A SECURE BOMB DIFFUSAL SPY ROBOT CONTROLLED USING ANDROID APP

1. Rushikesh Uphad
Student, Dept. of Computer
Engineering, BSIOTR, Wagholi,
SPPU, India
rushikeshuphad90@gmail.com

2. Vaibhav Kharat
Student, Dept. of Computer
Engineering, BSIOTR, Wagholi,
SPPU, India
kharatvaibhav9999@gmail.com

3. Supriya Shinde
Asst.Prof. Dept. of Computer
Engineering, BSIOTR, Wagholi,
SPPU, India
supshinde2010@gmail.com

ABSTRACT

This system presents the wireless bomb disposal robot which will help to improve defense of our nation from terrorist, suicide bombers and other such activities. The bomb detectors and disposal system works only with the presence of experts. But this way of analyzing takes more time and make risk to life of experts. The Wireless Bomb Disposal Robot uses a control application, at the user end to control the robot remotely using Wireless technology. The bomb technician controls the robot using this application at control site. The Robot consists of a Base, a robotic Arm, RPI, and a wireless camera on it. We have used DC motors for the moving robot and the gripper of the robotic arm. As we are not risking the life of an bomb expert or any other commando. Hence introducing the safest way for disposing the explosive to save life of common people.

So with the help of IOT technology DEFENSE system also can get an advance defense device in the form of BOMB deposing ROBOT. As we know disposing of bomb is a big task for human being there is always fear of loss or life in case any mistake's done by human that's why robotics technology can give solution this problem

KEYWORDS: Robot, Radio Frequency module, actuators,Night Vision camera, Metal Detector, GSM Module

I.   INTRODUCTION

Now a days IOT technology taking granted for most of the controlling applications like medical, defense, automobile, industrial project, smart cities and many more. It has been considered as another technological revolution. The Internet of Things (IOT), also called Industrial Internet, has been defined as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies. High number of applications and controller can get connected to the IOT network.

and with the help of robot we can dispose bomb. Now the question arise here how we can control robot? there are lots of technology to control robot these are wireless or wired again they get divided into some technology in wireless like 1) GSM control 2) Bluetooth 3) Wi-Fi 4) RF control and much more but all this technology have some and advantages and some limitations too so rather than use of this all we can go with IOT (internet of things) a new trend of communication and controlling This has an lots advantages during controlling

Motivation

- Hardware model basically consists of an arm which cuts / removes the required wire to diffuse bomb.

- Modern techniques used in defense is bomb disposal robot.

- A metal detector is an analog electronic instrument which detects the presence of a metal object.

II. LITERATURE SURVEY

Sr.no	Title Of Paper	Year	Author	Explanation
1	Design and Implementation of Bomb Diffusion Sing Surveillance Robot using RF Technology	2017	DR.R.V. Krishnaiah, Reddy Pannnala,	illustrates the perks of this project are robots controlled by hand gestures and RF remote. This project is much essential for mines detection, surveillance applications. In this project, RF module is used to cover a small range.
2	Bomb Detection and diffusion in Planes by Application of Robotics	2016	Prashant Limje, Shailesh Khekale	In this paper also throws lights on remote bomb detonation and automatic bomb detection. Our robot also comes with terrain climbing facility so as to be used in hilly regions. Future scope is to reduce the response time to a naught.
3	Hand Gesture Recognition Bomb Diffusing Surveillance Robot	2017	Sagar Randive, Neha Lokhande, Apoorva Kamat, Shubhrojit Chakrabor ty, Vishal Pande,	Explains that hand gesture recognition enables the robot to be more user friendly, though the need of improvising the range of wireless communicat
				ion is compensate d
4	A Multipurpos e Robot for Military Tribute to Defence Ministry	2016	V. Prasanna, Balaji	Describes realization of dynamic3D videogame. The paper explains the feasibility for a mission to locate and dispose a bomb placed inside an airplane inspite of its practical implications

Problem Statement:

To develop a secured bomb disposal spy robot with optimal path finder using Zigbee Controlled by Android App

Methodology :

In this system we discuss the tools & technology to develop a robot. This system also shows a robot prototype for metal detection and defusing a bomb using the cutter. We also watch live streaming of the images using the camera. The system is designed to be controlled wirelessly using Zigbee model which is connected with microcontroller. The transmitter sends the signal to the receiver. Receiver receives the signal and reads the data and passes it to the microcontroller's designated pin. The controller then reacts accordingly to the signal it received. The following Figure shows the proposed system architecture.

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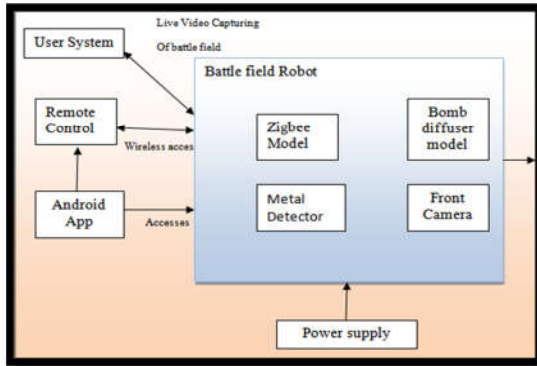the signal it received. The following Figure shows the proposed system architecture.

Fig.1 : Proposed System Architecture

BLOCK DIAGRAM:

Applications

We have designed it as an assistant robot to the bomb disposal squad but there are a number of other applications of this robot. It can be used by:
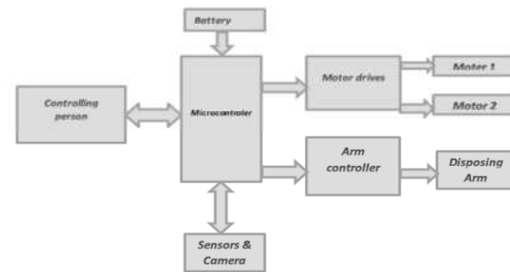
- Police: In hostage situations
- Military: For reconnaissance missions
- Fire: To provide video feedback of the site for analysis
- Nuclear: For handling hazardous or radioactive materials

References

[1] DR.R.V. Krishnaiah, Reddy Pannnala, "Design and Implementation of Bomb Diffusion Sing Surveillance Robot using RF Technology" illustrates the perks of this project are robots controlled by hand gestures and RF remote. This project is much essential for mines detection, surveillance applications. In this project, RF module is used to cover a small range.

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[4] V. Prasanna, Balaji &H, "A Multipurpose Robot for Military Tribute to Defence Ministry" Describes realization of dynamic3D videogame. The paper explains the feasibility for a mission to locate and dispose a bomb placed inside an airplane inspite of its practical implications

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IV. CONCLUSIONS & FUTURE WORK

The proposed system of bomb disposing robot will be very useful in the area of security and spying of enemies as well as the areas where human beings cannot reach the robot will do that bomb disposing work this robot is also remotely operated through internet so there is no harm to human lives. Hear is basic mechanical robot, IOT   technology and Interfacing of raspberry pi and metal detector module and connectivity all together can form a best bomb disposing device which would be very helpful to save human life using internet.