

# Women Safety Night Patrolling Iot Robot

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**Abstract-** *The world is becoming unsafe for women in all aspects. The crimes against women are increasing at a higher rate. The employed women are feeling unsafe due to increasing crimes. Incidents of crime against women have been increasing at an alarming pace in Indian cities, most common incidents being rape, kidnapping, sexual harassment and eve teasing. Security for women is still a major issue as the number of crimes over women and girls is increasing dayby-day. In this age of technology, mobile phone is one gadget almost everyone uses to keep in touch with family and friends. All they need is a device that can be carried around easily and worn whenever the woman feels unsafe. This paper proposes a quick responding mechanism that helps women during trouble. When someone is going to harass, she can press the button that is attached to the device and the location information is sent as an SMS alert to few pre-defined emergency numbers in terms of latitude and longitude.*

## I. INTRODUCTION

In today's world, women safety has become a major issue as they can't step out of their house at any given time due to physical/sexual abuse and a fear of violence. Even in the 21st century where the technology is rapidly growing and new gadgets were developed but still women and girls are facing problems. Even today in India, women cannot move at night in many places and even at day time crowded places hundreds and thousands of incidents of physical/sexual abuse happens to women every day. Among other crimes, rape is the fastest growing crime in the country today. The device described here is a self defence system specially designed for women in distress to help them to protect themselves. This device can be fitted in a purse, belt or fitted to the girl's sandals and the panic button attached to the belt. The lady in danger can activate the system by pressing emergency button on belt or tilting her sandal. It is a simple and easy to carry device with wide range of features and functionality. The basic approach is to intimate instant location and a distress message to the cops and registered number like parents, friends, media, and women cell etc. so that unfortunate incidents would be averted and to provide real time evidence for swift action against the perpetrators of crime against women.

Women all over the world are facing and even subjected to unethical physical harassment. Security for women is still a major issue as the number of crimes and harassment over women and girls is increasing day-by-day. In this age of technology, mobile phone is one of the gadgets that almost everyone like and uses to keep in touch with family and friends. All they need is a device that can be carried everywhere easily. It has the potential to help women with technologies that are embedded. It is specially designed for women safety and protection. It has a control button that will be used by women to inform nearby police when they are in distress. This watch directly gets connected to the satellite through GPS when activated. Then the location is transferred through the GSM, it also contains a shock mechanism to produce non-lethal electric shock in emergency situations to deter the attacker. In this sense, the use of context-aware technology is an essential aspect in these developments to perceive stimuli from the context and react to it autonomously. An environment capable of recognizing the presence of people, and locating them. Activity context is the base to our technology to demonstrate all its potential. There are many approaches that propose electronic tele monitoring systems aimed at tracking victims and aggressors in order to reduce risk situations. Though these approaches are based on locating and data transmission technologies such as GPS and GPRS. This module directly gets connected to the satellite through GPS when activated. Then the location is transferred through the GSM.

## II. LITERATURE SURVEY

Suraksha could be a complete device which might be triggered in 3 ways either voice, switch, and shock/ force. Voice is that the voice of victim. The device will acknowledge it and mechanically send distress messages. Switch is a easy on/off trigger, and shock/force- whenever this device is thrown it'll use force sensing element to begin functioning by giving the knowledge of the placement of the victim to her members of family and friends. Poonam et al. Developed a security device that uses an AT mega 328 microcontroller with nonmechanical man application that makes it a stand-alone device. It uses GPS and GSM modules to trace the placement so send it to the members of the family and friend, alerting

