WOMEN ANTI-MOLESTATION BELT

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Abstract *Molestation, Harassing and Rape are the most common and frequently happening crime against women in India. Among metro cities, has more number of rape cases and compare to developed countries like Latin America developing countries like India has less numb er of such incidences, where very good security facilities are provided by government and ratio of education is higher. So it proves that illiteracy or security is not major reason behind such assaults but the unawareness about self-protection and inefficient self protection weapons currently available like Ninja key chain, pepper spray, handgun etc. It is also revealed that in 98% rape cases, culprit is someone close to victim like neighbor or relative, where bureaucrats can't do much to control as it is not possible to keep watch on each house every time.*

This project summarizes current safety weapons available for women self-protection in situations like rape, assaults and adds new perspective of using GPS system and android smartphones for women safety. It sends an emergency message automatically to the relatives and nearby police station.

Key Words: GPS system, Internet of Things (IoT), GSM, Smart Device, Women Safety.

1. INTRODUCTION

In today's society it's frequently seen that Girls are getting exploited by Men in different ways. Teenage and immature girls are facing lot of problems associated with their security. In this regard this project is a boon which provides not only security for the girls but also creates awareness in the society against increasing Girls and physically challenged women exploitation with the help of latest Technology. This paper focuses on a security system that is designed merely to serve the purpose of providing security to a women so that they never feel helpless while facing such social challenges.

An advanced system can be built that can detect the location and health condition of person that will enable us to take action accordingly based on electronic gadgets like GPS receiver, body temperature sensor [1], GSM, Pulse rate sensor. We can make use of number of sensors to precisely detect the real time situation of the women in critical abusive situations.

1.1 Description

Many embedded systems have significantly distinct designs according to their functions and utilities. In this project design, structured modular design Concept is adopted and the system is mainly composed of a single microcontroller, LCD, GSM, GPS, Panic switch, GPS receiver, body temperature sensor, GSM, Pulse rate sensor and Camera. The entire unit will be placed in a bag.

1.2 Problem Identification

In present scenario women become the most powerful part in the society and they are the hard working in every field.

As the effectiveness of women increasing as well as the sexual assault also increasing, to prevent the sexual attacks on women we implemented the device to give the security over them.

The challenging situations facing by each women now-adays gave motivation to come up with a security device to help the women to do the work they liked to do. The application helps women to overcome their fear and can roam freely and complete their works

1.3 Related Work

The research paper [1] discusses about the device for women safety using raspberry pi and a raspberry camera module. The focus here is on helping the victim by sending the victim's real-time location and attacker's information to the police or to specific individuals. [2] This project emphasizing on two things. One is self-defense, and the other is to send the location of the victim to the precise access numbers. [3]"Reach360" is an android application designed by the author for women safety this system would be more beneficial, if it was fully automated. [4] Built a mobile application that works using the voice command. This system sends an alert message to a pre-choice number.

[5]A security gadget consisting of GPS, GSM, Raspberry Pi and various types of sensors.   Victim's guardian and police can get location information and physical condition of the victim by the smart band. [6] The proposed system includes a child module and two receiver modules for getting the information about the missed child on periodical basis.

2. METHADOLOGY

The project mainly consists of the set of hardware as shown above. Basically it will be a compact device which can be used like a wrist band can be developed in future for girls. Whenever girls come into some critical condition than simply she needs to press a button provided on the top of the device. As and when she does the thing, a message will be sent (GSM) to the near police control room or parents regarding the situation along with the location (via GPS) of the place where she is facing the problem. A longer buzzer will be switched on So that the surrounding people can get the attention of that and come for help. The police soon after getting the message and area location can get the help for the Girl quickly.

In this project we use wifi camera through application live video the present situation of the victim, so that the relatives can trace the victim.
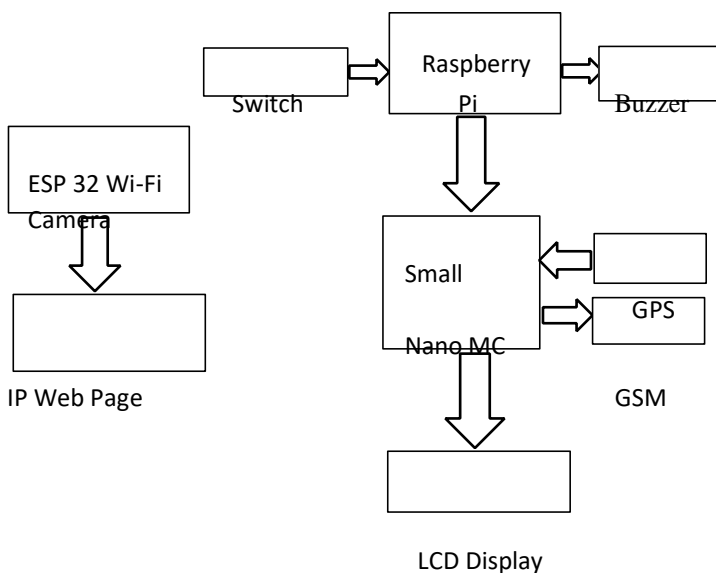
2.1 Modelling and Analysis

Fig -1: Block Diagram

The attack by the victim is indicated through the panic switch pressed, When the switch is pressed the unit will get activated and tracks the exact location of the victim, using GPS and sends emergency messages to two predefined contacts using GSM.

