



IOT BASED WOMEN SAFETY WATCH USING GSM MODULE

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ABSTRACT

The paper presents a Wearable safety device for women using the Arduino Uno R3 microcontroller. The main purpose of this device is to safeguard women in the event they might face any danger. The device uses IoT to communicate with the secure channels and to send alerts message to the given number. The device is programmed in such a way that as soon as the sensor LM35-TO-92-3 sense and sends the signals. The GPS and GSM are used to ping the user's location directly to the relevant authorities and saved contacts. The two additional switches in the device work for sending manual alerts in case of emergency and disengaging the system in case of generation of the false alerts respectively.

Keywords: IOT, Women Safety, Arduino UNO

INTRODUCTION

Even ordinary people's street conversations frequently turn to the escalating and horrifying attacks on women. An overpowering concern for the women in our families has lent urgency to our discussion of the critical and pressing issue of women's safety. Many special devices are primarily Western in nature, and the majority of them have yet to reach India. Another problem is the high cost of producing these devices. This is precisely where the government should intervene to try to mitigate cost and infrastructure issues for corporations working in this direction. The issue with apps is that they are often clumsy. The women must unlock her phone, open the app, and then press a button. Furthermore, most of the time, the perpetrators reach for the phone first. The need is for independent devices, such as safety bands, rings, key rings, and so on, that can be carried around in disguise and used quickly, and that will allow women to send emergency messages with their location in times of distress. The "Smart Watch" device is specifically designed for troubled women. It is a device for women who are in a chaotic situation. The basic approach is to use the Arduino Uno microcontroller, which is based on the ATmega328P and has the ability to send and receive data via the GSM network, which is provided by the Arduino GSM shield. The victim's current location is determined by the GSM network using Arduino Uno and the user's smart phone. Once the Arduino Uno has obtained the coordinates of the current location, the Arduino sends the coordinate information to the user's smart phone via the Arduino GSM shield. If the woman is in danger, the buzzer will sound. In a critical situation, the women will press the button, and a message will be sent to the number we have programmed into the card.

The main purpose of this device is to serve as an emergency device for women who may be attacked. If they are in danger, the women who own this device will press the panic button. An SMS will be sent to mobile phone numbers informing them of the danger and location. With regard to the heart rate. The coordinates received can be viewed on Google maps to determine the location of the women and appropriate assistance can be provided. GSM technology can be used to send the message to the appropriate controlling authority. This concept was developed to raise awareness of serious crime against women in India and to aid in the prevention of such crimes. Women's safety in India has become a major concern, with crimes against women increasing at an alarming rate. Crimes such as kidnapping and sexual harassment of women and young girls are on the rise. The National Crime Records Bureau (NCRB) registered cases of crime against women out of a total of 4.05 lakhs during 2019. In India, violence against women is a major issue. One-third of women aged 15 to 49 have experienced physical violence, and approximately one in ten has experienced sexual violence.

OBJECTIVE

Built a security system for women that is completely automated and requires no human interference whatsoever. To build a one stop solution system based on IOT, for women which is completely portable, also provides self-defences to help women escape in critical circumstances.

SCOPE OF PROJECT

- Our primary goal is to make every woman in our society feel safe and protected.
- In India, the emergency helpline number for women is 1091.
- According to a recent survey of women in our country, approximately 50% of
- Women who work are not safe.
- We can also connect this system to a smart phone, mobile device, or laptop.
- This safety device can be used in handbags, luggage, vehicles, and so on.

PRINCIPLE COMPONENTS OF PROJECT

- Aurdino Uno R3
- GY-GPS6MU
- SIM800L
- Push button
- Buzzer
- LED
- Resistor
- 9 volte 2 ampere adapter
- LM35 TO-92-3 Board Mount Temperature Sensor.
- Resistor

