Bluetooth Controlled Car with Arduino

Under the supervision of:-

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PREPARED FOR:-

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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.

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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.

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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 .

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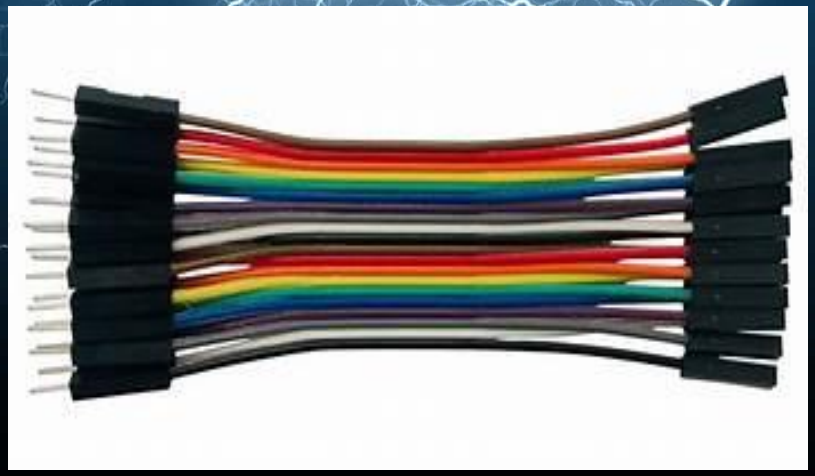
JUMPER WIRE

- ✓ 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.



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(BATTERY)

(SWITCH)

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SWITCH

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

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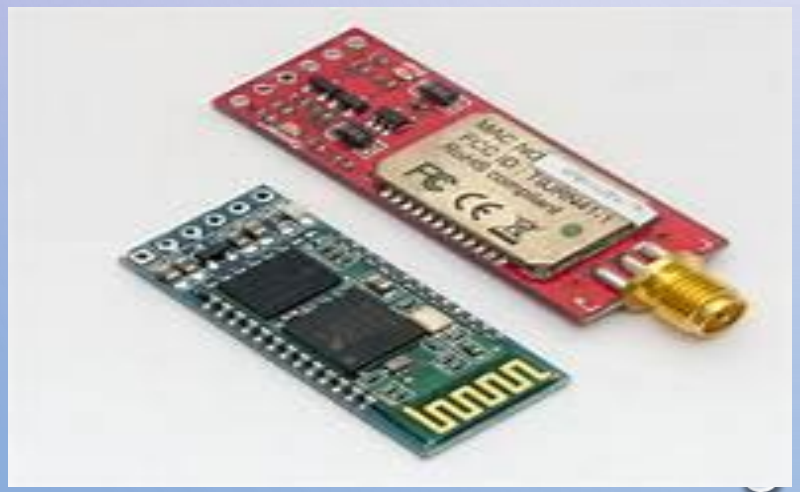
BLUETOOTH MODULE

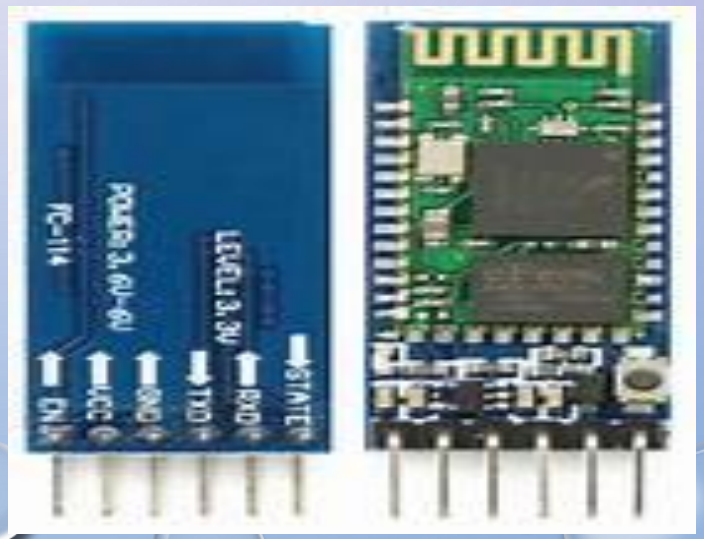
❖ HC-05 6 pin wireless serial Bluetooth module is a Bluetooth module for use with any microcontroller.

