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**DEFENCE ARM CONTROL USING ROBOTICS**

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**Abstract**

Now-a-days robots are used by military organization to carry out many risky jobs that cannot be done by the soldier. This paper presents defense robot with gun gathering for barrier reason that has IR and PIR sensor for human just as edge identification and webcam has been introduced on it so it can screen adversary at whatever point required. The military robots likewise have various shapes as per the motivations behind every robot. Here the new system is proposed with the help of RF module wireless network to trace out the enemy and accordingly robot will be controlled manually from workstation. Thus the proposed system using RF module saves human life and reduces manual error in defense side. This defense robot used in war areas and this is the replacement of fighters against terrorist. The robotic vehicle works both as self-governing and physically controlled vehicle utilizing web as correspondence medium. This multisensory robot used to distinguish human, metal, destructive gases and fire at remote and war field regions. Robotics technology has been a staple of cutting edge fabricating for over 50 years. This Robot can also use in automations like hospital, office and Factory. Other than Automation this innovation additionally utilized in Defense powers, Entertainment, Space investigation, Security frameworks and numerous strategy.

***Keywords-***, *Defence Robot, Robot Navigation, Remote Sensing And Monitoring, Wireless Sensor Networks, Obstacles Avoidance.*

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**I. INTRODUCTION**

The main aim of this project is to save the precious life of soldier in war field. This robot is RF Module worked, it has Gun get together which climbs down, level vertical in synchronization with webcam mounted over gun assembly. The main aim to develop a model which is efficiently used to minimize terrorist causality .Being able to achieve reliable long distance communication is an important open area of research to robotics as well as other technology areas .The faithful robots do not hesitate to tread even the dreaded terrain of battlefields. Military robot is a robot that can perform a task given such as locomotion, sensing, localization, and motion planning without a control from the humans during the task in progress. The military robot is an autonomous robot that consist of wireless camera that human able to monitor via computer as a spy. Today wireless system have been widely used by many company because it saves the cost of wiring ,easy to maintenance, more reliable. RF Module is chosen doe to its large connectivity range and it is more reliable than other system.

## II. OBJECTIVES

The Objective of this undertaking is to plan and execute clever portable robot utilizing embedded microcontroller. The robot is controlled from the pc in RF Module communication using application software. The main aim to develop a model which is efficiently used to minimize terrorist causality. Having the option to accomplish dependable significant distance correspondence is a significant open zone of research to robotics just as other innovation territories. The dependable robots don't stop for a second to step even the feared territory of front lines. Military robot is a robot that can perform a task given such as locomotion, sensing, localization, and motion planning without a control from the humans during the task in progress. The military robot is an autonomous robot that consist of wireless camera that human able to monitor via computer as a spy. Today wireless system have been widely used by many company because it saves the cost of wiring ,easy to maintenance, more reliable. Zigbee is chosen doe to its large connectivity range and it is more reliable than other systems. It likewise quantifies the profundity in the way while moving in the barrier land and If is there any snag in remote spot which can't by the people so it will be constrained by RF Module communication.

## III. LITERATURE REVIEW

In this paper instead of using RF module for wireless communication they are using different modified techniques for wireless communication such as GSM. The new age of technology such as Android, GSM has redefined communication. Most people nowadays have access to mobile phones and thus the world indeed has become a global village. At any given moment, any particular individual can be contacted with the mobile phone [1] .

The paper on unmanned multi-functional robot using Zigbee adopter network for defense application. In proposed system, the communication can be done with the help of the Zigbee wireless communication network. In this system, the robot is monitored using the CMOS camera.This proposed system gives an exposure to design a simple robot that can be used to do multifunction in defense. Manual control is also employed to control the robot from the control room which is located far away from the border area [2].

Surveillance is the monitoring of the behavior, activities, or other changing information, usually of people for the purpose of influencing, managing, directing, or protecting them. Hence Robot which continuously Monitor the place and provides security is developed [3]..

