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Iot Based Smart Device for Women Safety

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ABSTRACT:
At present we have many security systems like GPS Tracker to track women in danger. But our system not only tracks the women in danger but also alerts the guardian or nearby police station by an alert message and the location of women is tracked and it is sent to the above said recipients and GPS will calculate the latitude and longitude coordinates of that area. Our developed system is 100% secure and will try to overcome majority of the above said crimes, thereby ensuring the safety of women. The women Safety system comprises of an Arduino UNO Microcontroller and a standard SIM900A based GSM/GPRS modem. The whole system can be provided from any 9v DC power supply unit/battery. The developed system alerts the guardian number given by the women at the time of purchasing the unit of danger. The location of the victim is sent to the number given ad to the local police station. The module sends the location of the victim once the danger is detected. that area. The controller read this value and sends those data to the pre-defined number which is already saved in program. This model is also useful for small children's, elderly aged people also. The programming of Microcontroller is done using Embedded 'C'

KEYWORDS:IOT, GSM, GPS, ARDUINO UNO, Switch, LCD, LED

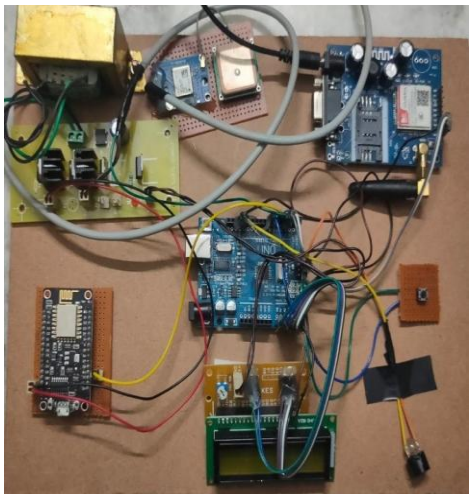
I. INTRODUCTION

The purpose of this project is to design and construct women security system. This system is designed to detect the location of women in danger. The security system is designed to help women for self-defence and at the same time acknowledging guardians and even gaining attention of residents at that location. Women Security System is designed to detect the location of women in dangerous situation. The security system automatically reads the location of women when switch is pressed. In the present times, we can find this system in places where women are supposed to work, and we can use this system for working places and even for personal use and we can use to handle so many security situations. The proposed device is more like a safety system in case of emergency. This device can be fitted in a jacket (like a blazer for women). It is an easy to carry device with more features and functions. The emergency push button is held to one of the buttons of the jacket. The main purpose of this device is to intimate the parents and police about the current location of the women. A GPS system is used to trace the current position of the victim and a GSM modem is used to send the message to the pre-defined numbers. As the women feel insecure at that time, she can press the button. GPS will calculate the latitude and longitude coordinates of

II. OBJECTIVE

The project aim is to design an IoT based safety device that provides security to women by emergency switch based method of connectivity to the device and alerting nearby people and police when a woman is not safe.

III. PROPOSED SYSTEM



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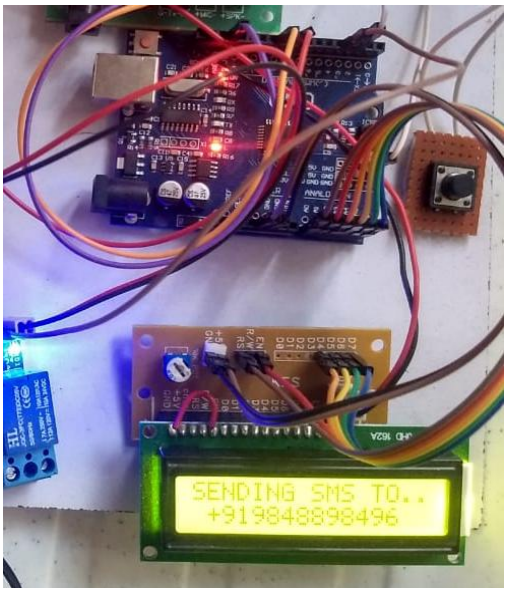
So, the arrangement of the project is done by interfacing the GSM and GPS with the Arduino microcontroller. In this project, the program for Arduino in Embedded C language has been executed in an Arduino UNO Software. Nowadays women security is the main concern in the society. So there is a need to build a system that can respond faster and provide security to the women in problem. The proposed women safety device provides safety to women who might be in an unsafe situation. The device is essentially ready for all the situations that might go against the will of the women. Above figure shows the hardware design of the women safety device. It uses Atmega 328 microcontroller. The design comprises of switch to activate the device, GSM (Global system for mobile communication) module for sending alert messages, GPS (Global positioning system) it will track the victim location, buzzer for alerting the environment and LCD that displays the message.

IV. EXPERIMENTATION DIAGRAM

In this project we used IOT so that the location can be visible on the webpage. Whenever women is in dangerous situation and feels that she is unsafe, she presses the switch. The buzzer makes sounds there by alerting people present in the surroundings. The latitude and longitude which is received by the GPS is delivered to both the LCD and the GSM modem which will forward the message to the registered mobile number. Immediately after pressing the switch the current location is sent to the concerned person's mobile and police station in the form of message 'I need help' with the current location link and the location is displayed on the webpage using IOT. The current location is updated on the internet. It can be easily operated. Prior knowledge is not required to operate the device. The current location can be traced using applications like Google maps

LCD showing 17.3^{o} latitude and 78.5^{o} longitude



Sending messages through GSM

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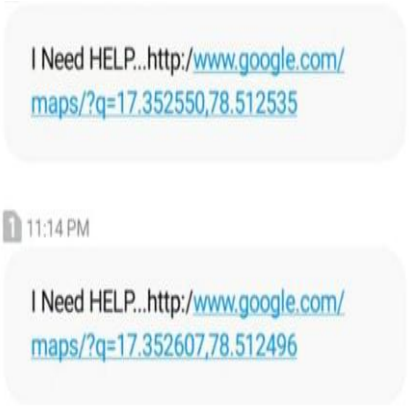

Message output in registered mobile number

V. CONCLUSION

Our effort behind this project is to design and fabricate a gadget which is so compact in itself that provide advantage of personal security system the emergency response system which is helpful for women in the incidents of crime. It is low-cost system which can store the data of the members in the locality and provide immediate alert in case of crime against women. This provides women security. Being safe and secure is the demand of the day. The proposed design will deal with critical issues faced by women in the near past and will help to solve them with technically sound equipment's and ideas. This system can overcome the fear that scares every woman in the country about her safety and security.

VI. ADVANTAGES FROM ABOVE RESULTS.

- Easily tracks a woman's location.
- The buzzers help to gain people's attention.
- Affordable not so expensive.
- Alert message to mobile phone for remote information.
- Mobile number can be changed at any time.
- Self defence system.
- Easy to operate for everyone.

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