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### STUDY ON BLUETOOTH ROBOT WITH TEMPERATURE SENSOR

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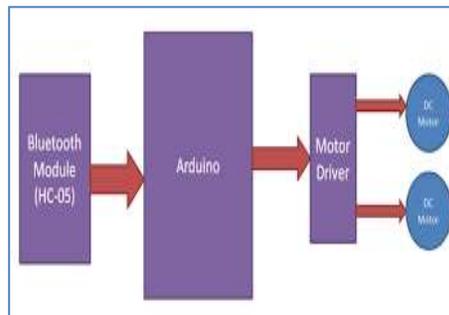
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#### ABSTRACT

Now the era of advancement in technology day by day all the things which is operated by with the help of Robot and that can be operated far from the destination .In other words we can say that all the things which works without wire called as wireless technology .The idea of Bluetooth Robot with Temperature sensor which are the basics needs in todays industrialized era to operate all the machines and home appliances without the use of wire and that can be operated far from your destination .Now the era of advancement in technology security is also increased day by day .This project gives the all the basic needs that requires more security and gives the wireless service to you for your home and industry .This project is based o the Arduino Uno programming ,containing Bluetooth Module and temperature sensor which gives the alert when the temperature exceed above 50degree Celsius.

#### INTRODUCTION

“Bluetooth Robot with Temperature Sensor gives the full services of wireless technology that gives the new advancement in wireless and artificial intelligence .Bluetooth robot which is controlled by the Android phone application Bluetooth. This project containing Atmega328 ARM based microcontroller, Arduino Uno board ,wheel ,chasis, Biuetooth module HC-05 ,temperature sensor LM38,motor driver IC and Android phone. This project gives the idea about the wireless technology that can be operated it any where but in limited range .Wireless technology gives the facility to operate your appliances without any wire and any extra circuitry .This project demonstrates an automation system which contains a remote mobile host controller (Office ,home appliances).The client modules communicate with the host controller through a wireless device such as a Bluetooth enable mobile phone, in this case an android based smart phone.



*Fig.1 Block Diagram for connection Bluetooth to DC motors*

#### ADVANCEMENT IN WIRELESS COMMUNICATION

Automation involves introducing a degree of computerized or automatic control to certain electric system in a building. These include lighting, temperature control to certain electrical and electronics system. Wireless technology gives the portable facilities for the industry purpose and advancement in home appliances security that can be operate it far from the home .Security through the gives the better time consuming than the wired technology. Android controlled robot project make use of an android mobile phone for robotic control with the help of Bluetooth technology .This is a simple robotics projects using microcontroller, we have already seen Mobile Controlled Robot using DTMF technology which uses call based method to control robot .Also many wireless controlled robots use RF modules .The control commands available are more than RF modules. Smartphone controlled robot is superior to all these robots. This projects is a Bluetooth controlled with temperature sensor .For this android mobile user has to install an application on his/her mobile. Then user needs to turn on the Bluetooth in the mobile. The wireless

communication techniques used to control the robot is Bluetooth technology. User can use various commands like move, forward, backward, move right, move left, stop. These 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.

**BLOCK DIAGRAM**

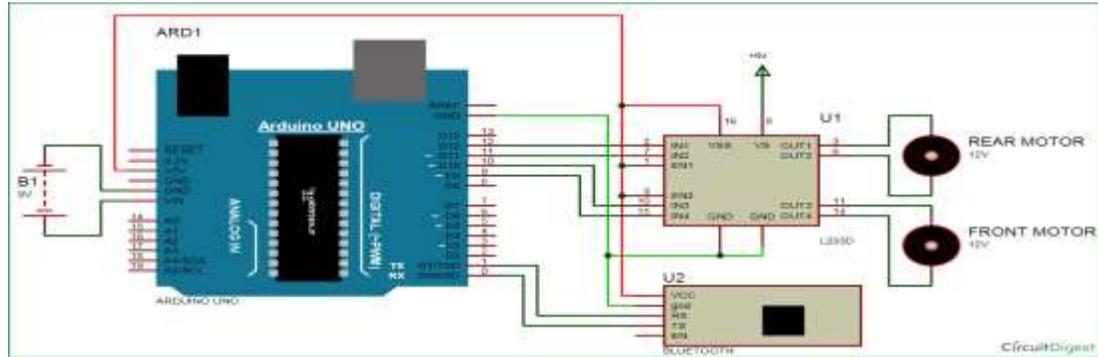


Fig. 2 Circuits Diagram

**CIRCUIT DESCRIPTION**

In given circuit of Bluetooth Robot with temperature sensor. This project mainly consists of following blocks:

- \* Android mobile.
- \* Bluetooth master and slave unit.
- \* Arduino Uno (microcontroller).
- \* LCD Display.
- \* Orto Driver IC
- \* DC Motor.

**PROJECT DESCRIPTION**

This projects is mainly priority the wireless technology. This application has 9 keys commands. We have used 7 commands. We have used 7 commands command 7 and 9 are not used and are reserved for future scope. User can even rename these key text as forward /Reverse using the sets key options. The robot is small in size so can be used for spying. With few additions and modifications, this robot can be used in the borders for detecting and disposing hidden land mines. The robot can be used for reconnaissance or surveillance. In this project we used the EAGLE software for compilation and simulation.

**A. EAGLE Software**

EAGLE stands for Easily Applicable Graphical Layout Editor. EAGLE contains a schematic editor, for designing circuit diagrams. Schematics are stored in files with SCH extension, parts are defined in device libraries with LBR extension. Parts can be placed on many sheets and connected together through ports. The PCB layout editor's stores board files with the extension BRD. It allows back-annotation to the schematics and auto-routing to automatically connect traces based on the connections defined in the schematic.

EAGLE saves Gerber and Postscript layout files as well as Excelling and sib & Meyer drill files. These are standard file formats accepted by PCB fabrication companies, but given EAGLE typical user base of small design firms and hobbyists many PCB fabrication and assembly shops also accept EAGLE board files (With extension.BRD) directly to export optimized production files and pick-and-place data themselves. The following application is consider for this project.

1. This robot is small in size so can be used for spying.
2. With few additions and modifications, this robot can be used in the borders for detecting and disposing hidden land and mines.

3. The robot can be used for reconnaissance or surveillance.

### **CONCLUSION**

This paper describes the design and working of a System which is useful for cost system in designed to improve the standard living in home. The remote control function by smart phone provides help and assistance especially and elderly. In order to provide safety protection to the user, a low voltage activating switches is replaced current electrical switches. Moreover, implementation of ireless Bluetooth connection in control board allows the system install in more simple way. The control board is directly installed besides the electrical switches whereby the switching connection is controlled by relay.

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