

**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH
TECHNOLOGY****ANDROIDE CONTROL SPY ROBOT****Tamboli Snehal, Dunke Pooja, Navale Monika, Hande Nita, Bhagat. A.P**

Department E&TC, Jaihind polytechnic kuran, India

ABSTRACT

Now a days we can see nearly everything which is controlled by using machines & electronic circuits instead of human beings. It is commonly used because it is simple in nature & changes can easily be done. During the certain critical condition in an industry it is very difficult to monitor the parameter through wires and analog devices. Hence the wireless technology or devices is used to resolve this problem. So that we can use wireless technology to resolve the problem. Now days we use transfer maximum data through the wireless technology. In this paper we are mainly concentrating on the use of an android mobile to run an external hardware device. Previously it was not possible to do, but now a days it is possible because of the emergence of android phone are becoming each time more powerful and equipped with new accessories that are important for robots. In this project we used the android phone to form a spy robot. Hence the system is a less costly so it is useful in all the fields of life.

KEYWORDS: Microcontroller, LCD, Bluetooth module**INTRODUCTION**

Now a day the scientific community gives high importance to the real application of new discoveries. In the area of technologies, robotics performs an important role. Android phones have a potential as low cost robot controllers. In the android mobile the Android programming is done in java language. Hence this paper establishes a bridge between the processor Android in the Smartphone and the microcontroller in the robot. The external interface is totally controlled by means of the Android. This paper mainly concentrates on assigned commands to control the hardware device i.e. the android mobile phone will recognize the assigned commands and pass on the information to the microcontroller which will make the device (robot) move accordingly. Android platform has the application in development field for cell phone. In this paper, a robot is an analogy for any machine that is controlled by man. Robots have even replaced humans in performing various tasks that they are unable to perform due to physical disability, size limitation or extreme environments.

MATERIALS AND METHODS

- Microcontroller 89s52
- DC motor
- Resistor
- Capacitor
- Crystal oscillator
- LCD
- Bluetooth module
- Android phone

Microcontroller:

It is main part of the project. In this project use 89s52 microcontroller. AT89S52 is a low-power, high-performance CMOS 8-bit microcontroller with 8K Atmel's high-density nonvolatile memory technology and is compatible with the industry-standard 80C51 instruction set and pinout. The on-chip Flash allows the program memory to be bytes of in-system programmable Flash memory. The device is manufactured using reprogrammed in-system or by a conventional nonvolatile memory programmer. By combining a versatile 8-bit CPU with in-system programmable

Flash on a monolithic chip, the Atmel The AT89S52 is a powerful microcontroller which provides a highly-flexible and cost-effective solution to many embedded control applications.

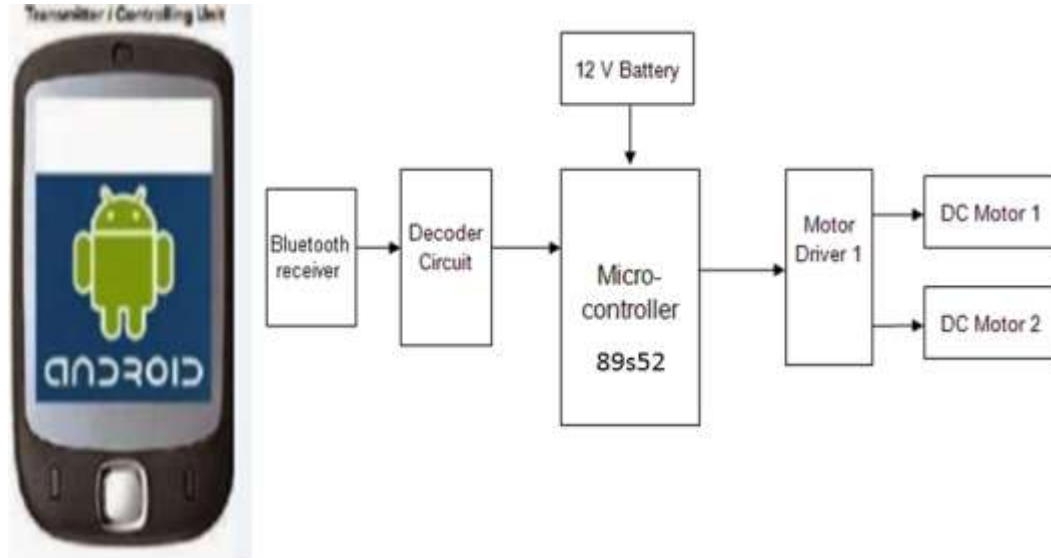


Fig1] Block Dig Of System

Description:

