

Bluetooth Controlled Car with Arduino



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List of contents:-

1. Introduction
2. Chassis for car
3. Arduino UNO R3
4. Jumper Wire
5. Battery
6. Switch
7. Bluetooth module
8. Pin diagram and Connection
9. Flow chart and Implementation
10. Components of Bluetooth car
11. Application Controller
12. Conclusion

INTRODUCTION

- The Bluetooth control car receives commands from a Bluetooth-enabled device(Smartphone, remote control, etc) and these commands are processed by the Arduino.
- The Arduino then generates motor control signals, which are sent to the motor driver to the driver the DC motors.
- Then Finally, The motorized wheels move the car accordingly.



TOOLS

CHASSIS

- ❖ The main body of the car consists of the chassis.
- ❖ Alongside there will be four motors for the four Wheels which will lead down the car.



ARDUINO UNO R3

- The Arduino Uno is an open-source microcontroller based on the microchip ATMEGA238P microcontroller and developed by Arduino CC.
- The board is equipped with sets of digital and analog input/output pins that may be interfaced with various expansion boards and other circuits.



L293D Motor Driver

- ❑ The Motor Driver is a module for motors that allows you a control the working speed and direction of four motors simultaneously.
- ❑ The main motor driver is designed and developed based on L293D is a 16 pins Motor Driver IC.
- ❑ This is designed to provide bio directional drive currents a voltage from 5 V to 36 V .
- ❑ Rotation of the motor depends on the enabled plans .



JUMPER WIRE

- ✓ A jump wire (Also known as jumper, jumper wire, Dupont wire) is a electrical wire or group of them in a cable, with a connector or pin at each end (or sometimes without them simply “tinned”).
- ✓ Which is normally used to interconnects the components of a Breadboard or other prototype or test circuit.
- ✓ Internally or other equipment or components without soldering.





(BATTERY)



(SWITCH)

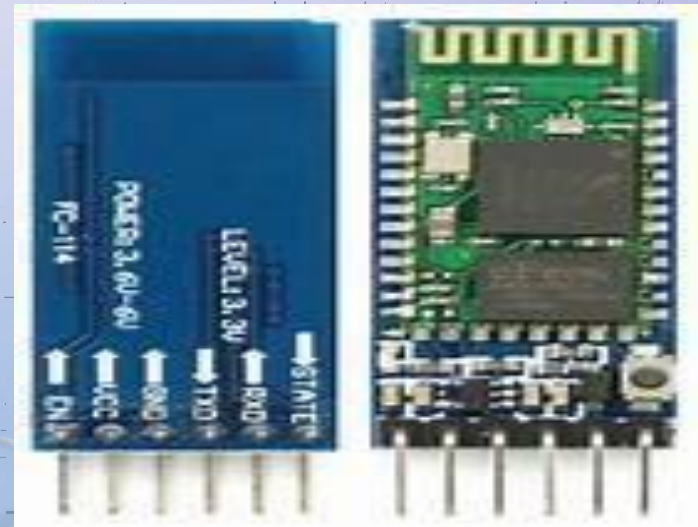
SWITCH

- A switch is used for turning on the power on the vehicle.
- It controls the battery connection of the vehicle.