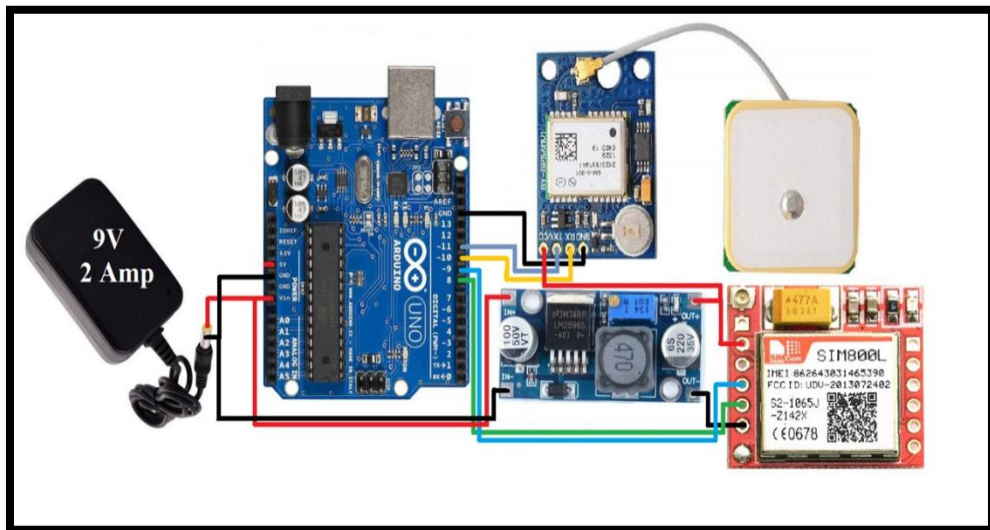


Fig 1: Circuit Diagram

WORKING

In this project, we have introduced a women safety device using GSM module. The hardware components in this project include Arduino Uno R3, GY-GPS6MU, SIM800L, LM35 TO-92-3 Board Mount Temperature Sensor, Power Supply Module, Buzzer, LED. The connection of this module starts when the push button(emergency button) is pressed, the 9V 2Ampere power supply is passed from Vin of the Arduino UNO which is further connected to the IN+ of the power supply module. Moving to the next part the GND of Arduino UNO is connected to the IN- of the power supply module. Now the pin8 of Arduino UNO is connected to the second end of SIM800L, pin-9 is connected to the third end of the SIM800L, pin-10 is connected to the RX of GPS6MU, pin-11 is connected to the TX of the GPS6MU. The GND of Arduino UNO is connected to the GND of GPS6MU and the VCC of GPS6MU is connected to the first end of SIM800L. The first end of SIM800L is also further connected to the OUT+ of the power supply module. And the OUT- of power supply module is connected to the last end of SIM800L. This is how components are placed and connected to form the circuit diagram and make this project work. Above is the detailed working of the project/device designed just with the purpose of welfare and by a thought of helpfulness keeping in mind and making women of country to just fell safe all the time.

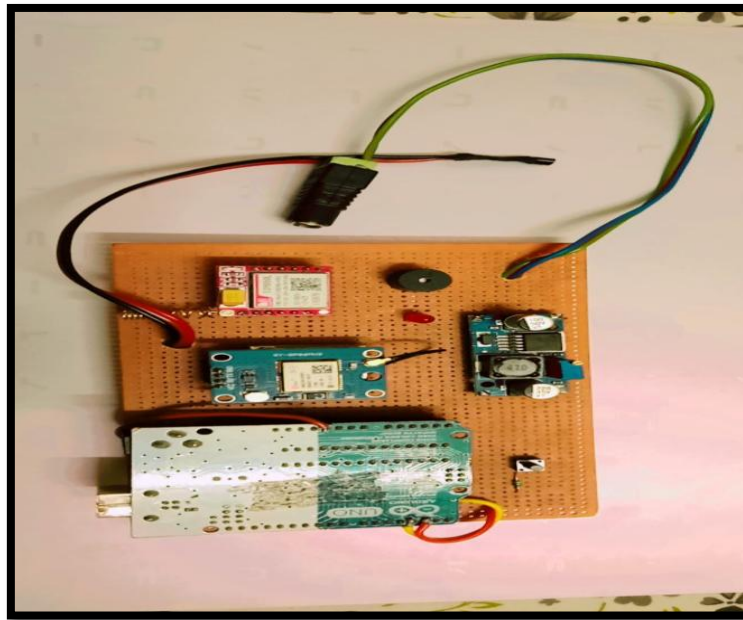


Fig 2: Circuit from Top view

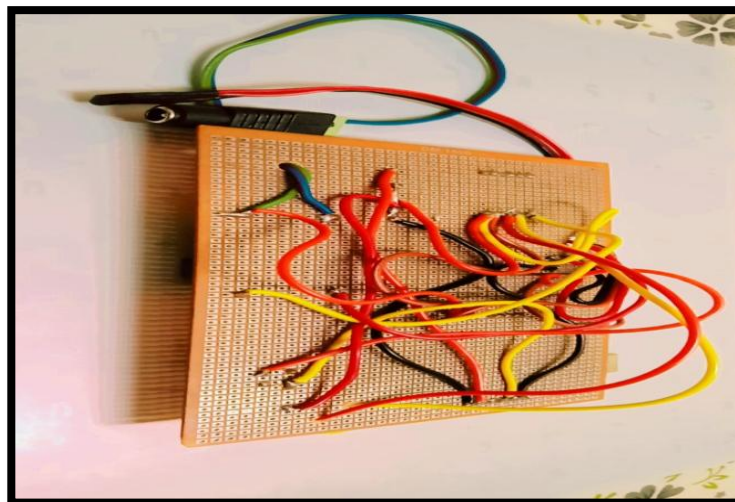


Fig 3: Circuit from Bottom view

CONCLUSION

The self-help device was implemented in response to the growing violence against women. This system is intended to protect women and assist them in dangerous situations by providing functionality to alert the appropriate people. The main advantage of this device is that it not only provides security but also safety by allowing women to defend themselves and gives them a lot of confidence in themselves. It was created with the intention of making the security device more portable and comfortable. This system was designed with reference to an existing system. The device protects the woman in need even when the victim is unable to press the security button, and thus does not compromise its functionality. Hence this device shall prove to be useful in preventing unfortunate incidents and violence against women. Therefore the crimes against women can be reduced using the prototype model. As a result, this device will be useful in preventing unfortunate incidents and violence against women. As a result, the prototype model can be used to reduce crimes against women.

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