them regarding the present location of the girl. A self-defence ladies safety system is planned which when triggered by a switch, mechanically sends the location of the victim to their concerned one. In addition, the device will also play a pre-recorded message using speech circuit to alert the surroundings. The device (FEMME) proposed by the authors has an android application. Its basic functionality is to send an SOS message, record audio and video of the whole incident as evidence. It also has a module which detects hidden cameras using a radio frequency receiver, which collects/ detects electromagnetic waves that are emitted from the spy camera. Kumar et al. Have proposed a device which is in a form of a wristwatch and works on the concept of GEOFENCE, which is a virtual boundary that triggers the application when the person is in a particular area. It conjointly has the feature of two-way speaking order that the victim is also able to contact her family or friends. The device also permits the girl to trigger a loud buzzer on the receiving aspect of the message although their device is in silent mode. SMARISA may be a moveable device for girls safety. It includes of hardware parts admire Raspberry Pi Zero, Raspberry Pi camera, buzzer and button to activate the services. it's activated by the victim by clicking the button. Upon clicking, this location of the victim is fetched and therefore the camera captures the image of the wrongdoer that are then sent to police or predefined emergency contact numbers via the victim's sensible phone.

### III. EXISTING SYSTEM

- In existing system the current global scenario, the prime question in every girl's mind, taking into account the ever rising increase of issues on kidnapping, rape, chain snatching women harassment in recent past, is only about her safety and security.
- The only thought haunting every girl is when they will be able to move freely on the streets even in odd hours without worrying about their security.

#### DISADVANTAGES:

- kidnapping, rape, chain snatching
- Ladies and child mostly not able to fight to criminal for self security.

#### PROPOSED SYSTEM:

In this proposed smart personal Security the shocking system with automation & alarm has been used for defense. The pressure sensor and manual switches contribution has been considered for alarming, defensive situation, as well as communication. The message will be sent to the added data based people at destination for instant help to the user then

will have freedom to add choice people's data base number. Family member, doctor & police will have immediate indication to help user in disaster situation.

#### BLOCK DIAGRAM:

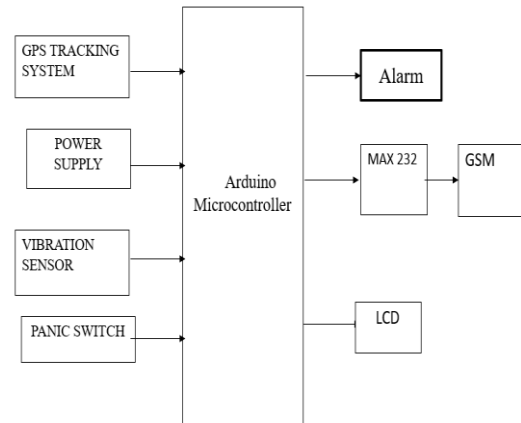


Fig 1: Block Diagram

### IV. HARDWARE DESCRIPTION

#### A. Arduino Uno Microcontroller:

**Arduino Uno** is a microcontroller board based on 8-bit ATmega328P microcontroller. At the side of ATmega328P, it consists of different elements like crystal oscillator, serial communication, voltage regulator, etcetera to support the microcontroller. Arduino Uno has 14 digital input/output pins (out of which 6 can be used as PWM outputs), 6 analog input pins, a USB connection, a Power barrel jack, an ICSP header and a reset button. Arduino is used to communicate with a computer, another Arduino board or different microcontrollers. The ATmega328P microcontroller provides UART TTL (5V) serial communication which might be done via digital pin zero (Rx) and digital pin one (Tx). Associate ATmega16U2 on the board channels this serial communication over USB and seems as a virtual COM port to software package on the computer. The ATmega16U2 computer code uses the quality USB COM drivers, and no external driver is needed. However, on Windows, a .inf file is required. The Arduino software includes a serial monitor which allows simple textual data to be sent to and from the Arduino board.



Fig 2:Arduino UNO controller

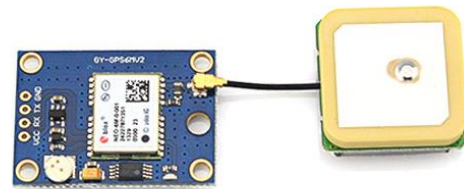


Fig 4:GPSModule

**B.GSM MODULE:**

The **SIM900A** is a readily available **GSM/GPRS module**,used in many mobile phones and PDA. The module can also be used for developing IOT (Internet of Things) and Embedded Applications. SIM900A may be a dual-band GSM/GPRS engine that works on frequencies EGSM 900MHz and DCS 1800MHz. SIM900A options GPRS multi-slot category 10/ class eight (optional) and supports the GPRS secret writing schemes CS-1, CS-2, CS-3 and CS-4.

