

Wireless bomb disposal robot

Prof. Deepali Ghogre¹, Pooja Pagere², Mayuri Shardul³, Gauri Shimpi⁴

¹(Assistant Prof., E&TC, LoGMIEER/SPPU, India)

^{2,3,4}(Student, E&TC, LoGMIEER/SPPU, India)

Abstract : This system is design to develop wireless bomb disposal robot which will help to amendment defense of our nation from terrorist, suicide bombers and other such activities. The bomb detectors and disposal system concern only with the present of experts. But this method of analyzing takes more time and bomb disposal with bare hand make danger to life of expert. The main idea behind our system is to purveyance a line of defense to a bomb disposal squad against the existence threatening risk, faced by a bomb disposal squad in the incident of a blast. Our system is represented the definition something guided by automatic controls. The robot that we have constructs is guided by controls that take input from a human and perform reliable action based on these input. The Wireless Bomb Disposal Robot have control application as well as user application, control application crub the robot remotely using Wireless technology. The bomb squad controls the robot remotely using application at control site. Input from the user is send over Wi-Fi control to the Receiver side, where it is received, identified and given to the appropriate module (Robot) to act. The robot to be composed of a Robotic Arm, Jaw, a Robotic Base, and Wireless camera on it. For the elbow and gripper of robotic arm we have used DC motors. Our system provides the squad a secure distance to dispose off a bomb, which bomb disposal squad normally has to do with his bare hands. Hence introducing the innocuous way for disposing the fulminant to save life of common people.

Keywords: Wireless technology; robotic Arm; bomb disposal.

I. Introduction

One of the greatest imperil for police, military and bomb disposal squad to handle the explosive devices. In most cases human must to keep themselves in risk by disposing bomb manually. To further reduce the risk associated with bomb disposal, robot must be developed that can mollify explosive devices. There are so many terrific situations in day to day life. There are so many danger situations where human can't work. In that situation robot can safely work at hazardous condition. These robot provide human safety and supplant human work.

II. Literature Review

Table 2.1: literature survey

SR NO.	AUTHOR	WORK OF RESULT	YEAR
1	Chris hunter	Implementation of bomb diffusing robot using wire(explosive orderence disposal)	2017
2	Rocco diverdi	Implementation of bomb diffusing robot	2010
3	Dr.R.V. Krishnan	Implementation of bomb diffusing robot using RF technology	2013
4	Gurdas	Bomb detection robotics using embedded controller	2015

III. Stem Design

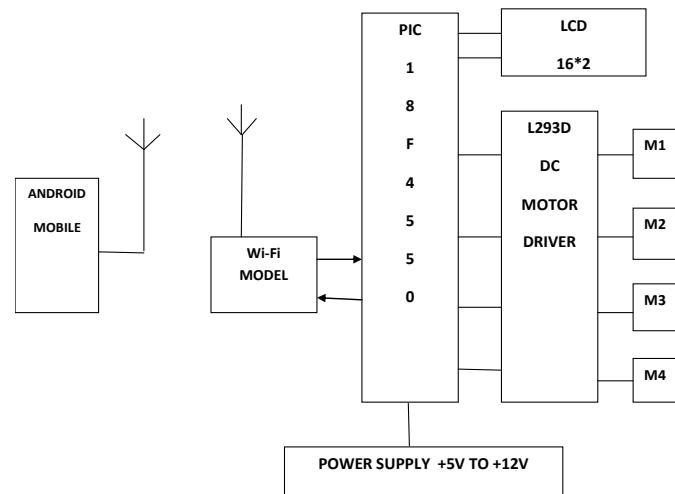


Fig: 3.1 Block diagram of proposed system

This paper is design wireless bomb disposal robot. in this robot we use four motors for the work of system ,two for the operation of robotic arm assembly with jaw and two for the operation of moving vehicle. Systems consist of mainly following parts.

