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ANDROID MOBILE PHONE CONTROLLED BLUETOOTH ROBOT

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Abstract: The advancements made in technology of robotics have made life of mankind very much easier and comfortable. This paper describes a smart floor cleaning robot that allows cleaning the floor by giving instructions to the robot. This robot makes floor cleaning process easy and fast utilizing a wireless robotic cleaning system. This wireless system consists of a transmitter application that runs on an android mobile app which allows the robot to follow commands given by the user through the transmitter app. The proposed robot consists of Arduino UNO controller which has fourteen digital input/output pins, robotic arm with cleaning pad with a water sprayer for efficient cleaning. The Arduino UNO, on receiving the commands from android device through Bluetooth receiver, decodes the given commands and controls the motors to achieve the desired path and direction.

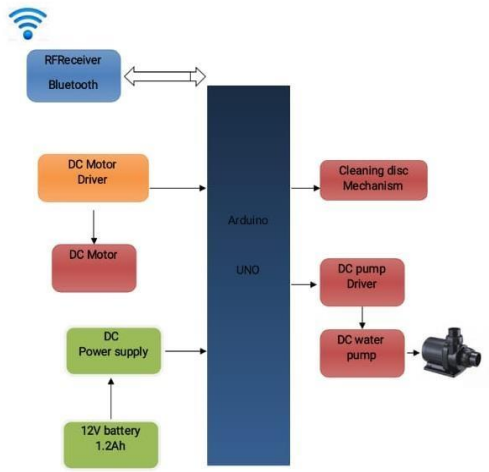
Keywords-Arduino uno, Bluetooth, mobile app.

This robot will be using water storage with anti-

I.INTRODUCTION

Smart floor cleaning robot has been designed for home and office environments. infection solution which is pumped with water pump motor. This robot on receiving the commands from the android device cleans an area using a cleaning pad by spraying water on the floor. The cleaning disc is used for efficient and effective wet floor cleaning purpose. This system can also be used as disinfection the objects within the Bluetooth data range. The proposed system is a manual system because it is controlled by android application which is operated by human. The proposed system functioning is entirely depended on the commands that are received from the android app.

II.BLOCK DIAGRAM



III.METHODOLOGY

- A number of software and hardware implementation techniques were used to design and develop the system.
- We used a 12VDC motor, L293D IC, Bluetooth module, an android app and Arduino to develop our system.
- Commands are sent from the Android mobile to the Bluetooth receiver.
- Android based robot has a Bluetooth receiver unit which receives the commands and give it to the microcontroller circuit to control the motors.
- The microcontroller then transmits the signal to the motor driver IC's to operate the motors.

Main functions of our project are:

A. Arduino uno
B. Motor driver
C. Bluetooth

A. Arduino uno

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins in which 6 can be used as PWM outputs (these are pin no 3,5,6,9,10,11) these pins are used to vary the output power like controlling the LED brightness and controlling the speed of dc motor.

There are 6 analog inputs, these 6 analog inputs are used to connect analog sensors like humidity and temperature sensor, these analog I/O pins covert analog to digital signal.

B. Motor driver

- Motor driver IC allows the tyres of robot to move in different directions and also provides rotating movement to mopers.
- The input conditions of high and low are given from the Arduino to the input pins and from the output pins of the motor driver the DC motors will be controlled.
- L293D is used as motor driver IC typically known as H-Bridge which allows the tyres of robot to move in different directions and also provides rotating movement to mopers.

C. Bluetooth module

- The Bluetooth module is wireless communication module for this proposed system which can be operated by the property of master/slave.
- The functionality of this module is that it is controlled only by user's commands.
- Bluetooth module is also programmable input/output control module and the input/output voltage range is 3.3 to 5v.
- The HC-05 Bluetooth module is used for serial communication between robot and Android application.

IV.CONCLUSION

The purpose of this project is to implement Bluetooth Communication between android phone and microcontroller. With the combination of mobile and robot for building robot with many features. By using HC05 Bluetooth receiver the user can control robot wirelessly. It reduces the labour cost and saves time also and provides efficient

work. It is a low cost device which can be easily handle by any person .

V.REFERENCES

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