

Women Safety Device

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Abstract: In India the prime question in every mind about women's safety from harassment issues & domestic violence. Women are facing mental and physical suffering. This paper on a woman's safety will help a woman to feel secure or fearless. This device is used to reduce the problem of crime against women in some amount by building safety devices for them. This device contains two parts: an "Alerting" and another one for "Defencing" purposes. In the "Alerting" device when the push button is pressed, it sends a help message with a location. Self-defence consists of Electric shocks, The "defencing" device produces electric shocks to divert the offender's attention and lessen his desire to engage in self-defence. These two elements work together to create a self-defense tactic that aids the sufferer in escaping harm.

Keywords: Women's safety, GPS, Alerting device, Defencing device, Electric shock.

I. INTRODUCTION

These days, women's safety is very important because, in India day by day, women's harassment, murder & domestic abuse case is increasing in India, according to the National Commission for Women (NCW) Recent statistics show that crime against women increased by 31% from the previous year in 2022. Raped cases 31,000 complaints of crimes committed against women. Despite having many laws for women's safety, the no. of rape cases is still rapidly increasing daily. So, the government taking action about women's safety but women do not feel secure. There are many laws against women's crimes. In articles 14 and 21 in section 354: Assaulting women or using criminal force on her to outrage her modesty. Still, the crimes are not decreasing.

Section 354A outlines Violations of sexual harassment and their consequences. assault or unlawful force applied on a lady with the goal of offending her modesty. Anybody who assaults a woman or uses illegal force against her with the intent to offend her modesty or with the knowledge that he will likely do so is punishable by imprisonment of either kind for a term that may be as long as two years. Section 354B outlines assaulting or violently coercing a lady with the intention of making her undress. Any man who assaults employs unlawful force on, or aids in the act of forcing a woman to remove her clothing or go naked must be punished by imprisonment of either description for a time that shall not be less than one year more than three years, but up to seven years, and will also be subject to a fine. Voyeurism is allowed under Section 354C. If a man commits such an offense, he shall be imprisoned for a minimum period of one year, which may extend up to three years, and shall also be liable to a fine in case of a first conviction. Section 354D provides for Stalking. Sextortion is a crime that carries a mandatory minimum sentence of three years in prison and a possible maximum sentence of five years, as well as a fine. This paper is making her feel secure, confident, and fearless. The women's safety device sends an alert message to family members, relatives, and friends, allowing them to reach the desired location as early as possible. Another part of the device generates an electric shock to escape the victim from the hazardous situation.

II. LITERATURE SURVEY

[1] G. C Harikiran et al in "Smart Security Solution for Women Based on Internet of Things (IoT)" suggest a device has a combination of a number of sensors. They build a wearable "smart band" that continuously communicates with a smartphone that has an internet connection. They created an application loaded with all the necessary information, including data on human action or behavior and responses to various circumstances such as fear, and worry. The software or applications has access to GPS and messaging service and it is pre-programmed to send an assistance request and location Coordinates to the closest police station family and app users.

[2] Sanila k. et al in "Wearable Device for Women safety and Defence" The device contains a warning system that uses pressure, pulse, and gyroscope sensors to automatically identify possible atrocities. Women can utilise the manual component of the system, which has a push button, in life-or-death emergencies, but they cannot use it in panic scenarios. In this case, the automatic system is helpful. A GSM and GPS system is utilized to warn family members and the police about odd circumstances and positions. A camera mounted also sends the attacker's image to the police, which aids in identifying the culprit. Together with the system, another shock system module is used. Added is a cancel button.

[3] Vishesh Sharma et al in "Smart Shoe for Women Safety" Combines a Raspberry Pi board and an Arduino board and the software which has an access to GPS and massaging service and sends a request and location Coordinates to the closest police station family and other app Users in the area once it receives an emergency signal this step enables immediate assistance of the device. Women who feel themselves in trouble or danger might activate this embedded technology in their footwear to escape the hazardous situation and even harm the attacker.

[4] Dhruvil Parikh et al in "IoT Based Wearable Safety Device for Women" Overall goal is to supply a wearable safety gadget that is both safe for women and useful for frequent health monitoring. According to this strategy, a security system can guarantee women's safety and offer the required security precautions. The emergency phone numbers that will be stored in the system's code must be entered by the user. The applied code will automatically save the messages. As soon as the method has been used, the system sends the alert and the user's location to the saved contacts.

[5] V. Hyndavi et al in "Smart Wearable Device for Women Safety Using Iot" proposes an intelligent gadget for women's protection that automates the emergency alarm system by using a pressure sensor, pulse-rate sensor, and temperature sensor to automatically detect a potential atrocity using outlier detection. This technology locates a woman in an emergency and notifies family members of her location without the need for a woman to interact. It automatically notifies the family members and the nearby police station of an emergency.

