

Women Safety Device using GPS GSM and Electronic Taser System

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Abstract—Female security is an essential matter due to the intensifying delinquencies in contradiction of females these days. To aid tenacity this matter we propose a Gps built females sanctuary system that has duple security features. This stratagem 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. When a female is in hazard and in prerequisite of self-preservation then she can press the switch which is prearranged. 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.

Keywords—Global Positioning System; Alzheimer's;

I. INTRODUCTION

In today's biosphere, female sanctuary has developed a foremost unruly as they can't pace out of their dynasty at any assumed stretch due to physical/sexual abuse and a terror of vehemence. Even in the 21st era where the expertise is hastily mounting and pioneering contraptions were agrarian but still females and girls are pebbledash glitches. Even at the moment in India, females cannot passage at nocturnal in numerous places and even at day stretch teeming places hundreds and thousands of occurrences of physical/sexual abuse materializes to female every day. Amid other delinquencies, Sexual harassment is the debauched mounting delinquency in the country these days. The expedient spotted here is a self-preservation scheme expressly premeditated for women in anguish to aid them to defend themselves.

This anticipated venture pacts with a hasty retorting, charge fortification structure for an distinct and specially for female exploitation which a woman in anguish can call for assistance just with the correspondents of a knob on this shrewd gadget. This device have a control button that will be cast off by female to notify nearby police station when she is in anguish. These Smart watch unswervingly gets allied by the satellite concluded GPS

when galvanized. After that location is transferred over the GSM, it may also contains the tremor apparatus to crop nonlethal power-driven tremor in spare status quo to assorter.

Then location is relocated concluded by the GSM, it also comprehends a tremor apparatus to harvest less-lethal electric tremor in spare state of affairs to daunt the aggressor.

In this sagacity, the custom of scenery-mindful expertise is an crucial facet in these progresses to correct stimuli from the condition and react to it unconventionally an milieu accomplished of distinguishing the existence of society, emplacement them. Bustle milieu is dishonorable to our expertise to validate all its probable. There are sundry tactics that propose automated telemonitoring schemes meant at stalking wounded and antagonists in directive to diminish menace situations.

II. METHODOLOGY

The proposed system is the development of protection device for women and children via GPS GSM and Electric Teaser system. In the system the GPS module is connected to the microcontroller using serial port and GSM component is connected to the microcontroller through the software serial port. Whenever a switch is pressed by victim it generates a signal and this signal goes to our micro-controller board through which signal is sent to GSM [6] module and GSM send current location to police and family members through the GPS and another switch that we use in it is a Relay which is used for activating the stun-gun circuit.



Fig.1 Methodology of Device

On pressing the Taser button, the microcontroller will turn on the relay, which will turn on the high voltage electric generator is 400kv. This generator a shock to the assaulter which will knock down the assaulter for a couple of minutes without any fatality. As shown in figure when the switch is pressed by victim it generates a signal and this signal goes to our micro- controller board through which signal is sent to GSM [6] module and GSM send current location to police and family members through the GPS and another switch that we use in it is a Relay which is used for activating the stun-gun circuit.

III.BLOCK DIAGRAM

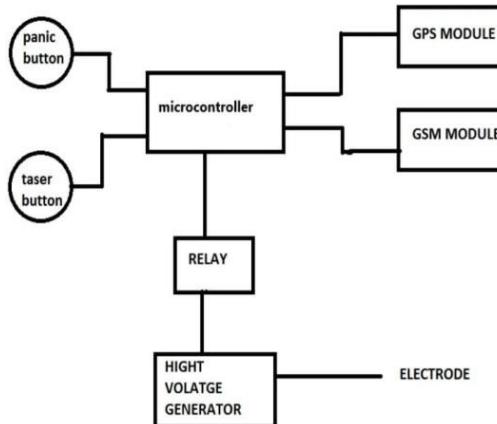


Fig. 2 Block Diagram

In figure 2 it demonstrates that the brain of this device is the AVR microcontroller that is used. The GPS module is allied to the microcontroller using the serial port. A GSM module is connected to the micro controller concluded the software serial port. There are two buttons which are connected to the microcontroller. The panic button and the taser button. On pressing the panic button, the microcontroller will excerpt the current location of the user using the GPS module, the location resolve be sent to recipient numbers (family/authorities) using the GSM module. We can add as many recipient numbers as we want. A SOS message will be sent simultaneously to all the numbers added once every 5-10 seconds.

