ELECTRONIC SYSTEM DESIGN

BLUETOOTH CONTROLLED CAR USING ARDUINO

GROUP 14 :YASWANTH(2200049034), VIKAS (2200049119) ,TEJESWARI(2200049136)
ELECTRONIC SYSTEM DESIGN LAB,DEPARTMENT OF ECE
KL UNIVERSITY,VADDESWARAM

Introduction

A BLUETOOTH-CONTROLLED CAR USING ARDUINO IS A PROJECT WHERE YOU CREATE A SMALL VEHICLE THAT CAN BE WIRELESSLY CONTROLLED VIA A SMARTPHONE OR COMPUTER. BY COMBINING AN ARDUINO BOARD, MOTORS, A MOTOR DRIVER, BLUETOOTH MODULE, AND A CHASSIS, YOU BUILD A CAR THAT RESPONDS TO COMMANDS SENT OVER BLUETOOTH. THE ARDUINO INTERPRETS THESE COMMANDS AND CONTROLS THE MOTORS ACCORDINGLY, ENABLING MOVEMENTS LIKE FORWARD, BACKWARD, LEFT, AND RIGHT. IT'S A FANTASTIC HANDS-ON PROJECT FOR LEARNING ABOUT ELECTRONICS, CODING, AND WIRELESS COMMUNICATION WHILE CREATING YOUR OWN REMOTE-CONTROLLEVEHICLE!

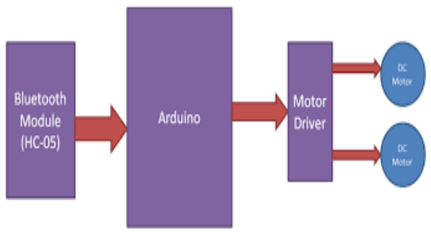
OBJECTIVE:

The objective of a Bluetooth-controlled car using Arduino is to construct a vehicle that can be wirelessly controlled via Bluetooth signals from a smartphone or computer. This project facilitates learning in electronics, coding, and wireless communication while creating a remote-controlled car for educational or entertainment purposes.

ABSTRACT:

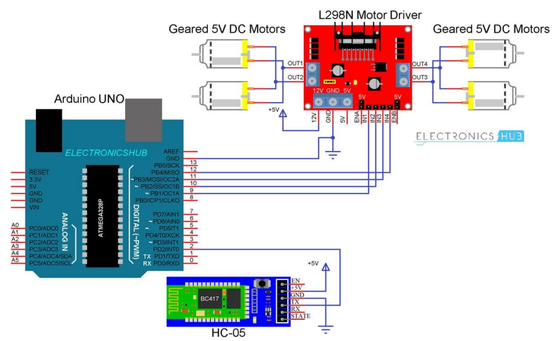
This project involves the construction of a Bluetooth-controlled car using Arduino microcontrollers. It combines electronic components, including Arduino boards, motors, a motor driver, and a Bluetooth module, to create a remotely operated vehicle. Through programming, the Arduino interprets Bluetooth signals received from a smartphone or computer, translating them into motor control commands for the car's movement. The aim is to offer an educational hands-on experience in electronics, coding, and wireless communication while building a functional remote-controlled car."

BLOCK DIAGRAM

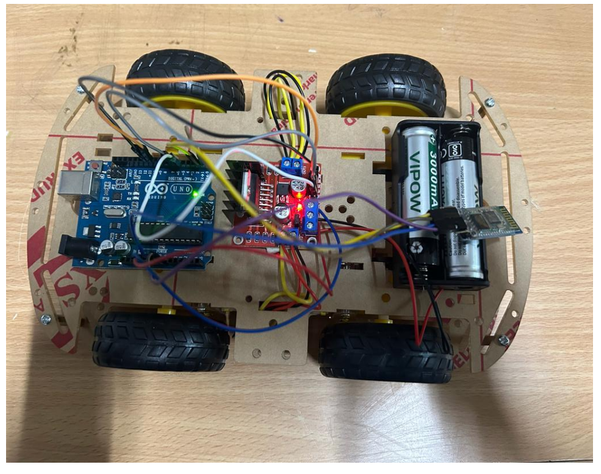


COMPONENTS USED:

CIRCUIT DIAGRAM



MODEL:



WORKING:

The Bluetooth-controlled car operates by receiving commands wirelessly from a paired device like a smartphone or computer. The Arduino, connected to both the Bluetooth module and the car's motors, interprets these commands and directs the motors accordingly, enabling the car to move in different directions based on the signals received via Bluetooth.

FUTURE SCOPE

The future of Bluetooth-controlled cars using Arduino includes advancements like enhanced functionalities with sensors, IoT integration, AI-driven autonomy, multi-device connectivity, educational applications, commercial use, and contributions to research and development in robotics and automation.

Conclusion

In conclusion, the Bluetooth-controlled car utilizing Arduino technology offers a multifaceted learning experience encompassing electronics, programming, and wireless communication. This project not only enables the construction of a remote-controlled vehicle but also nurtures practical skills in hardware integration and coding. It serves as a stepping stone towards understanding robotics and wireless technology, paving the way for further exploration, innovation, and educational application in diverse fields. The project's engaging nature, combined with its potential for future enhancements, positions it as a valuable tool for both learning and innovation in electronics and robotics.

ACKNOWLEDGEMENT

I extend my sincere gratitude to the esteemed faculty and staff of the Electronic Systems Design course within the Electronic and Communication Engineering (ECE) department for their invaluable support and guidance throughout the completion of this project.