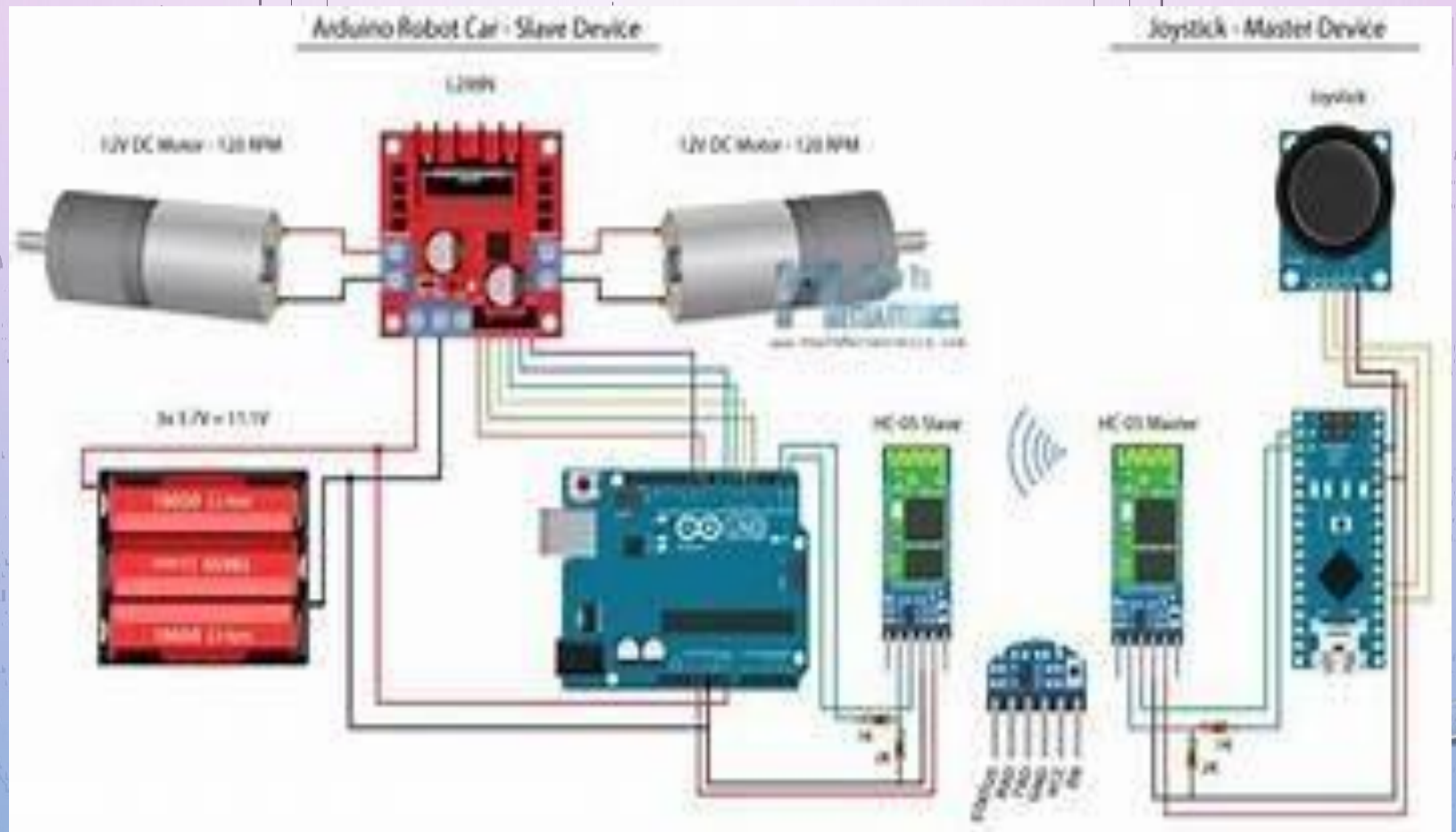


BLUETOOTH MODULE

- ❖ HC-05 6 pin wireless serial Bluetooth module is a Bluetooth module for use with any microcontroller.
- ❖ It uses the UART protocol to make it easy to send and receive data wirelessly.
- ❖ The HC-06 module is a slave-only device.
- ❖ This means that it can connect to most phones and computers using Bluetooth technology.



PIN DIAGRAM & CONNECTION



FLOW CHART OF IMPLEMENTATION

Give command using app or remote and send it through wireless of Bluetooth system .



Receive data from the app using Bluetooth module.

