1BOMB DETECTION AND DISPOSAL ROBOT

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Abstract:

This system is design to provide safety and security to a bomb disposal squad. This system makes use of   robotic   arm as well as robotic vehicle which helps not only to enter area involving high risk but also pick any object it wants to. The system also includes a camera for live streaming and the whole system is controlled via a remote. The bomb squad controls the robot remotely using android application . Input from the user is send over Wi-Fi control to the Receiver side. Our system provides secured distance to dispose a bomb, which is done by squad bare handed.

Keywords: Wired technology; pic and place; bomb disposal; camera module.

1. Introduction:

Here we are going construct a Robot which is used for bomb disposal purpose. Use wireless camera for video feedback so operator can operate more efficiently. The operation of robot is control by using wireless module so it can provide more range of operation. Also construct a basic bomb diffusing robot which can handle simple tasks like cutting wires, lift light objects, etc. and a simple autonomous robot to help in the transit of the bomb. Also gives video feedback to us so effective handling of robot can be possible. This paper details the design and implementation of an intelligent explosive ordinance disposal (EOD) robot to provide law enforcement agencies with a cost effective and Due to this more security will provide to bomb disposal squad. Also it is more applicable for police nuclear radioactive material handling also for military purpose. We are going to interface of camera so for future purpose that images capture by camera of bomb will be more useful. Here we use robotic arm which have 180 degree of freedom so operation of robot handling will be more softly.

2. Method:

A. Block Diagram:
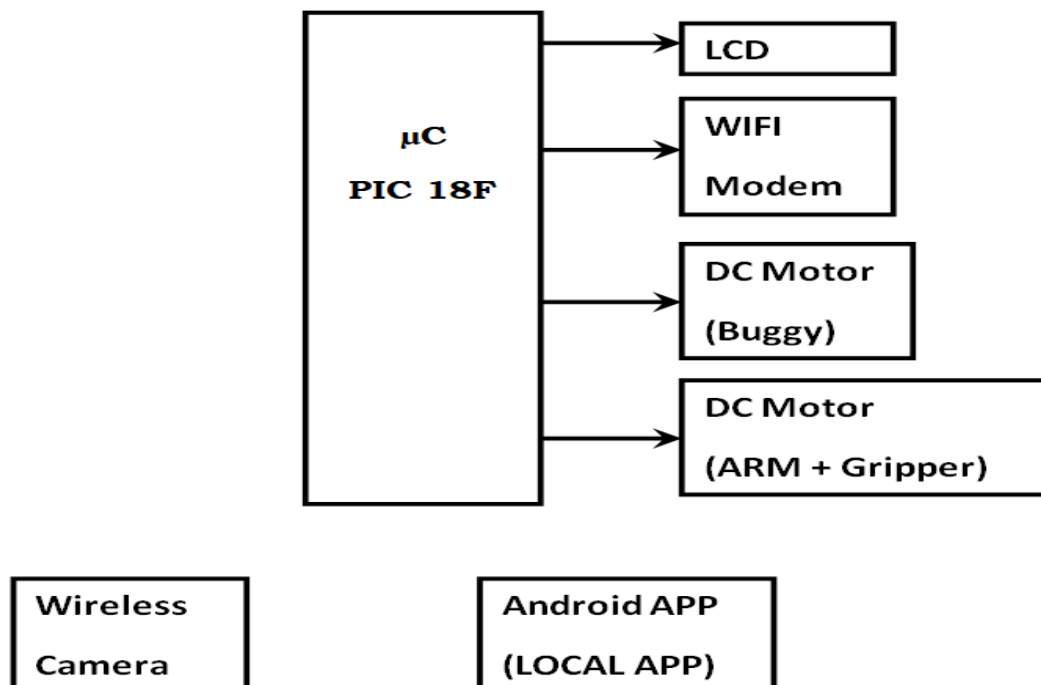
B. Description:

1. Design Overview:

In the proposed system we are designing and building a smart robot which can be manually operated from an Android APP over WIFI modem. The user first has to connect the APP wifi connection to a WIFI router. The µC is also interfaced with an WIFI module (ESP8266) which will automatically connect to the APP.

