

Wireless Controlled Obstacle Detector Robot via GSM IOT

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ABSTRACT: The Controlling a wirelessly robot is possible to with remote several methods. To overcome these difficulties, we have come up with a GSM-Controlled Robot. A GSM-Controlled Robot is a mobile device, which provides wide-range of wireless control ability to your robot. Now, we like to introduce the simplest technique of fabricating a Wireless Controlled Robot via GSM. As we have eliminated the use of microcontroller. Robot is operated wirelessly with GSM facility once you make a call to the cell phone connected to the robot. By pressing the number keypads in user cell phone, you will be able to move the robot in various directions It is made possible with the help of Dual Tone Multi Frequency receiver (IC CM8870).The tone received from your cell phone to the robot cell phone will be converted into binary form and suitable output is provided by the IC CM8870 to IC L293D.Main feature of robot is that it can detect the obstacle and avoid the accidents due to sensors.

KEYWORDS: Internet of Things (IOT), GSM Module , Robot.

I. INTRODUCTION

The project is designed to build an Wireless Controlled Obstacle Detector Robot via GSM for its movement. robot is an operated machine automatically that replaces work of humans manual, human being or function in a human like manner much like a. Robot is a machine perform task automatically that can or with guidance.



Fig-1: GSM Based Robot

The generally a combination of computational intelligence and physical machine. If project proposes vehicle robotic that has an built in it such that it guides itself whenever an obstacle comes ahead of it. The use of a phone for robotic control can overcome do these can we limitations. Then it provides working on range as large as the coverage area of the providers of network.

II. WORKING WITH WIRELESS GSM PHONE

We have after completing the construction connect the circuit with 9V battery. That will be connect the universal headphone jacks to its respective cell phone then incoming facility. We head activate auto answer mode in the phone connecting it to the circuit and enable keypad tones in the cell phone that you use to make calls.



Fig-2: Working Robot

Now we head your ready to robot is operate wirelessly GSM facility cell phone connected to the robot. once you make a call to the by pressing the number keypads in the your cell phone will be able to robot in various directions move in keyword.

It as will is possible with the help of dual tone Multi Frequency receive (IC CM8870) in which the connection of the cell phone is connected to the IC CM8870. Then dual tone received your cell phone to the cell phone robot will be converted into binary number and suitable output is provided by the IC L293D to IC CM8870.

III. FRAMEWORK OF THE SYSTEM

3.1 Block Diagram

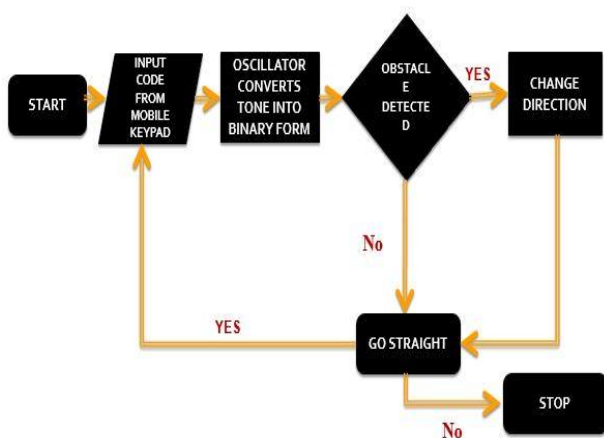


Fig-3: Block Diagram

IV. CIRCUIT DIAGRAM OF WIRELESS CONTROLLED MOBILE

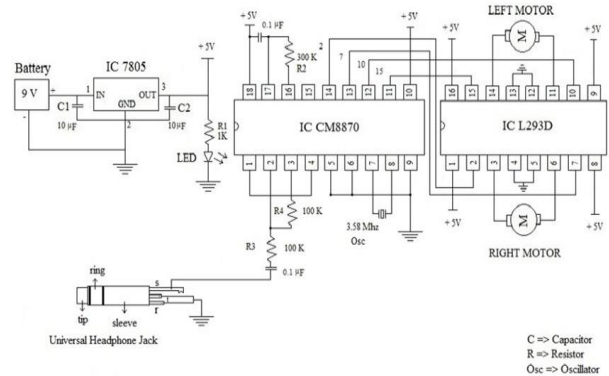


Fig-4: Circuit Diagram Control Mobile

4.1 Step By Step Instruction

1) Power Supply:

