SPY ROBOT WITH WIRELESS CAMERA & METAL DETECTION

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Abstract: - This system Long Range Spy Robot with Metal Detection is a very innovative system because we can operate it with use of DTMF. In this system the user doesn't have to worry about the distance in order to operate the robot. This system is based on the DTMF technology, so we can operate the system by making a call. It is based on the 8051 microcontrollers. The metal detector helps to detect metal and turn on the buzzer. The system makes use of night vision camera which is able to record the video. The user can operate the system via data commands send through the mobile phone as this system uses the DTMF technology.

I.   Introduction: -

Most robots today are used for many actions which are dangerous for human life. Robot is for going into a building where there is a possibility of bomb. Robots are also used in cars, factories and electronics. There are six main types of robots.

The system is to designed a spy robot with wireless camera mounted on it. The system is divided into two sections namely transmission and receiving section. A spy robot is mainly used for military applications. wireless camera collects images or videos and transmit it to the computer. In order to operate the system, user has to connect DTMF transmitter and receiver. Then with the help of keyboard we can send the commands. The night vision camera is mounted on the top of this robot. The robot will serve as a machine for the military sector to reduce the loss of human life.

II.   Objectives: -

1. To understand the MC8051 which is an integral part of our project.

2. To compare and choose the appropriate wireless module for communication.

3. To understand and get familiar with the Kiel software used for programming and Emulation of microcontroller.

4. To program the Spying robot for truthful Audio and Video transmission using DTMF transmitter and receiver.

III.   LITERATURE SURVEY: -

1. **Paper name: -** International journal of research in Engineering & management (IJRTEM),

    Author and year: - Mr. Lokesh Mehta & Pawan Sharma, Nov 2014

    Description: - Architecture of HC – 05 Bluetooth Module along with L293D motor driving IC Compatibility

2. **Paper name: -** Journal of advanced research in Communication Engineering

    Author and Year: - Abdul Samad, Dashrath Jadhav, Madhukar Dhaigude, May 2014.

    Description: - An Intelligent Combat Robot with use of RF transmitter & research on it's range

3. **Paper name: -** IEEE journal

    Author and year: - Apoorva Singh, Sakshi Chauhan, May 2015

    Description: - War field Spying robot using metal detector.
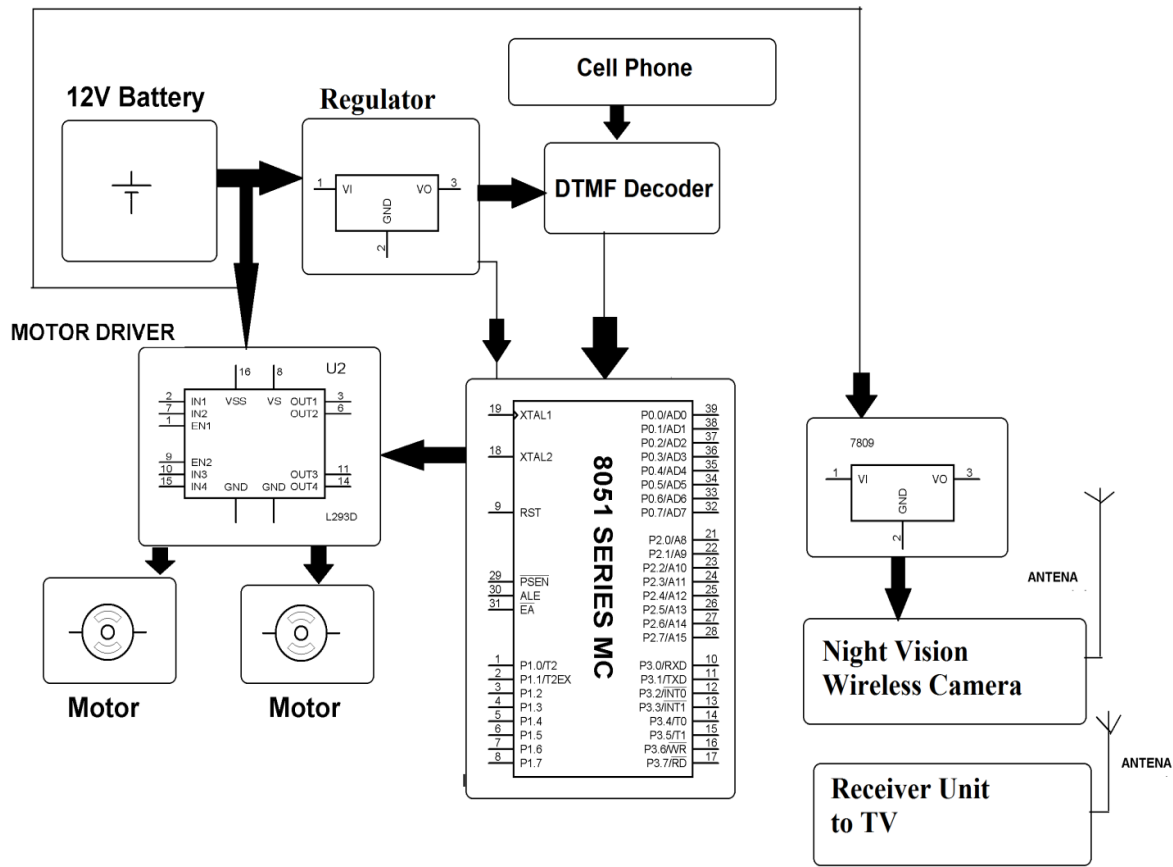
4.**Paper Name: -** Engineer's garage.
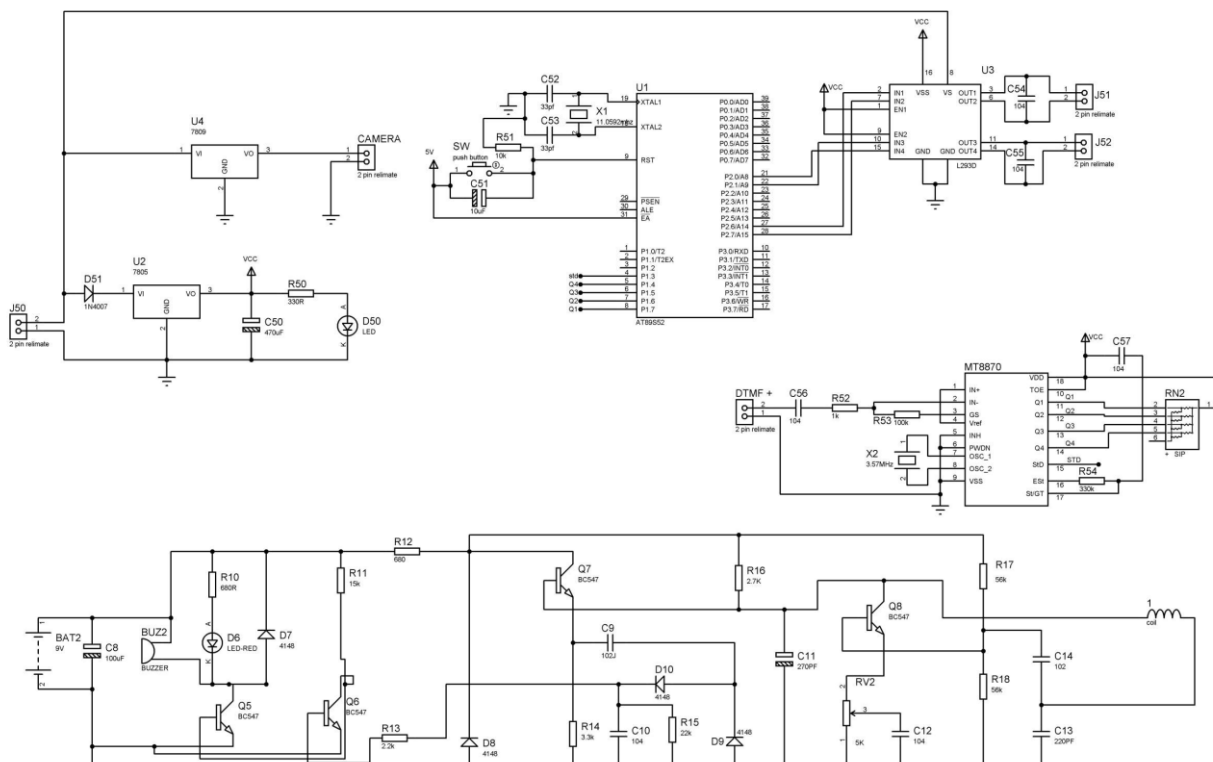   **Author and Year: -** Tarun Agarwal, Divya Shekhawat, Nov 2018
    Description: - Arduino Controlled War field Spying robot & Android.