On pressing the taser button, the micro controller will turn on the relay, which will turn on the high voltage electric generator. The output of the high voltage generator

is 400kv. This generates a shock to the assaulter which will knock down the assaulter for a couple of minutes without any fatality. It also concocts high voltage Rechargeable Tremor circuit to be equipped to stretch a nonlethal tremor to the aggressor. If the aid is non accessible and if the system is non retune within the postulated period, the structure finds location info. By the GPS and concocts a manuscript SMS comprehending the contemporary location evidence and it sends a SMS over the GSM modem to the forces regulator room and a agony memorandum to the preset itinerant number.

IV.FLOW CHART

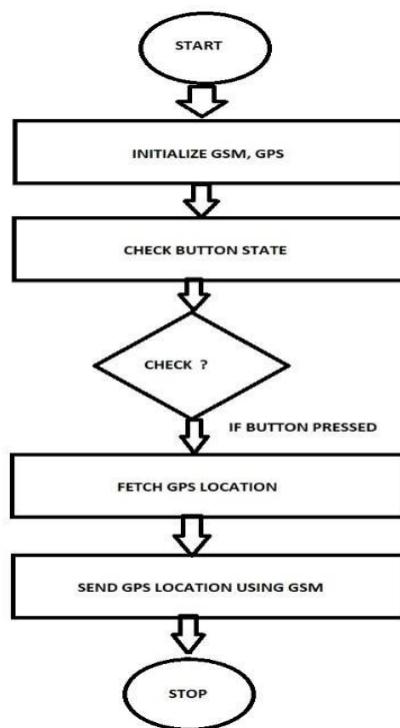


Fig. 3 Flow Chart

In the figure 3, The anticipated system is the development of safety device for women and children using GPS GSM and Electric Teaser system. IN the system the GPS module is allied to the microcontroller using serial port and GSM part is allied to the microcontroller through the software serial port. Whenever 4 switch is pressed by victim it generates a signal and this signal goes to our micro-controller board through which signal is sent to GSM [6] module and GSM send current location to police and family members through the GPS and another switch that we use in it is a Relay which is used for activating the stun-gun circuit. On pressing the Taser button, the microcontroller will turn on the relay, which will turn on the high voltage electric generator is 400kv. This generator a shock to the assaulter which will knock down the assaulter for a couple of minutes without any fatality.

V.HARDWARE COMPONENTS

A. ARDUINO BOARD WITH AN AVR MICROCONTROLLER

The Arduino UNO is the unsurpassed boarding to get ongoing with microchip technology and enciphering. The UNO is the utmost used and predictable board of the unabridged Arduino intimate. Arduino Uno is a microcontroller panel constructed by the ATmega328P. It has 14 digital input/output pins, 6 analog inputs, a 16 MHz quartz crystal, a USB connection, power jack, ICSP header and reset button. encompasses everything desired to funding the microcontroller; merely connect it to a computer with a USB cable or power it with AC-to-DC adapter or battery to get started.

Software (IDE) were the reference varieties of Arduino, now progressed to newer proclamations.

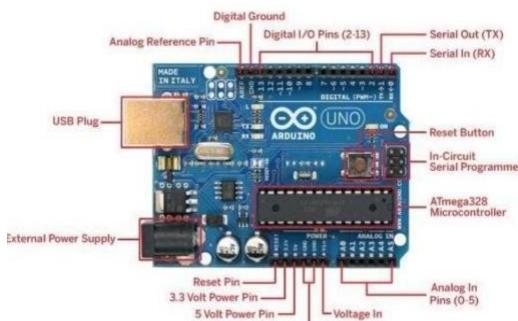


Fig. 3 Arduino UNO

B. GPS AND GSM MODULE

SIM808 segment is a GSM and GPS occupation module. It is constructed on the newest GSM/GPS module SIM808 from SIMCOM, ropes GSM/GPRS Quad-Band grid and cartels GPS expertise for satellite triangulation. It topographies ultra-low-slung power ingesting in sleep mode and cohesive with accusing circuit for Li-Ion batteries, that make it get a phantastic long standby stint and expedient for ventures that use rechargeable Li-Ion battery.



Fig 4: GPS AND GSM MODULE

C. RELAY

Safety relays are diplomacies which usually contrivance fortification functions. In the affair of a deathtrap, the chore of such a protection occupation is to use apposite procedures to diminish the prevailing jeopardy to an tolerable level.