[6] Mohamad Zikriya et al in "Smart Gadget For women Safety using Iot" In order to help women escape dangerous circumstances, a wearable "Smart device" that can communicate with a smartphone and offer self-defense applications has been developed. Bus stops, train stations, workplaces, sidewalks, retail centers, and markets are just a few locations where this system might be implemented. The most important details in this text are the two sections of self-defense and defense applications. Self-defense entails taking a picture of the offender and sending it as an attachment along with the victim's location to the relevant email address. Defense involves providing electric shock gloves to the culprit to reduce their excitement and help the victim escape the danger.

III. EXISTING TECHNOLOGIES

3.1 bSafe

With the help of the personal safety software bSafe, users can build a "social safety network" of people who will be notified in the event of an emergency or when they feel unsafe. It has a bSafe alarm that notifies the user's previously chosen contact of their precise location and audio-video of the immediate area.

3.2 SHE

SHE (Society Harnessing Equipment) is clothing that has an electronic component stitched into it. The victim may be able to escape due to this garment's 3800kV electric circuit. It can deliver about 80 electric shocks in the event of numerous attacks.

3.2 My Safety Pin

The Safety Pin app serves as a roadmap for selecting the safest path. The software notifies users when they arrive at dangerous areas, and users can ask friends and family to follow their route. According to the organization, several factors, including public transportation, visibility, and security, are used to evaluate an area's safety.

3.4 SOS Eyewear for Females

It records sound and video of the user's surroundings and sends it, together with an alert message, to the registered contacts. The program advertises that it features a safety confirmation feature, great location accuracy, and GPRS

independence. By pressing the "I am Safe" button after arriving at the destination safely, the user can let those close to them know. Both the Google Play Store and iTunes sell it.

3.5 Safelet

It is a wearable safety device for women that has two side buttons that can be used to send a message or call a guardian. It also starts audio recording by syncing with the user's smartphone.

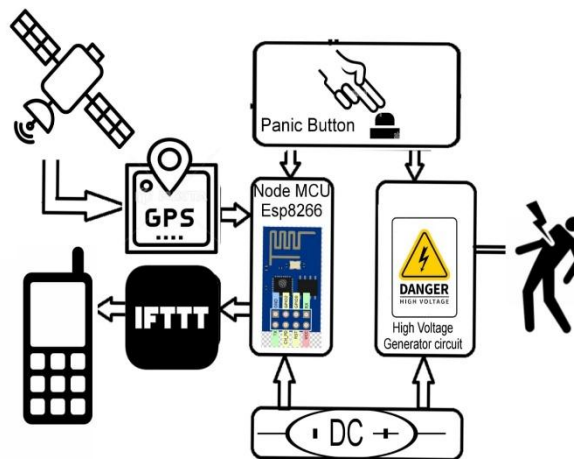
If a dangerous situation arises, the worried member who receives the alert can quickly call 911 from within the app.

IV. PROPOSED SYSTEM

This paper gives a tool to defend a woman in dangerous circumstances.

This device is primarily divided into two sections or segments. The first is the "Alerting portion," which consists mostly of the GPS module and the NodeMCU esp8266.

NodeMCU connects to the victim's mobile devices through a wifi network as soon as the device is powered on, and the GPS module begins to receive data in the NMEA format. The NodeMCU will then use certain libraries to decode the NMEA stream to GPS Coordinates. In response to pressing and holding the panic button, the NodeMCU will begin to connect to the IFTTT server and send a Webhook request with the GPS coordinates. Android message applet is active as soon as NodeMCU triggers the Webhook request. A high-voltage generator circuit in the "defending portion" of the structure creates a high-voltage shock to stun the attacker and give the victim some opportunity to escape the area.



NodeMCUEsp8266:

The ESP8266 WIFI SoC module from Expressive System and the ESP-12 module hardware are the foundation of the open-source Internet of Things platform NodeMCU, which runs on Lua firmware. For the benefit of the developers, AT commands were replaced with Lau scripting. The NodeMCU is a low-cost WIFI chip with a complete TCP/IP stack and microcontroller functionality to aid developers in using it in the Internet of Things applications.

High Voltage Generator Circuit:

It is a circuit, that generates a very high current that can faint or stand the culprit

GPS Module:

An in-space satellite navigation system is called GPS. Wherever on or near the Earth, in any weather, it delivers position and time information. To compute the four dimensions of X, Y, and Z (latitude, longitude, elevation), and time, at least four satellites may be needed. The GPS receiver transforms the signals it receives into position.

IFTTT Server:

It is a free web-based service where we may build Applets, which are collections of straightforward conditional statements. Changes made to other web services like Facebook, Gmail, Pinterest, etc. cause an applet to be activated.

V. CONCLUSION

The system can be claimed to encourage gender equality by giving women in society a safe atmosphere and allowing them to work all late hours. Anybody who considers committing a crime against women will be discouraged, which will help lower the rate of such crimes.

This gadget offers a mechanism that alerts the relative and lets her know when she feels unsafe. She can also defend herself by using a safety shock gadget that can shock the offender severely to render them unconscious.

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