Here we are providing separate buttons for operation of buggy. To control the vehicle the user can tap Forward, Reverse, Left, Right and Stop buttons. To manipulate the arm and gripper the user can press the UP, Down, Open and close buttons. Once the user presses the buttons the commands is sent wirelessly to the µC via WIFI. The µC will receive these commands and the operate the DC Motors accordingly.

3. Flowchart:
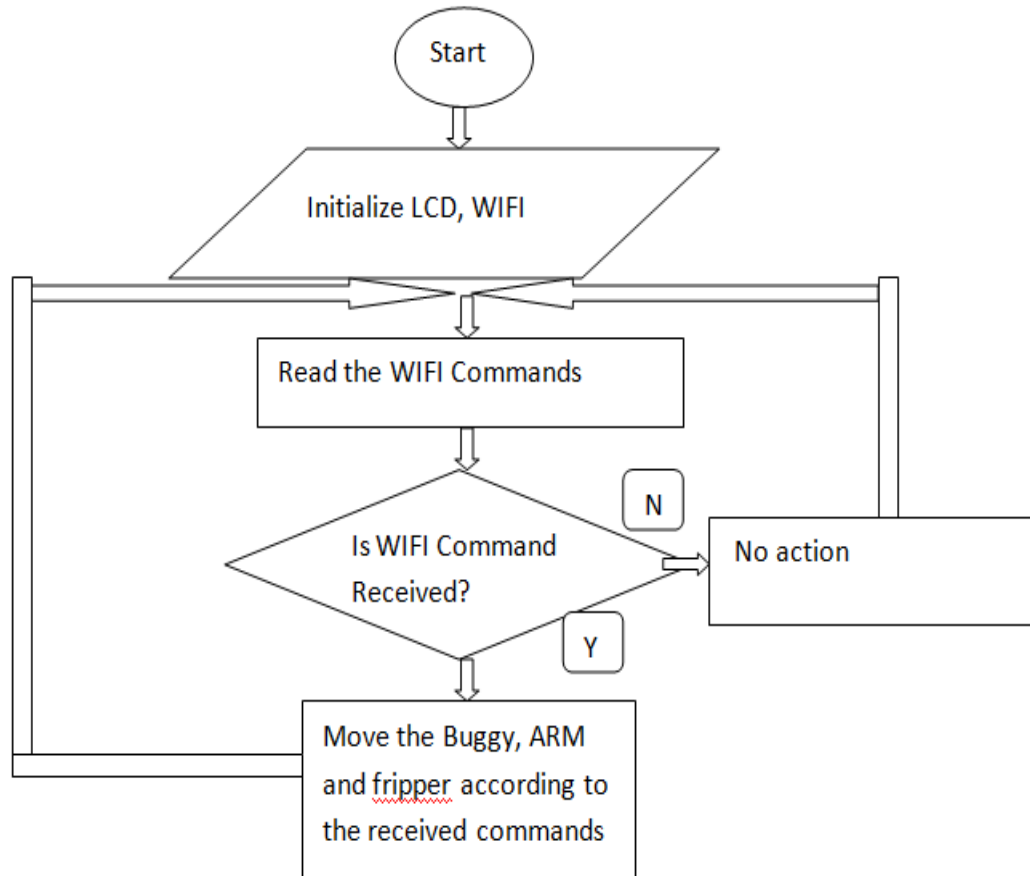
4. Objectives:
1. To develop a PIC based Embedded Board from scratch.
2. To design and develop GUI based android APP.
3. To display the LIVE video on android APP.
4. To design and develop an Robot to detect and diffuse Bombs

5. Advantages:

1. High precision
2. High degree of automation
3. Cost-effective
4. A long-time and continuous observation

6. Conclusion:
The main idea of this robot is to provide the bomb disposal squad with safety and security from the risks that they face every day. By giving the user wireless control over the robot we are increasing the safety of user.

7. Future scope:

We can add more sensors to cover all parts of vehicle also we can increase the range of Wireless from 30 meters to 100meters.

8. **Reference:**

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