WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Women Safety Device Using Alert Tracking Using Arduino

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Abstracts:-

Using Arduino, this project shows off a safety device for women that includes GPS tracking and alerts. In order to notify the neighbors, the system can be connected to an alarm system. A GPS receiver, an Arduino, and a GSM modem make up this detection and messaging system. In the form of latitude and longitude, GPS receiver receives location data from satellites. The GSM modem is interfaced to the Arduino, which then processes the information before sending it to the user. A SMS is delivered to the predetermined mobile number by the GSM modem. A woman can use the switch that is designated for her when she is in danger and needs to defend herself. After pressing the switch, the entire system will be activated and an SMS will be sent to the user to inform them of their location using GPS and GSM.

INTRODUCTION

Due to the increase in crimes against women today, women's safety is a crucial issue. A GPS-based women's safety system with dual security features is suggested as a solution to this problem .This device includes a system that ensures dual alerts in the event that a woman is harassed or believes she is in trouble. In a button press alerting system , if a woman is struck on the head from behind, she might not have time to press the panic button, and no one will be aware that she is in danger.

LITERATURE SURVEY :-

The paper's title, "Women Safety Device using tracking Alerts Using Arduino. it claims that the system can be linked to an alarm system to alert the nearby residents. This detection and messaging system is made up of an ARDUINO, a GPS receiver, and a GSM modem. The two coordinates that the GPS receiver uses to pinpoint its location are latitude and longitude.

This information is processed by the ARDUINO, and the ARDUINO is connected to a GSM modem, which transmits the processed information to the user. One of the key characteristics of our system is its ability to function in both online and offline modes. Both modes will assist the user with nearby law enforcement and volunteers.

OUTCOME OF LITERATURE SURVEY

The authors of each of these papers have provided various solutions for women's safety in their own unique ways. Some of these concepts are bulky and expensive, while others are not wearable. Our team's concept is smaller in size, less expensive, and wearable. As a necessary component of daily life, footwear can be integrated with this module. According to the proposed device, when a mechanical sensor or switch in footwear triggers an alert, it will also send the location to a designated emergency contact.

PROBLEM STATEMENT :-

At night, women are particularly vulnerable to safety risks. They may be hunted down for gold jewelry and other valuables. It is necessary to have a security alert system that, in the event of an emergency, notifies the family and the police.

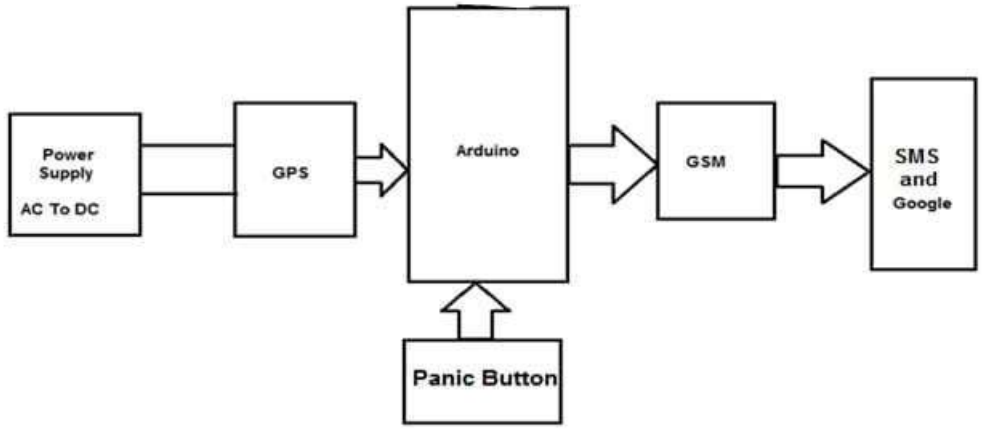
OBJECTIVE :-

1. Developing and creating GSM and GPS-enabled women's safety equipment.

2. Construct a small system that can be incorporated into footwear.
3. In an emergency, GPS data can be captured in real time and sent to the police and family.

