IOT Based Car Parking Using Android

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Abstract- **The world is at the dawn of an era of smartphones where everything is in our daily lives and it can be controlled via a smartphone. This use of smartphones is evolving rapidly and is no longer a simple device for voice calls and text messages in a daily controller, which is used to automate and control various objects day by day near and around us, some of which include lights, televisions, sound systems, air conditioners, etc. So at that moment where people migrate to a smartphone-based life, exercising control over things close to them, ours. The aim of the project is to develop a car to entertain children and that can be controlled via a smartphone application. By making the best use of high-end byte shredding processors in your hands, the application makes it easy for the user to control the toy the car that attracts the child, plays with the child and also includes some additional features for the user's entertainment.**

1. INTRODUCTION

This paper represents application IOT Based Car Parking using Android. The world is at the dawn of a smartphone era in which everything in our daily life is and can be controlled through a smartphone.

- The main objective of this project is to develop a remote user interface to control a robot through a wireless technology. We need to communicate remotely with the robot for Controls the movements of the robot and passes critically data in both directions.

- In this project our goal is to use such Bluetooth for control of a four-wheeled car. We are very success in achieving our goal.

- Our machine works well and can be controlled by three modes

  → One, from any Bluetooth enabled computers.
  → Secondly, from an Android phone from by touching the and buttons
  → Third by default of the android accelerometer

- The car controlled by Bluetooth is a robot that has been built using the Atmega8 microcontroller in which series communication takes place via Bluetooth and

2. SYSTEM DESIGN

System design is kept as simple as possible. Our system aims to achieve the goal to design a system that can provide after features in a simple interface and easy to use:

1. Developing an app that will act as a remote control of a robot.
2. Focusing on android and robots is also known as ' Freelance'.
3. Smartphone, robotics and Bluetooth are technologies are future on this world.
4. This project consists of hardware one Arduino, Bluetooth module and motor driver IC.
5. The Bluetooth module is connected to a plate Arduino UNO to connect with you.
6. The Bluetooth module to control the particular motor and is available to the Board of Directors and the process accordingly and Arduino output departs to motor driver IC and check the distinct motor.

Arduino UNO
Microcontroller acts as the brain of the robot. The movement of the robot will be decided by the microcontroller. In this system we use Arduino UNO containing ATMEGA name 328 p (Figure 1) microcontroller chip microcontroller. The microcontroller is programmed with the help of the built-in C programming. Arduino has own programming burned in read only memory (ROM). C program is very easy to implement to program the Arduino UNO

Bluetooth module (HC-05)

This acts as an interface between the digital telephone and the microcontroller. By using this system, which can be used as a transmitter or receiver module Bluetooth HC-05. Usually transmitter is the digital telephone and receiver Bluetooth .


Digital telephone

This is the transmitter of this circuit which sends the data to the microcontroller via the Bluetooth module. It also helps to send the command to forward, backward, left, right to the microcontroller. We have the driver's Bluetooth RC application as the operational instruction of system.
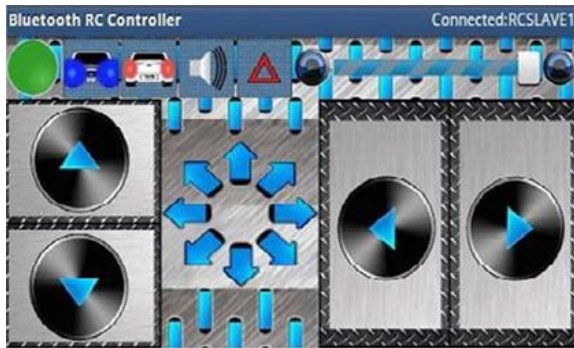
Motor Driver (L293D)