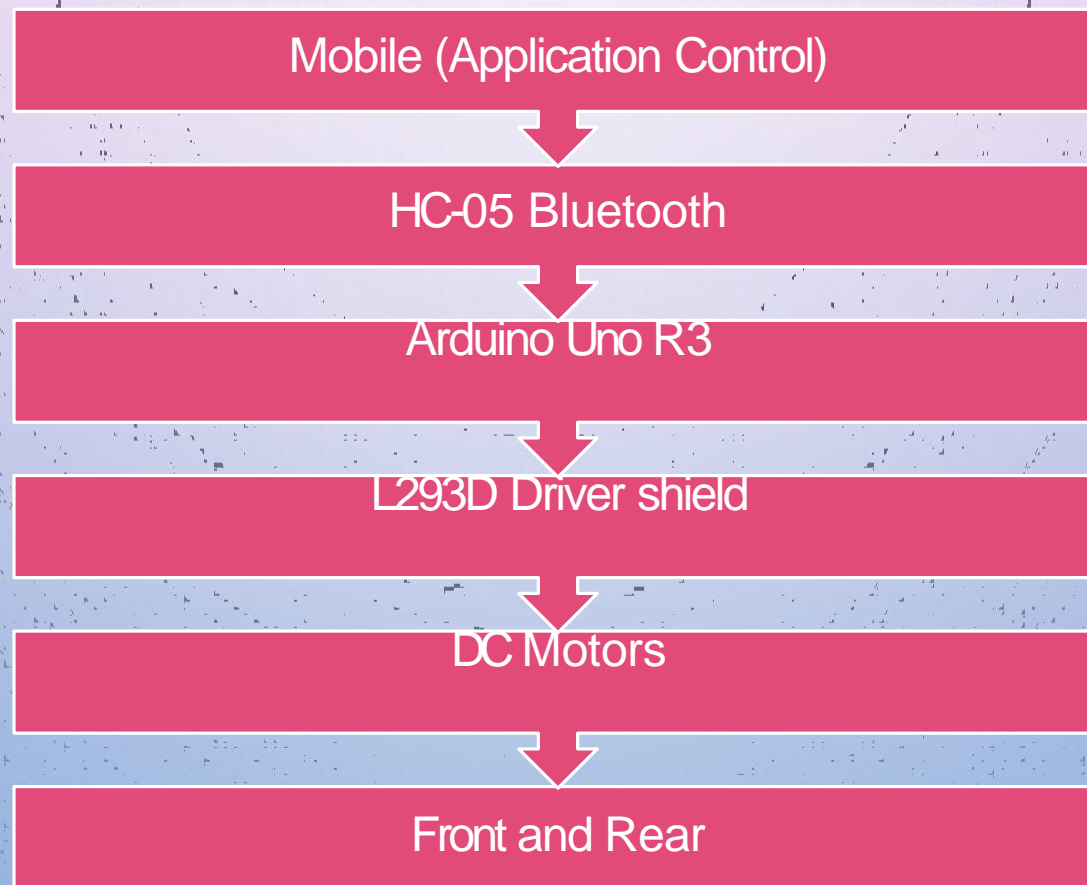


Recognize data commands by the microprocessor.