- 1) The take the connect of breadboard the battery holder in horizontal position.
- 2) We head to insert positive and negative wire of battery in holder snap.
- 3) They have attach IC 7805 voltage regulator and place one of to 10 μ F capacitor in IN & GND connection of IC 7805 and other in GND & OUT connection.
- 4) The positive supply from battery holder breadboard connection wire and place IC 7805 and we also connect its Negative supply in the last row of the breadboard connection.
- 5) The place the GND of IC 7805 in the last row of the breadboard, and transfer of OUT to the first row of the breadboard connection.
- 6) As per result if these connection +5V power is obtained in the first row of the breadboard connection.
- 7) They have will to check the power path flow an LED is given a 1K Resistor positive supply.

2) IC CM8870 Connections:

- 1) They will be connect 1st & 4th pin of CM8870 DTMF Receiver together.
- 2) We head pick to one 100K Resistor and place one side of in 2nd pin and other side to the 0.1 μ F capacitor register.
- 3) That of in pick of another 100K resistor and connect 3rd and 2nd pin.
- 4) That will be provide to GND connection to 5th & 6th & and 9th pins.
- 5) It will couple 7th & 8th pins with 3.58 MHz Oscillator pins.
- 6) It will be provide take +5V supply to 10th and 18th pins.

- 7) Take of one more 300K resistor and place one side of it is to 16th pins and other to 0.1 µf capacitor from 17th pin.
- 8) If we head that connect to capacitor to the 0.1 µf 18th pin.

3) IC L293D connections:

- 1) They have insert to IC L293D Motor Controller in the breadboard connection.
- 2) Supply +5V power to 1st, 8th, 9th, and 16th pins.
- 3) They have to provide that ground connection to 4th & 5th & 12th and 13th pins connection.
- 4) That will be attach 2nd & 7th & 10th & and 15th pins of L293D of then to 14th & 13th & 12th & and 11th pins of IC CM8870 connection respectively connected.

4) 12V DC motor connections:

- 1) If the take the wire of Right Motor and insert it in 3rd and 6th pin of IC L293D.
- 2) The place of the wire of Left Motor in 11th and 14th pins of IC L293D.

5) Universal Headphone Jack Connection:

- 1) It will be there three different layers in universal headphone such as a Sleeve & Tip & Ring.
- 2) If a closer view of the three layers is shown in the circuit diagram clearly.
- 3) They have to connect the sleeves to the output of 0.1 µf capacitor 2nd pin capacitor in the IC CM8870.
- 4) It will be taken to provide GND connections to the tip & ring.

V. SYSTEM IMPLEMENTATION

The System controlling wirelessly robot is possible with several methods such as remote. They have the controls of these methods are limited to certain areas communication & complicated to design .To define the compare overcome these difficulties we have come up with a mobile controlled robot.

In which a mobile device controlled robot is provides wide range of control ability to robot use to unless your cell phone gets out of signal.

That a general concept of mobile controlled robot is that it can be controlled from any part of the world with just an inclusion of a camera. If that will definitely offer you the simplest method for developing.

5.1 Conclusion

I hope the above information will be there to very useful for developing your own robot simple and cost effective wireless connection. If you have much more suggestions or doubts regarding this robotic connection.

1) Now, we like to introduce the simplest technique of fabricating a Mobile Controlled Robot via GSM

2) GSM controlled robots can be used in Industries to carry loads. Sometimes if not possible to for people to measure the very high frequency to temperatures by going to that particular area that do well but by using this robot we can measure high temperatures.

3) Because of automation, this robot can be used in wide range multi tasks of military operations. In colleges this can be used as e-notice boards to display the notices.

4) It can also be used to carry the examination sheets and so many purposes in academic institutes. It can be used for so many household purposes also.

Example we press no 9 in your cell phone robotic then the robot will move forward as this circuit.

Input given on your cell phone	The output obtained from the robot
1	Front Right
2	Reverse Left
3	Stop
4	Reverse Right
5	360 degree rotation (Right)
6	Reverse
7	Reverse Right
8	Front Left
9	Forward
0	360 degree rotation (Left)

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