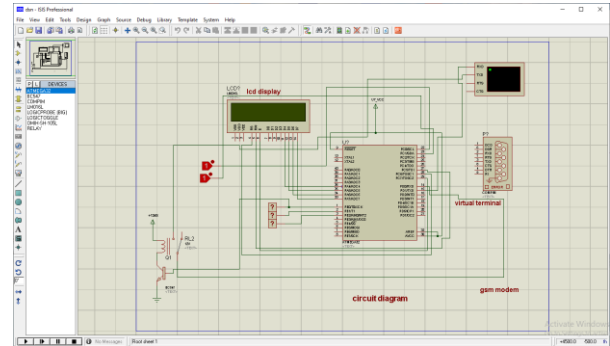


Fig 3:GSM module

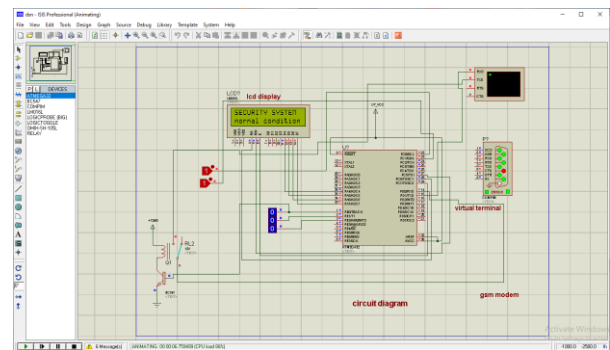
**C.GPS MODULE:**

The **NEO-6MV2** could be a **GPS (Global Positioning System) module** and is employed for navigation. The module merely checks its location on earth and provides output knowledge that is meridian and latitude of its position.It is from a family of complete GPS receivers that includes the high performance u-blox half-dozen positioning engine. These versatile and value effective receivers supply varied property choices in an exceedingly miniature (16 x 12.2 x 2.4 mm) package The compact architecture, power and memory options make **NEO-6 modules** ideal for **battery operated mobile devices** with very strict cost and space constraints. Its Innovative design gives **NEO-6MV2** excellent navigation performance even in the most challenging environments.

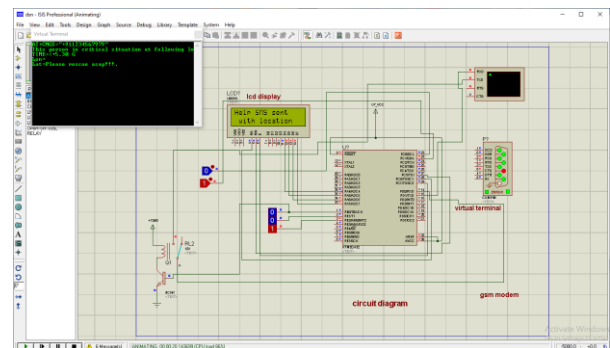
**V. RESULTS**



The project code written by the Arduino IDE software and the code uploaded on the simulation to run the code.



When the code is runned ,initially the system remains in normal condition(1 & 1) and this will be displayed in the LCD.



When the pitch switch receives any signal it will be triggered and its state will be changed to 0 and 1 and it passes the signal to LCD. Now LCD will display “Help Signal” simultaneously this can be viewed in virtual terminal also.

### VI.CONCLUSION

The paper mainly focuses on the low cost implementation of the device which can save the life of the women in the critical condition the proposed system provides end to end security solutions for women safety using the advance technologies of IoT along with combined hardware technology like Arduino UNO, Nodemcu camera. The proposed system not only defends the women in the critical situation of rape, molestation but also the captured image of the culprit is used as a valid proof that can be presented in the Indian Judicial Courts for making the culprit guilty for his committed crime. The overall system is first of its kind that provides a complete kit solution to the existing women safety problem, with the complete system the women can now travel freely without any hesitations of getting harmed by the societal issues. The further research can be made to make the prototype version of our system into a consumer portable product.

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