1. Transmitter (control site):

Its function is to receive input from receiver and transmit the data to controller. It receives the input signal from controller and move the robot any direction. In this paper the controller site is nothing but the android mobile. It consists of android control robot app using this app give instruction to robot and control robot.

2. Display unit:

Display unit which is used for display received information .in this system we use 16*2 LCD display to display the received instruction.

3. Robot driving IC:

Robot with Wi-Fi hotspot connectivity is control by motor driver IC L293D which is interface to microcontroller. We use four motor for work of system, two for robotic arm and two for operation of moving wheels.



Fig 3.2: (From Left) Android phone, Android symbol and Wi-Fi control application

Circuit Design:

Complete system is simulated using proteus. Results are as shown in fig. 3.3

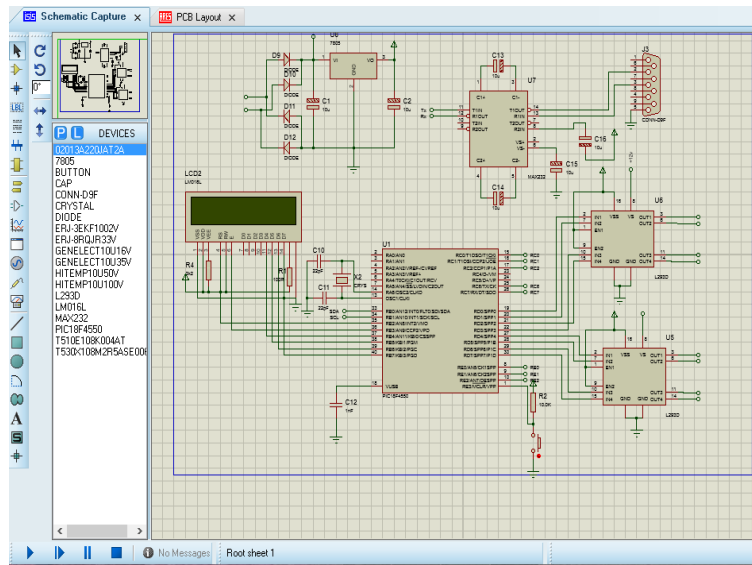


Fig.3.3: Complete system simulation

IV. Result

How System is working is as shown in the below figure: 4.1

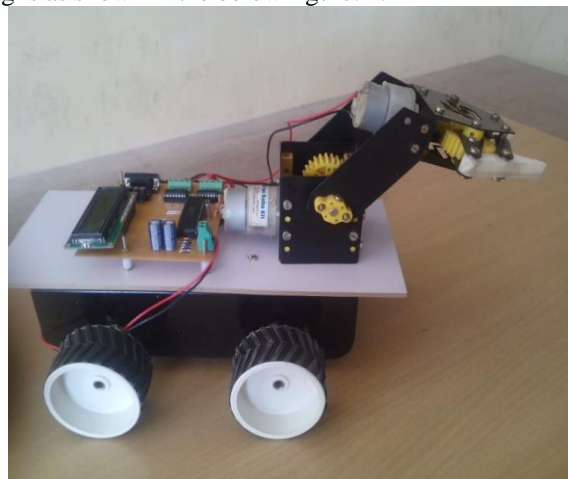


Fig: 4.1 Figure of hardware model



Fig: 4.2 Figure indicate the robot jaw is open.



Fig: 4.3 Figure indicate the robot jaw is close.

V. Application

We have design a wireless bomb disposal robot for the help of bomb disposal squad but there are many application of this robot.

1. Police: In hostage position.
2. Military: To provide defense while handling the risky material.
3. Nuclear: To provide reliability while handling hazardous or radioactive material.

VI. Conclusion

This system is design to developed wireless bomb disposal robot which will help to reform discriminating protection of our nation from terrorist, suicide bombers and other such activities.

This system has been designed in such way that it can center to the need of the bomb disposal squad, the military, the police and also for handling hazardous or radioactive materials.

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