board > and select Arduino\Genuino UNO
- Go to Tools > Port > Select proper COM port
- Now Verify the code and then upload it

Please don’t forget to remove/detach the HC-05 Bluetooth Module before uploading the code. Connect it after the code has been uploaded successfully.

Step 3

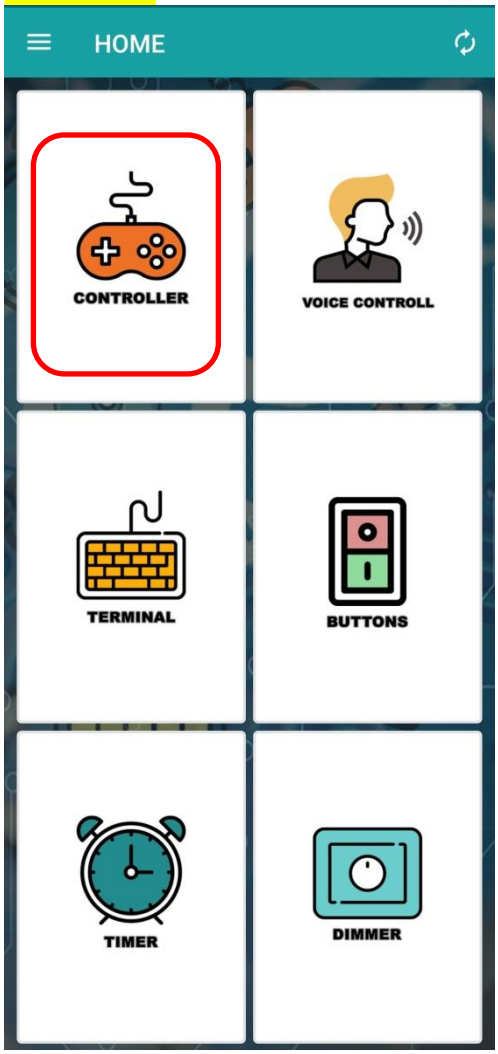
Now you will need the app for controlling the car. The link for app is given below.

https://play.google.com/store/apps/details?id=com.appsvalley.bluetooth.arduinocontroller

Step 4

Now you will need to configure the app.
So follow the steps

1 Select ‘controller’



2 Select ‘configure buttons’

3 Make ‘null’ to these