METHODOLOGY :-

Block Diagram:



The brain of the system is an AVR microcontroller. The GPS module is connected to the microcontroller via a serial port. The software is connected to the GSM module microcontroller via the serial port.

Two buttons are connected to the microcontroller. Both a Taser and a panic button are available. The microcontroller uses the GPS module to determine the user's current location when the panic button is depressed, and the GSM module uses the recipient's phone number (family or authority) to send the location. The number of recipients we can add is unlimited. An SOS alert is sent to every connected number once every 5 to 10 seconds.

ADVANTAGES :-

I. It is straightforward to use.
II. It can be used by young girls in their teen years, women, elderly people, or older men.
III. Changes to a mobile number are always possible.

DISADVANTAGES :-

- Its dimensions are excessive.
- It is challenging to move and carry from one location to another.
- •A battery is always needed because the system will shut down completely if the power goes out.

APPLICATION :-

I. It is utilized to protect women.
II. During the school day, it will be used to track children**.**

RUSULTS AND DISCUSSION

In terms of live location tracking technology, methodology refers to the overall approach. To create a strategy that adheres to the objectives of the proposed model, it is necessary to research the tracking techniques and the theories or principles that underlie them. It includes all the necessary hardware and software for the model.

A parent or other authority is notified of the women's current location using the GSM module and the GPS module, respectively.

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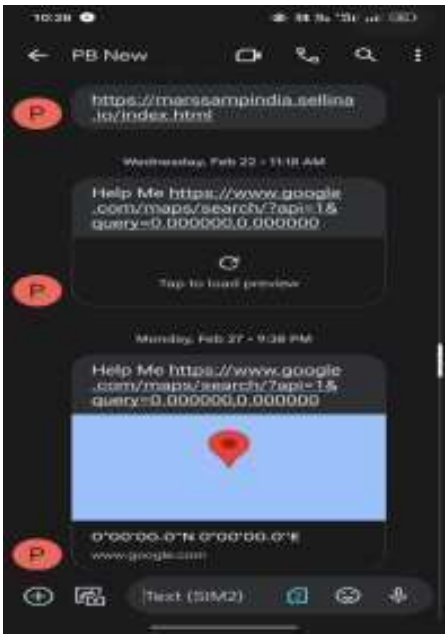

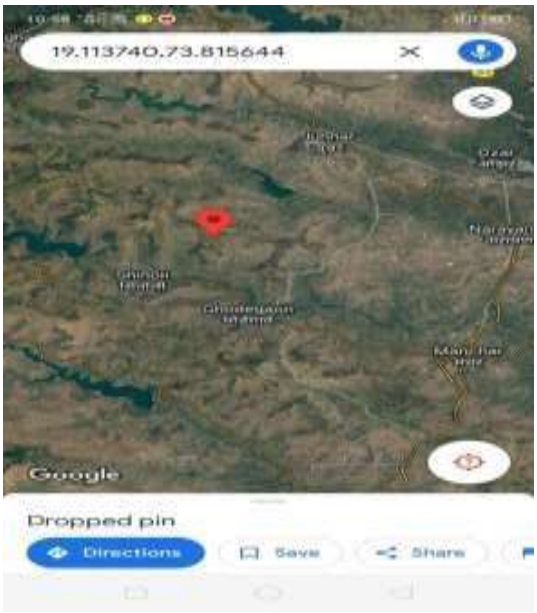

CONCLUSION:-

The goal of our project is to increase women's safety while promoting self-defense. After our project is successfully implemented, at-risk women can receive assistance right away, lowering their risk. We empower women to face danger until assistance arrives by utilizing defense mechanisms. Thus, with the aid of technology, we will be able to achieve our goal of ensuring the security and protection of women while also making a positive impact on the larger societal issues that affect women.

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