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Defence for Women Safety

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ABSTRACT: Women's safety is a major concern in a country like INDIA, where women excel in virtually every field. India is a peaceful country that is a popular tourist destination around the world. However, a few recent incidents have brought to light the need for women's safety. Many women in developed countries continue to be afraid to go outside due to the high number of cases of violence against women many attempts have been made to make women's safety safer, but there is still a risk. A more secure and safe system is required to ensure safety on public transportation and in general. This paper describes a system that is capable of increasing security and safety. The proposed system aims at providing security by embedding switch and buzzer in an Arduino based module. Location can be tracked and send with the help of GSM and GPS to the registered contact such as Police stations and family. A low voltage shock is also provided for defending against attacker for time being.

I. INTRODUCTION

In India, people worship Lakshmi, Sati, Durga and on the other side there is adding number of violence against women. In 2020, 2,914 complaints of crimes committed against women were entered by the public commission for women. The crime includes domestic violence, rape, hijacking, dowry deaths etc. In the time 2015, 2016, 2017, 2018 and 2019, 2,328, 1,359 and 1,637, 2,575 and 10,531 cases were reported independently. Occasionally matter is not reported to the police as victims do not have the evidence to prove to mishap pen. There are many mobile phones loaded with many security operations for women, but they are not worked to break problems as our expectations. As we know the operations in smartphones do not work without the Internet or mobile network connection. To use these applications, women have to open her phone also open the app and also press a button, it takes a lot of time and most of the time the attacker goes for the phone first and throws that down. By considering these there is need to develop devices that can be carried around easily and which will be used as security equipment for women. In this paper, we have proposed model, which is the advanced performances of some existing models.

II. LITERATURE SURVEY

B. Deepti, M. Ranya Durga (1) in proposed system was done by Arduino and GPS. This safety device consists of a micro regulator, switch button. On seeing the exigency situation this device provides the current position of women and sense it to exigency contact through GSM MODULE. This safety device also includes a LED and an electric shock circuit which is used as safety equipment for women. GPS receiver gets position INFORMATION from satellite in the form of latitude and longitude. The GSM modem sends SMS to the registered mobile number. When a woman is in peril she can press the switch which is with her. By pressing the switch the entire system will be actuated. also incontinently the SMS will be transferred to the person with position using GSM and GPS which can be traced from the goggle maps.

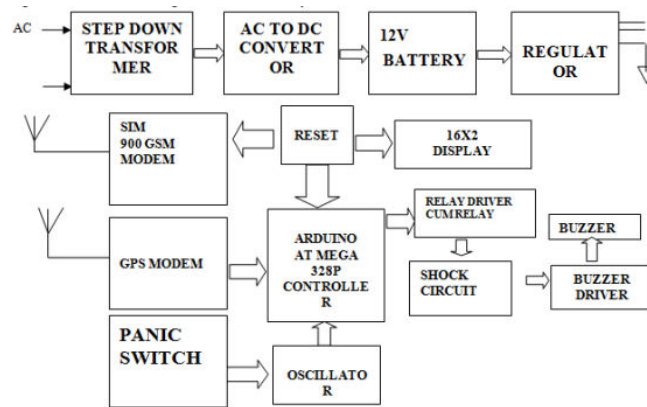


Figure.1 Block Diagram of Women Safety Device With GPS Tracking Using Arduino.

The paper titles [2] discussed A basic approach is to use an Arduino Uno. The ATmega328P based microcontroller has the ability to send and receive data provided by the Arduino GSM shield. on GSM networks. Arduino Uno will get the coordinates of the current position. Send the coordinate details to the user Smartphone via Arduino GSM Shield. An SOS light is a signal used to warn passers-by, giving a universal help sign to victims in need. An alarm buzzer sounds when a woman is in danger. in a critical situation the woman sends a message or phone call containing the location of the specific incident to registered contacts using GSM and GPS.