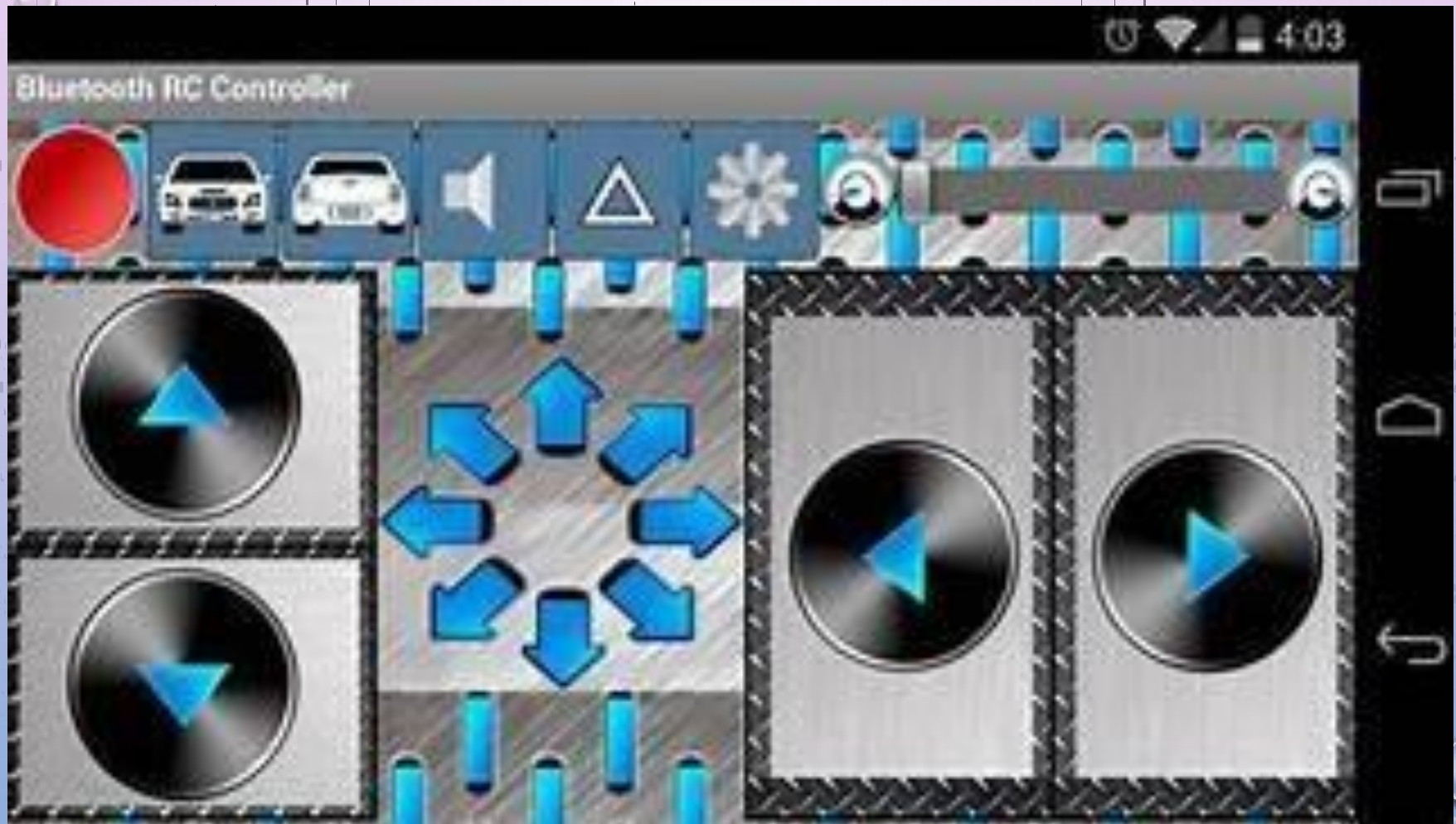


Execute the instruction by controlling the motor driver.

COMPONENTS OF BLUETOOTH CONTROL CAR



APPLICATION CONTROLLER



CONCLUSION

- ❖ **The main conclusion is that Bluetooth Module has its limited range.**
- ❖ **If we go > 100 it gets automatically disconnected.**
- ❖ **The instruction from Arduino Application are given to microcontroller via Bluetooth module.**

Thank
you

The image features the words "Thank you" rendered in a playful, 3D block letter font. The letters are a pale yellow color with a thick blue outline. They are arranged in two lines: "Thank" on top and "you" below it. Each letter has a slight shadow cast to its right, giving it a three-dimensional appearance. Scattered around the text are several five-pointed stars in various colors: light blue, yellow, and purple. Each star is positioned above a faint, darker red star shape on the background, creating a layered effect. The entire composition is set against a solid, light pink background.