

# Android Controlled Spy Robot With Night Vision Camera

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**Abstract :** The android is a powerful operating system and it supports large number of applications in Smartphones. A growing interest in having smartphones interacting with peripheral devices such as motors, servos and sensors led to the recent creation of electronic interface boards. These applications are more comfortable and advanced for the users. This robot can be controlled with the help of an app of Android phones. So main aim of our project is to make a robot vehicle which is controlled by Android application. This robot can move to any place and perform smartly within specified Wi-Fi range. This project is work on RF technology. So Android application sends the signal to RF receiver which is mounted on robot by using Wi-Fi connection. The robot consists of night vision wireless camera which can transmit images or videos.

**IndexTerms –** Android,Raspberry Pi,Wifi,RF technology,

## I. INTRODUCTION

Robotics is a widely developed technology in branch of engineering and science that includes Information technology, Mechanical Engineering, Electronic engineering, computer science and others. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing. This robot can work remotely controlled by smartphones over Wi-Fi which can be used to interface between micro-controller and smartphone. In smartphone an Android app is used to send data to the microcontroller that works on given instructions. In this system has a night vision camera is also used. Night vision camera have the ability to see in dark night. This project is aimed at developing a surveillance system which can be controlled remotely by using an Android App. So videos can be monitored from anywhere through mobile phone. The security problem is resolved by video surveillance system. The design of our project encourages developing a robotic vehicle for the remote operation connected with the wireless camera mounted on the robot for monitoring purpose. The Android application consist of the push buttons that send the commands to the receiving module for controlling the movement of robot either to right, left, forward, downward.

## LITERATURE REVIEW

This section discussed about the important co-ordinations about this paper. The system developed in this paper will be easily controllable by an android remote. The maximum range is 100 meters. The remote has 5 switches, one switch required for robot's specific action. The controlling actions of the robot is discussed as when user presses a specific key, the specific action related to the key pressed will be generated. The robot size should be small and the design and color should be camouflaged in order to perform spying operations very precisely and accurately. One of the major impacts is that android phones can be used in a proper way and make use of new technologies that emerge every year. The major application of this paper is that we can use android phones to control the robot from a remote distance. The robot receives the RF signal by the receiver from RF transmitter. The design of our paper encourages the development of a robot that can be controlled wirelessly though a remote from remote location connected with a wireless night vision camera. The camera can be useful for monitoring or spying operations even in darkness. The robot contains Raspberry PI along with a series of 2-3 sensors. They contain fire sensor, motion detector sensor and ultrasonic sensor for specific operation or task. This ensures that the scope of this paper cannot be limited to only one application domain and combine 2 or 3 application domains together.

## II. PROBLEM STATEMENT

In some conditions humans cannot go or survive like in fire disasters, war field. Also the in war fields the many soldiers are getting martyr. Because they don't know where the actually enemies are hiding behind the wall or in houses. So it is very dangerous to live there and is need to save the lives, need to provide the solution on the problem. During fire disasters, there is a high probability of risking lives of the victims and even the fire fighters. Sometimes, they need time to analyze the cause of fire disaster and due to physical human imperfectness, there might be high number of casualties. For apartment building security, you have to pay he watchman monthly and as physical human imperfectness can cause failure or breach in security, high possibility of theft, burglar activities can be carried out and it may trouble the house-owner or the landlord.

## III. PROPOSED SYSTEM

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#### Components:

The following components included in this system are as follows:

- Raspberry Pi.
- Night Vision Camera.
- Ultrasonic sensor.
- DC Motor.
- Fire sensor.
- Motion Detection sensor.
- Dischargeable Battery.

#### IV. FUTURE ENHANCEMENTS

A video transmitter mounted on top of the robot helps us to see the path of motion. We can also control the device by giving it voice command thereby making it a voice recognition system. In future, the robot may also consist of gas sensors to detect the poisonous gases in the environment. Robot will consist of Ultrasonic sensors to avoid obstacles. We can also include face recognition technology in future. If the motor wheel is changed and replaced by a chain wheel than it can move anywhere at any rough condition like Tank.

#### V. CONCLUSION

This paper gives the general idea about the system. Our main aim is to make the robot user friendly. It can easily move and capture the image and wirelessly transmit them. The robot can operate wirelessly by using RF technology and Android application. The robot has reduced the human afford. It has high performance accuracy in movement section. Its gives the live video streaming so it is very useful to soldiers.

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