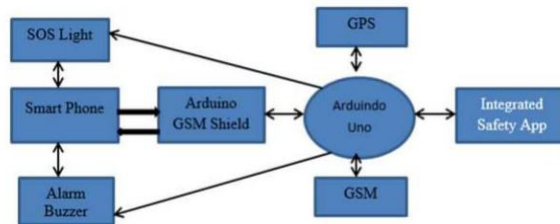


Figure.2 Block Diagram of Arduino Uno device with safety app

The paper [3] proposes the vehicle shadowing system uses GPS and GSM to track and give complete position information to stoner over a mobile phone is a total security and line operation result. It is the technology used to determine the position of a vehicle using different styles like GPS and other navigation system operating via satellite and a ground grounded stations. An ultramodern vehicle tracking system use GPS technology to cover and detect the vehicle anywhere on earth, but occasionally different types of automatic vehicle position technology are also used. The vehicle tracking system is fitted inside the vehicle that provides effective real time position and the data can indeed be stored and downloaded to a computer which can be used for analysis in the future. This system is an essential device for tracking auto any time the proprietor wants to cover it and moment it is extremely popular among people having precious buses, used as theft forestallment and recovery of the stolen auto. The data collected can be viewed on electronic charts through internet and webpage.



Figure.3 Block Diagram of Arduino based vehicle tracking system.



The paper [4] proposes when someone is going to fatigue a woman, she can press the button and her current position information is transmitted as an SMS alert to the pre-defined figures grounded on latitude and longitude. The regulator used is ARDUNIO UNO. It's connived with a drive button, a GPS module, a GSM modem and a TV Display (16*2). When the switch is hit, the regulator uses a GSM modem to transfer the current position data from the GPS module to the destined phone number. The program is developed in 'C' Language. This design's thing is to give women a sense of security.

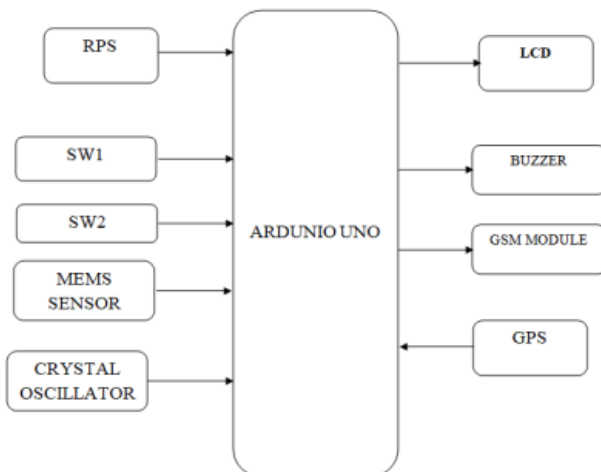


Figure.4 Block Diagram of Women Safety Device with GPS and GSM.

[5] Propose system which is based on GPS TRACKING AND ALERTING SYSTEM .This device cannot just be used by women when in distress but also by children when their travel modes are sans elders. For elderly people with issues like Alzheimer’s this device can turn out to be very useful for them as well as their families. This device sends the current location of the woman/child/elderly to the family members and concerned authorities in case of any harassment faced or if in any sort of trouble. The device also has a panic button which is an in-built 400kV electric shock generator, which upon pressing will knock the assaulter down due to a sudden shock but without any fatality. The device is made using an AVR microcontroller, a GPS module, a GSM module and a high voltage generator.

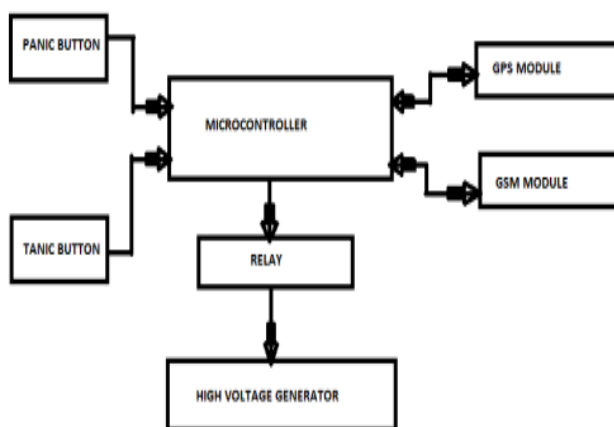


Figure.5 Block Diagram of Women Safety Device with GPS Tracking and alerting system.