IV.　　Implementation

A) PROJECT BLOCK DIAGRAM: -

B) Circuit diagram: -

C) Methodology: -

This is a spying robot with night vision wireless camera using wireless DTMF technology. We can transmit the command via mobile phone and able to operate the robotic vehicle. The user can operate the system from a distance.

A wireless camera is mounted on the top of the robot. The camera is able to capture the images and videos and transmit these images to the receiver unit. We can see these images or videos on the display devices. We can design a simple prototype of a war field spying robot which can controlled remotely and the images transmitted by the camera can be monitored and analysed on a television. The spy robot with camera can transmit real time images or video with night vision capabilities & that too for long range. The metal detector is a simple coil of copper through which the current is passed, so magnetic field is induced in a coil. When this coil comes in contact with metal, a charge is induced in that metal and it turn on the buzzer. In this way it can also detect the metal.

V. Result: -

- At the transmitting side using mobile phone keypad, commands are sent to the receiver to control the movement of the robotic vehicle either to move forward, backward and left or right etc.
- At the receiving side two motors are interfaced to the microcontroller where they are used for the movement of the vehicle.
- A wireless camera is mounted on the top of the robot body for spying purpose and it has a night vision capability.

VI. CONCLUSION: -

The system is working as per our expectation. The measurements are almost accurate. The operation of the system is reliable. We sure that the we do not violate any intellectual property of the existing design.

VII. ACKNOWLEDGEMENT: -

VIII. REFERENCES: -

[1] Selvam, M. "Smart phone based robotic control for surveillance applications."Dept. of ECE, Karpagam University, Coimbatore, Tamil Nadu, International Journal of Research in Engineering and Technology (2014).

[2] Jenifer, T. Maria, et al. "Mobile Robot Temperature Monitoring System Controlled by Android Application via Bluetooth." International Journal on Advanced Computer Theory and Engineering (IJACTE) 2.3 (2013).

[3] Pahuja, Ritika, and Narender Kumar. "Bluetooth Robot Using 8051 Microcontroller." Electronics & Communication Engineering, Department, BRCM College of Engineering & Technology, Bahal, India, International Journal of Scientific Engineering and Research (IJSER) www. ijser. in ISSN (Online) (2014): 2347-3878.

[4] Mehta, Mr. Lokesh, and Mr. Pawan Sharma. "SPY Night Vision Robot with Moving Wireless Video Camera & Ultrasonic Sensor."

IX. APPLICATIONS: -

Military purpose.

Surveillance along the border

For search and research operation

Maneuvering in hazardous environment