In this paper we have made the use of an Android mobile phone for robot control with the help of Bluetooth technology. For this we need to install Bluetooth application in the Android phone. Then user needs to turn on the Bluetooth in the mobile. In this paper by using Bluetooth module HC-05 and 89S52 microcontroller with android Smartphone device we control the robot. Microcontroller is the main control unit of the system. Bluetooth module HC-05, DC motors is interfaced to the microcontroller. The data from the smart phone is sent as an input to the micro-controller 89s52 through the bluetooth technology. The controller acts according to the assigned commands such as left, right, forward, backward, clockwise, and anticlockwise. The assigned commands are sent from the Smart phone to the Bluetooth receiver. These commands are received in the robot with the help of Bluetooth technology, and then this is given to the controller to move the robot.

Bluetooth Robot Remote Control:

Here we use a simple method to control our Robot by using Bluetooth Module HC-05 & 89c52 Microcontroller with your Android smartphone device. For bluetooth connection between smartphone and microcontroller unit we install the software in the smartphone such as, Bluetooth Robot Remote Control, Bluetooth MCU,Arduino Bluetooth Controller, and Arduino Bluetooth RC Car for robot controlling. But in our system we insatll the Bluetooth Robot Remote Control software in the android mobile.This is free application software. We download this software and installing itin our Android Mobile.

Monitoring system:



Fig 2].Monitoring System

APPLICATIONS:

1. First make sure your HC-05 Bluetooth Module is paired with your mobile. The default password for pairing is "1234" or "0000". Check the manual of Bluetooth module.
2. Click on "SELECT DEVICE" icon to select paired Bluetooth module.
3. When you press "UP Arrow" it sends the data "A" to Bluetooth Module connected with the circuit. When Microcontroller detects "A" the Robot / Robot Car moves FORWARD.
4. When you press "Down Arrow" it sends the data "B" to Bluetooth Module connected with the circuit. When Microcontroller detects "B" the Robot / Robot Car moves REVERSE.
5. When you press "LEFT Arrow" it sends the data "C" to Bluetooth Module connected with the circuit. When Microcontroller detects "C" the Robot / Robot Car turns LEFT.
6. When you press "RIGHT Arrow" it sends the data "D" to Bluetooth Module connected with the circuit. When Microcontroller detects "D" the Robot / Robot Car turns RIGHT.
7. When you press "STOP" button which is in the center of remote it sends the data "E" to Bluetooth Module connected with the circuit. When Microcontroller detects "E" the Robot / Robot Car gets STOPPED.
8. When you press "360 Degree" button it sends the data "F" to Bluetooth Module connected with the circuit. When Microcontroller detects "F" the Robot / Robot Car rotates CLOCKWISE on the same position.
9. When you press "-360 Degree" button it sends the data "G" to Bluetooth Module connected with the circuit. When Microcontroller detects "G" the Robot / Robot Car rotates ANTI-CLOCKWISE on the same position.
10. Click on "DISCONNECT" icon to disconnect paired Bluetooth module.

CONCLUSION

With the available facilities provided we can design a robot control system which accomplishes the required application. Implementation of wireless technology in the paper enables the handling of the robot efficiently. Android Bluetooth enables Bluetooth module HC-05 to communicate among Bluetooth devices. It is concluded that smart living will gradually turn into a reality that consumer can control their home remotely and wirelessly.

REFERENCES

1. Xiao Lu, "ROBOT CONTROL DESIGN BASED ON SMART PHONE", IEEE, ISBN-978-1-4673-5533, 25TH May 2013.
2. Silva J FMC, "A STUDY OF BLUETOOTH APPLICATION FOR REMOTE CONTROLLING OF MOBILE EMBEDDED SYSTEM" IEEE, ISSN- 2324-7886, 5 Nov, 2012.
3. Patrick Lin , Keith Abneyb , George Bekey "ROBOT ETHICS: MAPPING THE ISSUES FOR A MECHANISED WORLD", ELSEVIER, 2011.
4. MataricM.J, "GETTING HUMANOIDS TO MOVE AND IMITATE" , IEEE Journals, Vol No. 15, issue: 4, 2000.
5. SubrataGhoshal , " Embedded Systems and Robots" CENGAGE Learning Asia,2009.