III. PROPOSED SYSTEM

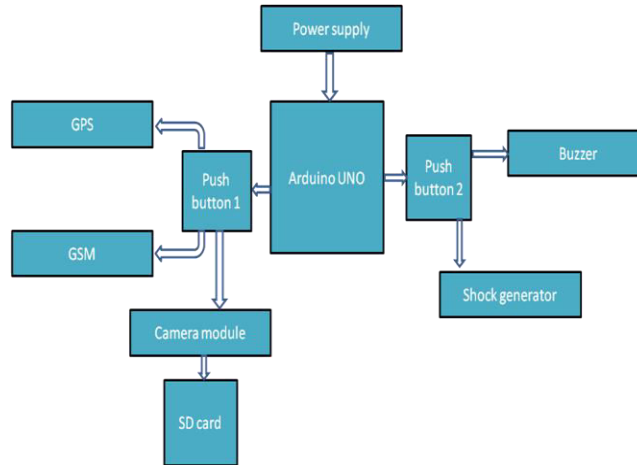


Figure.6 Block Diagram of proposed system

TABLE 1
Components specifications

Sr No.	Name	Module No./IC No.	specification
1	Arduino UNO	ATmega328p	Operating voltage: 5v Analog I/O pins:6 Digital I/O pins:14 SRAM: 2kb EEPROM: 1kb Flash memory: 32kb
2	GSM	SIM800L	Peak current: 2A Supply voltage: 4v Operating voltage:3.4 -4.4v Antenna connector: U.FL connector and HEADER pin Interface :UART and AT Commands
3	GPS	NEO 6M	Receiver type : 50 channels GPS L1 frequency Input supply voltage (VDC): 2.7-6V Position Accuracy: 2m
4	Li-on battery		2000mah - 3.7v
5	Mosquito repeller circuit board		Operating voltage: 3.7 - 4.5 v dc



IV. METHODOLOGY

Workflow of a women’s safety device is explained in this section.

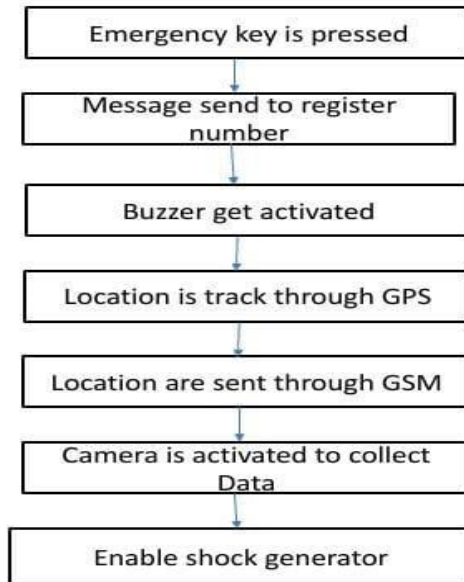


Figure.7 Flow Diagram of proposed system

1. After pressing emergency key buzzer will be activated:

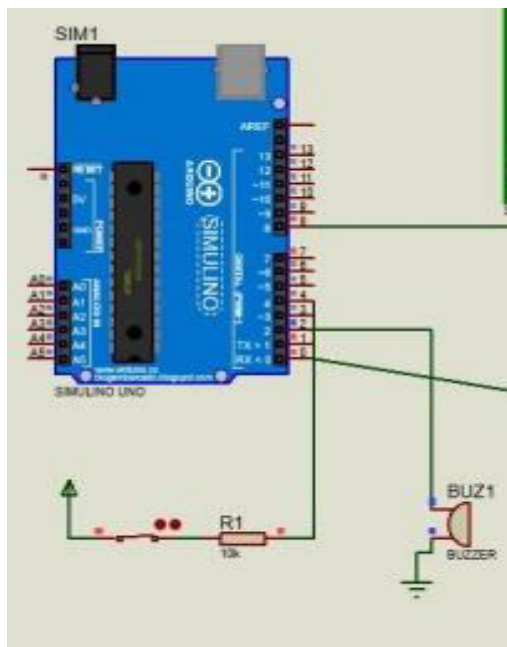


Figure.8 simulation of buzzer and switch

2. Location tracking and sending through GPS and GSM respectively. The output receive is in the form of latitude and longitude.