Fig. 5 Relay

Timing relays are organized for an intentional suspension in effective their contacts. A very petite delay would use a copper disk between the armature and moving blade assembly.

D. TASER

A taser is an electroconvulsive therapy armament rummage-sale to in capacitate society letting them to be loomed and fingered in an docile and thus benign custom. It is sold by Axon, formerly Taser Worldwide. It fervors deuce minor spiny darts envisioned to lesion the skin and endure attached to the aim, at 55 m/s.



Fig.6 Taser

Tasers are promoted as non-lethal, since the leeway of grievance or demise be present whenever the armament is position. Minimum 49 people perished in the United State in 2018 after being dazed by constabularies with a Taser.

SOFTWARE COMPONENTS

E. Arduino IDE

The Arduino IDE is the database castoff to inscribe cipher, and emanates in the form of a downloadable file on the Arduino internet site. The Arduino board is the corporal board that provisions and accomplishes the cypher uploaded to it. Both the software bundle and the board are denoted to as Arduino.

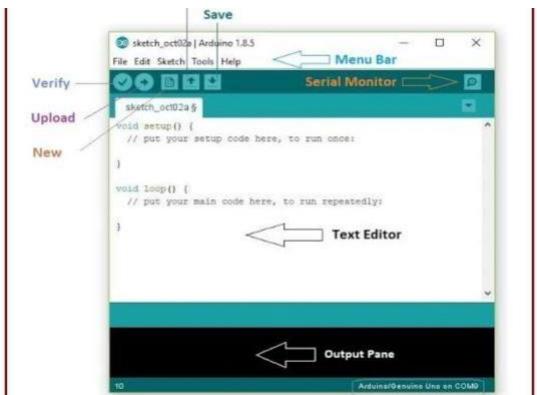


Fig. 5 Arduino IDE

VI. RESULT

When the female is in danger position she can press panic button in the personality guard component.

The present location sent by the GPS component and through the GSM it sent to the near by police station and also family by via contact numbers with are registered to the device.

This device has other option that is emergency key, when she in more threatening position she can press this key it will produce non-lethal shock to the assaulter.

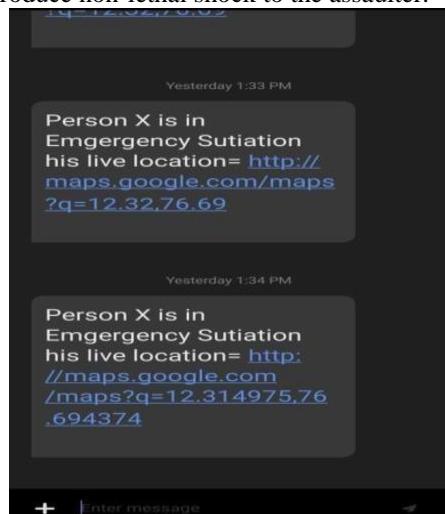


Fig.6
RESULT

VII.APPLICATIONS

- Can be used to enhance the security of women, broods and elderly people.
- Elderly people suffering with Alzheimer's can use this device during a case of emergency.
- Can be used for self-defense by women and children.
- Tourists can carry this for their safety while exploring new and less familiar places.
- Low cost with high performance.
- Compact in size.
- Easy Maintenance.
- Environmentally friendly system.

VIII.ADVANTAGES

- As it may be used for the shelter of women.
- Could be used for the security of children.
- protection of elder people.
- It can be used for physically disabled people.

IX. CONCLUSION

Existence inoffensive and cozy is the mandate of the diurnal. Our exertion behindhand this project is to strategy and construct a contraption which is so dense in the situation that afford gain of special sanctuary scheme. This enterprise will transaction with most of the grave problems confronted by women and will assistance them to be sheltered. Prevailing schemes afford the instrument to trail the automobile but no additional emergency apparatus is anticipated. Females refuge is a perilous issue in contemporary status quo. These corruptions can be fetched to an culmination with the aid of factual period implementation of our anticipated scheme. Can be used as permissible indication of corruption with meticulous location.

X.FUTURE SCOPE

The project of our device can be made much smaller by the use of SMD components and a micro PCB board and low power micro controllers. By reducing the extent, the device can be implanted into lipsticks, wristwatches and other vesture devices making it less visible to assaulter.

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