International Engineering Journal For Research & Development

Vol.1
Issue 2

RF CONTROLLED SPY ROBOT WITH NIGHT VISION CAMERA

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ABSTRACT

The Robotic and Automobile industry which is ruled the sectors from manufacturing to household entertainments. It is widely used because of its simplicity and ability to modify to meet changes of needs. A robot is basically a machine which is based on an electro-mechanical interface and is being operated through computer & electronic programs. The robotic vehicle is controlled by a mobile phone. Controller & DTMF decoder IC are interfaced through a android phone. In a summarized form, our project is predominantly a robot vehicle which is being controlled by accelerometer installed on a mobile phone or a tablet. The tools can be altered while pick and place robots can be reprogrammed for multiple application.

Keywords: Robotics, Wireless camera, Android phone, Controller & DTMF decoder IC

1. INTRODUCTION

In the present era, the mobile phone have become smarter. DTMF decoder IC is used here to establish communication. The android device can operate the vehicle at infinite range i.e.
wherever network is available the device can be controlled.

To make the robot user-friendly & to get the multimedia tone in the control of the robot, they are designed to make user commanded work. The modem technology has to be implemented to do this work. This idea is the motivation for this project & the main theme of project.

The robot can be able to move forward, reverse, left & right movements. A DTMF decoder Cm8870 IC will give commands to microcontroller to receive

commands from smart phone. In the darkness spying is done by using the infrared lighting.

2. PROBLEM STATEMENT

There are various types of situation where a person cannot go to check or help or to take a specific action. At those points if we can use the robots then we can solve any problems or save lives. For this we have to design a system in which we canreceive signals and give it to controller by decoding it so that controller can drive the robot and there must be a transmitter (mobile phone) which can send the commands to the robot. So we are designing a system in which we can send commands wirelessly by using mobile phone and that will be received by the robot system and as per the commands robot will be driven.

3. AIM/OBJECTIVE

All in all the aim is to drive a robot remotely by using mobile phone from anywhere.

4. DETAILS EXPERIMENTAL

In our system we are going to use a mobile phone which will be used to send the commands to the robot wirelessly. When we send command to the robot that signals will be received by DTMF decoder and given to the controller by decoding it. Once controller gets the commands, gives the signals to the motor driver IC l293d and as per those signals robot motors will be driven and we will control the robot wirelessly.

This system can be used in case of fire to extinguish the fire as well as to see the condition in building. Also this system can also be used as a spy robot in military purpose. System can be used in forest to keep eye on the animals and counting.At transmitter we will be having a phone from where a call will be done to the receiver end (Robot System) . At the receiver end the call will be automatically picked and transmitter side will get connected to the Robot wirelessly.
After that We are using 5 keys for driving the Robot as „2‟ for Forward command , „5‟ for Stop Command , „4‟ for Left Command , „6‟ for Right Command , „8‟ for ReverseCommand. When „2‟ is pressed at transmitter side specific DTMF tone will be sent at receiver side which will begiven to the DTMF decoder IC CM8870. DTMF decoder decodes that tone and gives decoded 4 bits data to thecontroller which will be 0010. Similarly for „4‟ key 0100 , for „6‟ key 0110 , for „5‟ key 0101 , for ‟8‟ key 1000 bits will be given to the Controller at the receiver side by the DTMF decoder IC. When Controller at the receiver side receives these 4 bits, it drives robot motors as per the command by giving respective signals to the Motor driver IC L293D.

ROBOT

The **ROBOT** used in our project runs on DC Geared motor. We are using 10 RPM motors to run the robot. And for power source we are having DC battery of12v,4.5Amp. And A controller will drive the motors by using motor driver IC.

CONTROLLER KIT

The Picture shows the main Controller kit which will be
implemented on the robot and there will be DTMF decoder
Module which will receive the DTMF tone and gives 4 bit data to the controller which is read by the controller and as per the command it drives the motors by sending signal to the motor driver IC.

WIRELESS CAMERA

Wireless Camera is implemented to the Robot to send video wirelessly to the transmitter side. This wireless camera will use internet to transmit the video data which will be received at the transmitter end on Laptop or mobile. And in this way Wireless video will get transferred from Robot to the transmitter end.

5. CONCLUSIONS

This experiment has integrated a given smart phone with robotic vehicle. With the help of this experiment we can make use of robotic technology for reliable communication between them. Thus the conclusion is that, smart living will slowly turn into reality.

6. ACKNOWLEDGEMENT

The authors would like to thank the management and prof. Vikas Singh, ARMIET Institute of Engineering and Technology for providing all the technical, guided constant encouragement and suggestions throughout the project.

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