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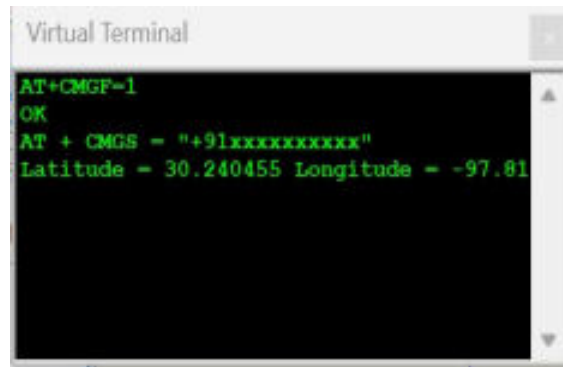


Figure.9 simulation of GPS and GSM

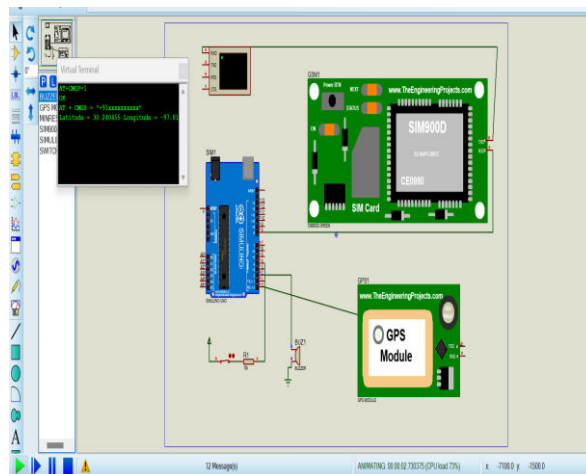


Figure.10 Complete simulation of proposed system

V. RESULT

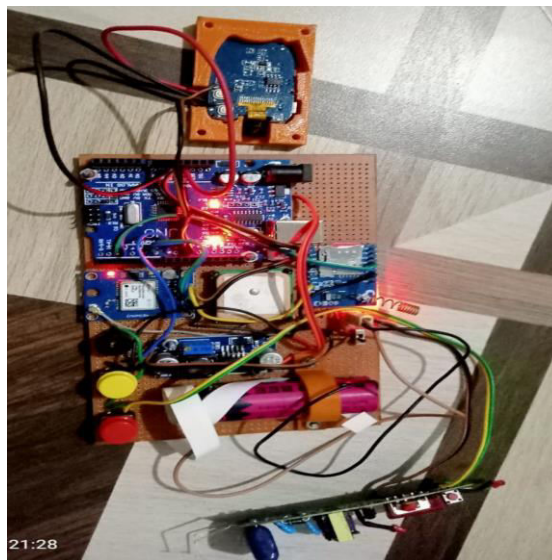


Figure.11 Hardware design for women safety



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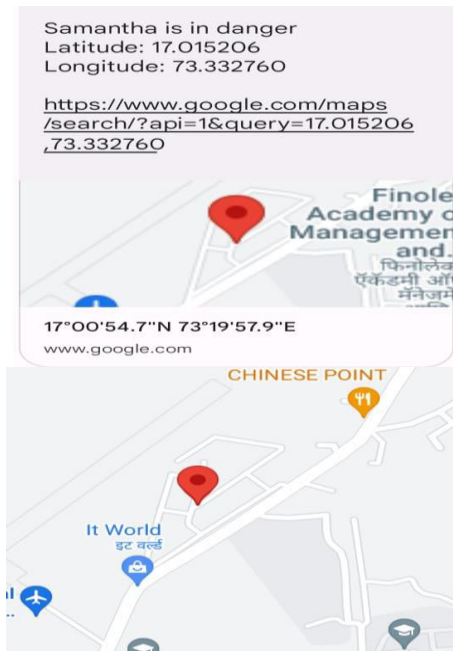


Figure.12 Location send through GSM

VI. CONCLUSION

This project plays a crucial role in ensuring Women's Safety in the fastest way possible automatically. The proposed design will deal with critical issues faced by women in the recent past and will help solve them through technologically sound gadgets. With further research and innovation, this project can be implemented in different areas of security and surveillance. The system can perform real-time monitoring of the desired area and detect the violence with good accuracy.

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