❖ 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 is can connect to most phones and computers using Bluetooth technology.





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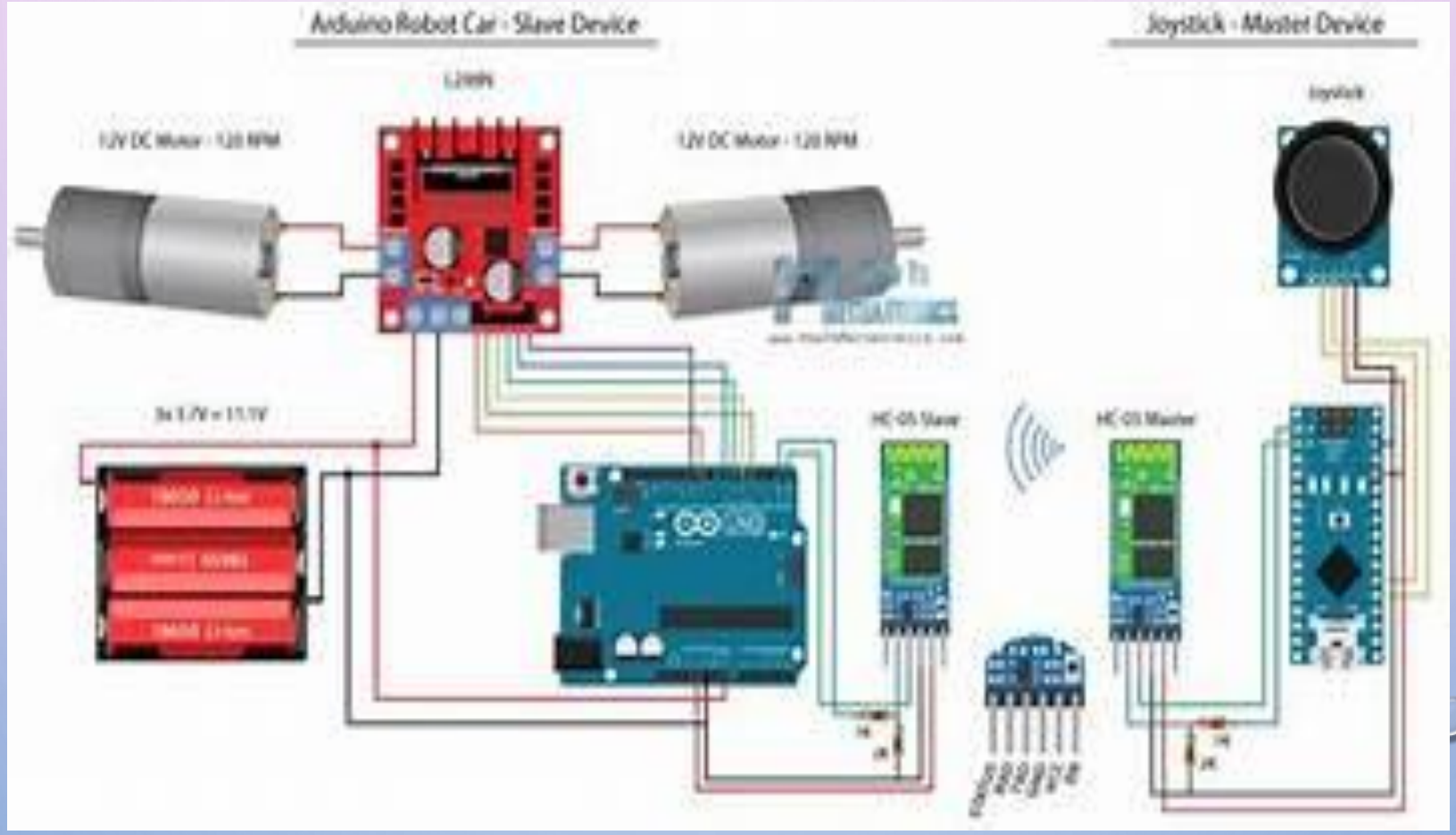
PIN DIAGRAM & CONNECTION



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.

