Surveillance Robot with Laser Gun, 2 Robotic ARM, Live Audio & Video Transmission using RF

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Abstract – We proposed cost effective four wheel surveillance robot. Specialty of this robot is that we have not used any premade development broad like Arduino or raspberry pi. We have used Camera and Audio transition in it. We have used RF transmission so that it can work easily where mobile phone jammer is used. We have added PIR sensor, Fire sensor and Metal detector. Metal detector can detect the bombs. We have added two robotic arms inside it, one arm can dig the bomb and another can diffuse the bomb. We can also use it in raining environment because it is water proof too. This is the proto type. It is the most highly advanced surveillance robot.

Keywords: Surveillance Robots, Robotic Arm, Camera, Gun stand, sensors.

I. INTRODUCTION

We all understand the importance of life. Nothing can recover it. The purpose of making this type of surveillance robot is Security of every human being. This type of robot can be used in Home, industries and Defence. This robot has three sensors. PIR, Fire sensor, Metal detector. PIR sensor can detect the human being in the specific area. We can use this robot were we lost our solder this robot can help you to find him out. You can also use this robot in the area or any building which is high jacked terrorist. The camera used in this robot will give you like transmission and react according to you. If you find any terrorist than it can set a target by the laser pointer and shoot him out on your response. If can be used on Spying on any one. It will give live Audio and Video transmission. Metal detector used in the robot can detect the bomb and can find the land mines. If can also dig the bomb out from its Robotic arm and can defuse it on your instruction if lose cable are found. This can also we used in Border security instead of Solders. Robot will give you update of each second and controlled by your instruction. We have not used artificial intelligence so, we have to control it manually. If can't be hacked also because it is working on RF and if Military will use its RF to communicate with robot than terrorist can't detect than band. It can be used in every climate condition because it is water poof too.

II. SYSTEM MODEL

In this section I have trying you the components I have used in developing this robot in the form of blocks.

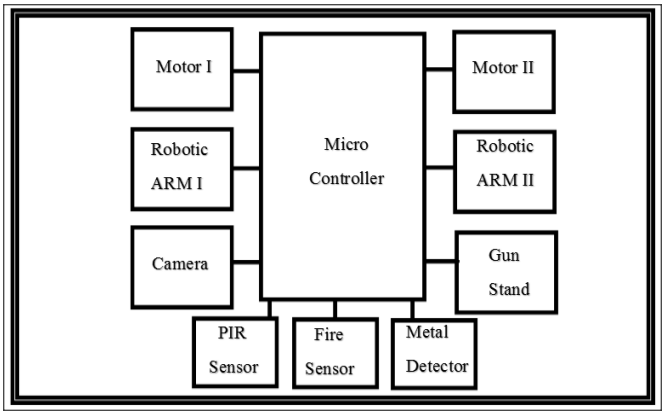

Fig. 2.1 Block Diagram

III. PREVIOUS WORK

There are many surveillance robots which are developed previously. They have used pre development boards like Arduino or raspberry pi which are costly and has limitations. Previously surveillance robot can transfer data like (Audio & Video) through internet. But we can't this robots in border area or any high security are where signal jammer is active. Previous Robots are using MATLAB so, that we can detect the face and can see the name of person whose detail is available in database. Laser gun is used to set the target and shoot it out.

IV. PROPOSED METHODOLOGY

We have planned to make a very powerful Robot. By the help of this robot we can detect human being in any specific location using PIR. Using Video transmission we can check that it's our lost solder or any terrorist. Than we can set target with the help of laser pointer and can shoot him out. Live streaming of audio and video is possible using this robot. It

transmit data using RF not using internet. We are using this concept to make it work correctly and give 100% when it's in area where jammer is active. There is specific range of RF is allotted to police and military no once can use that band. It have used free Band available. There are two robotic arms. If sensors detect any metal object (bomb) than one arm can dig and take that bomb out. You can see all the wire of the bomb and can give instruction to the robot which color wire you have to cut to defuse the bomb. If bus wire are used than it can't cut the wire in this case it can bring bomb near you to defuse it. If bomb is blast in this time frame than also it will effect bomb only. Human being are safe.

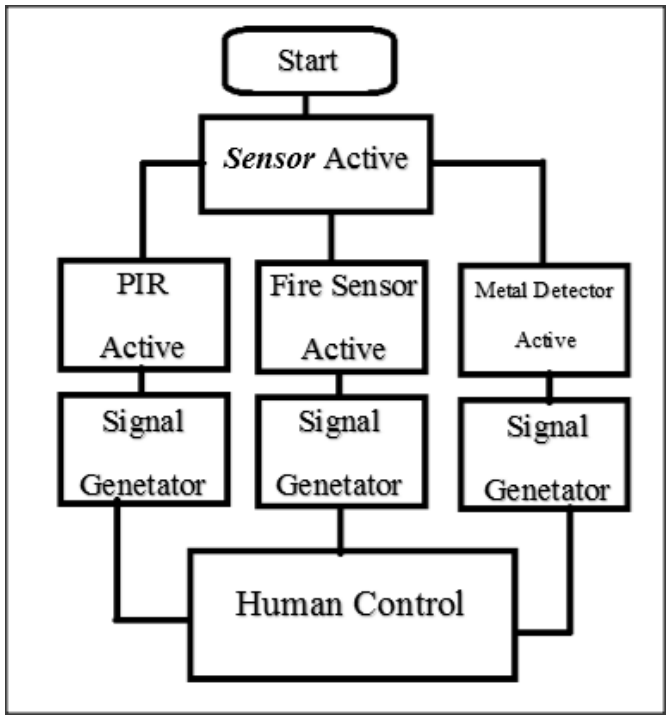

Fig. 4.1 Flow Diagram

V. SIMULATION/EXPERIMENTAL RESULTS

TABLE 1. EXPECTED RESULT TABLE

S. No.	Parameters	Proposed Work	Working state
1	Camera	Yes	yes
2	Gun stand with laser pointer	Yes	yes
3	PIR sensor	Yes	yes
4	Fire sensor	Yes	yes
5	Metal detector sensor	Yes	yes

VI. CONCLUSION

Both the robotic arm and all the sensor are working correctly and getting and expected result. It's a very basic surveillance robot. As technology is changing we can add more functionality inside this robot.

VII. FUTURE SCOPES

We are use quad copter concept inside it which will provide flying ability in this. Auto reload of bullets in Gun can we possible in future.

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