In this project a robot is designed in such way that it provides high level surveillance as required using automation. The main objective of the project is to provide an efficient surveillance wherever high level security is needed. The proposed system is an embedded based robotic module. With the proposed system, humans can feel extreme comfort and can experience automation to the maximum [4].

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IV. PROPOSED SYSTEM

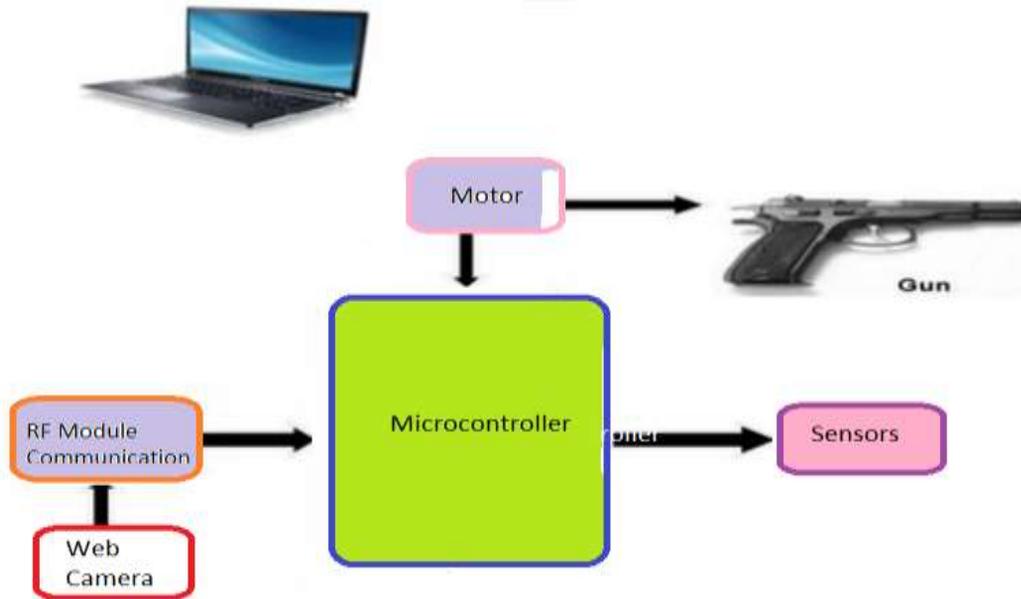


Fig No 1:-Block Diagram Of Defence Arm Control Using Robotics.

As 1 phase ,230V,50Hz Supply is given to the Robot Vehicle, This Ac supply is converted to Dc supply with the help of Rectifier. This regulated 12V Dc supply provided to the Dc motor used for to run the vehicle as well as Gun operation. Also these supply supply is given to the microcontroller is provided through Sensors. The output of microcontroller is communicated to PC/Laptop by RF Module where the data with date and time is recorded and Displayed at the same time. The command is given by user which was displayed on PC, Vehicle and Gun operation can be controlled manually.

Following Parts are used in Robot:

Parts	Specification
RF Module	3.3V -5VDc,25Ma,2.4GHz
IR Sensor	5VDc,20mA
PIR Sensor	4V-12V
Ultrasonic Sensor	5v,15mA
DC Motor	4-12V,10rpm
Relay	6V-12V
Battery	12V,720mA
Web Camera	Range-70-100fts.

## V.SOFTWARE SPECIFICATION

Micro C is a Platform and Development Environment for a Visual Programming Language. It is used for c language programming using which we are communicating RFModule. The Programming Language used in Mikro C, is a Data flow Programming Language. We are using MATLAB for image processing. Integrated Development environment [IDP] software is used to operate the robot and its operation.

## VI.CONCLUSION

This proposed system gives an exposure to design a robot that can do multifunction in defence. Manual control is employed so that it can be controlled from workstation which is located far from War field .The system uses RF Module standard for wireless communication which is more reliable and cost efficient and easy to use. The use of RF Module made the control of system easy. Our system is aimed towards the RF Module technology up to 80 meters distance. In future we can increase the distance up to 200 m. The proposed system is focusing on the welfare infantry to minimize the casualties to a great extent.

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