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COMPONENTS OF BLUETOOTH CONTROL CAR

Mobile (Application Control)

HC-05 Bluetooth

Arduino Uno R3

L293D Driver shield

DC Motors

Front and Rear

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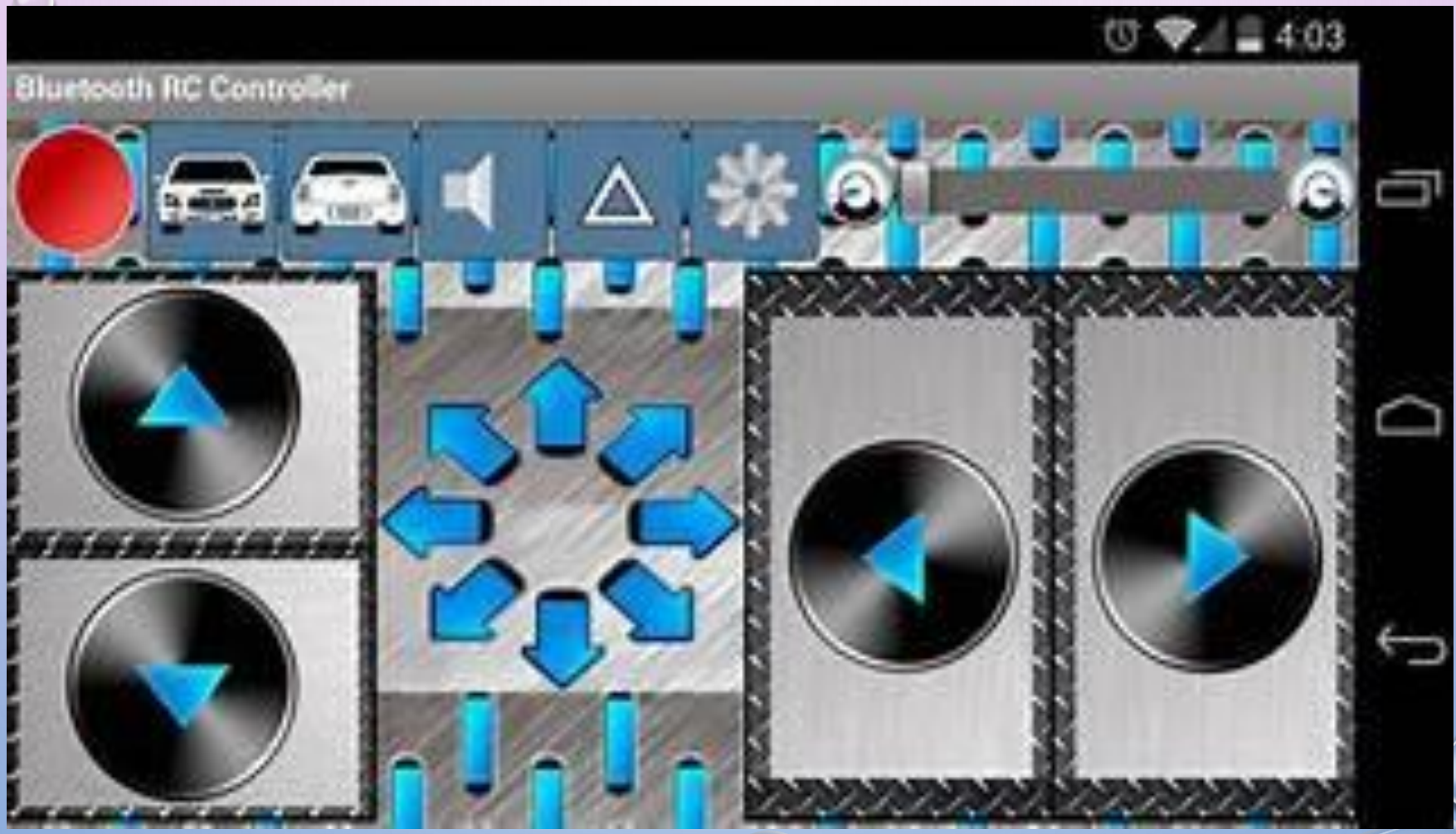
APPLICATION CONTROLLER



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