Motor controller IC is utilize to sway dc motors. It's integrated with the microcontroller.
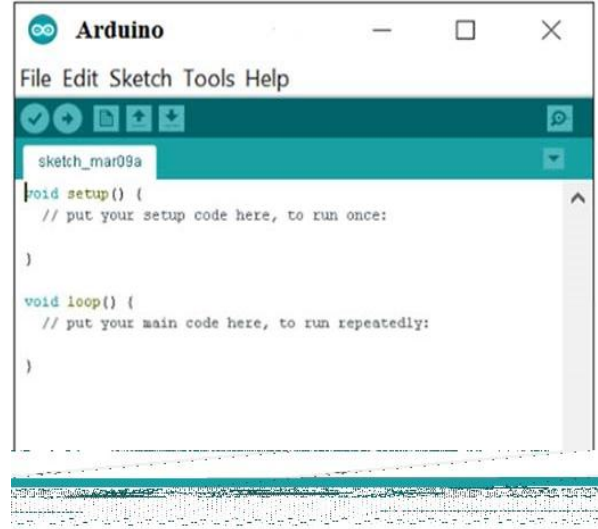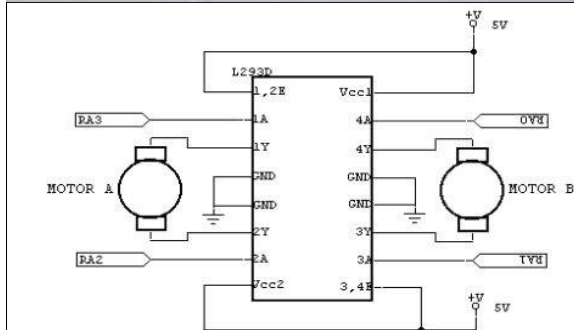
Arduino Software

The program is burned in the microcontroller using burning program. The code is stored to the microcontroller, which is in the Arduino board. From this program we put the information and operating instructions from the system. In applications when a button is pressed, it sends a corresponding signal which is joined to Arduino board. When the transmittable and storable computer information signal Arduino, pin that matches particular entry are set to high. The data bits are changed correspondingly by motor driver, if they are short, so it doesn't work on the corresponding pin of the motor controller other high bits then the corresponding pin motor driver is active. We used to write the program for the Arduino Arduino IDE version 1.8.1.

3. WORKING PRINCIPLE

Block diagram is shown how the working of the circuit will commence, in the below given Figure. According to Figure a given direct current power supply is needed to run whole project. Bluetooth module and Microcontroller is feeded by Direct current power supply. The Bluetooth module receives the indication sent from an android phone, where the app is installed. Functioning of the motor driver is

totally in accordance to the instructions send by microcontroller.
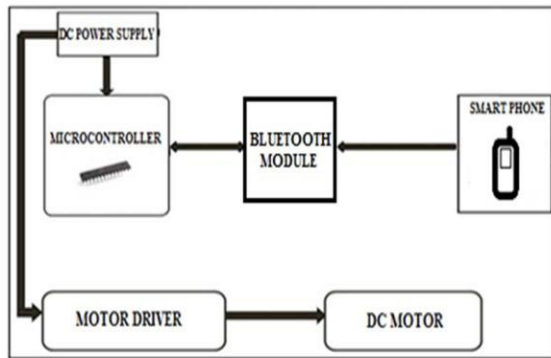
Application instructions:
1. Pairing the HC-05 Bluetooth module with the Mobile and enter the password.
2. Select the device.
3. By clicking on "ADVANCED ARROW", the button "Next" data is sent to FORWARD car journeys.
4. By clicking on "ARROW BACK", "Back" data is sent to connected data. Bluetooth module and the car moves. BACK.
5. By clicking on "LEFT ARROW", the data "Left" is sent to the connected Bluetooth module and the car becomes LEFT.
6. Clicking on the "right arrow", the data "Right" is sent to the connected Bluetooth module and the car moves to the RIGHT.
7. Click on the "OFF" icon to disconnect the association Bluetooth module

Proposed algorithm
Phase 1: establish communication between Android module and Bluetooth.
Step 2: Press the command button from the application.
Step 3: The input string of the corresponding command is send to the bluetooth module.
Step 4: Check Command is received from Bluetooth module
Step 5: if the "Disconnect" command is given, it ends communication.
Step 6: Close the application.

Advantages
• Simple to use.
• Is a small parking is required.

• Reduce human effort.
• Check the car from the outside.
• Reduce parking difficulties.
• Easy to control the car off-road.

In the future, we will also add other sensors for the car Automatic control of automatic parking and automatic shift. That It will also increase safety for both the car and the car Passengers in ground conditions.

4. CONCLUSION

We reach the Bluetooth control communication between The mobile phone , the Android app and the vehicle. Knowledge is constantly expanding and so are problems. that humanity strives to solve. In this spirit, it is expected that the current activity will lead to further improvements.

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