In the block diagram LCD is utilized to demonstrate the working of the entire unit.

PANIC SWITCH: This switch acts as the main component of the proposed system, once this switch is pressed the GPS sensor will send the location co-ordinates to the saved family member's numbers and nearby police station using the GSM.
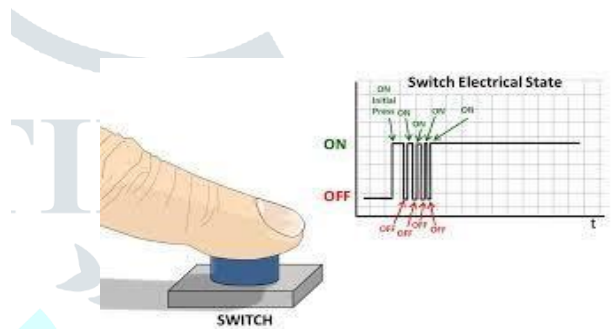
Fig-2: Push Button

LCD: is used to display the current status of the user. And also used to receive and display the SMS.

Fig-3: LCD

GPS: used to get the location co-ordinates of the user to track the user.

Fig-4: GPS

GSM: GSM sends the emergency message to the saved family members numbers and as well as the nearest police station with the co-ordinates details received by the GPS.

Fig-5: GSM

RASPBERRY PI-3: The Raspberry Pi 3's four built-in USB ports provide enough connectivity for a mouse, keyboard, or anything

Powering the Raspberry Pi 3 is easy, just plug any USB power supply into the micro-USB port.

Fig-6: Raspberry pi 3 mother board

ESP32-CAM: The ESP32-CAM is a small size, low power consumption camera module based on ESP32. It comes with an OV2640 camera and provides onboard TF card slot.

The ESP32-CAM can be widely used in intelligent IoT applications

such as wireless video monitoring, WiFi image upload, QR identification, and so on.

Fig-7: ESP32-CAM

Nano: Arduino Nano Every is an Arduino's 5V compatible board in the smallest available form factor. It is a preferred board for many projects requiring a small and easy to use microcontroller board.

Fig-8: Nano

2.2 Advantages

- This application will be accessible automatically as well as manually.
- Very cheap system compares to currently available safety devices in market.
- Easy to carry, no need of extra efforts as can be attached with waist belt only for woman safety. Very effective as useful all over the globe where range is available at any time with high accuracy and efficiency.
- Totally secure and reliable, using which we help to catch culprit at the place of crime only. Also can be used as safety device for vault, automobiles, home, office etc.

- This weapon will help in controlling assaults from close persons of victim which contributes about 98% in such incidences.

2.3 DISADVANTAGES

Internet connection is necessary to use GPS or sending alert messages. Sometimes to send messages SIM balance may be required. Physical motion can sometimes break the connections in circuit. Network or range is mandatory to complete action.

RESULT:- This section presents the results of the experiments conducted with the proposed hardware design and the android application.

Initially, the GSM module is verified whether it is properly connected and configured as shown in after configuring GSM module, device prompts the user to press the panic switch so that it can be used to access the device and verify credentials.

Fig-9: Connecting to GSM module

Fig-10: Press panic switch to activate the system

Fig-11: Displays the current status of the system

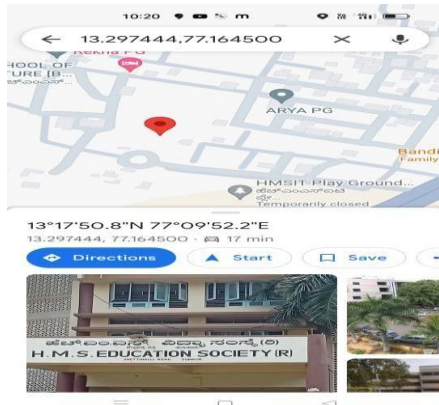**Fig-12:** Sends the location to predefined mobile number

Fig-13: It displays the current location of the user in

predefined mobile number

Fig-14: Shows the live video and images to the predefined number

3. CONCLUSION

This type of an idea being the first of its kind plays a crucial role towards ensuring physically challenged woman or handicaps Safety in the fastest way possible automatically. The proposed design will deal with critical issues faced by physically challenged woman or handicaps in the recent past and will help solve them through technologically sound gadgets.

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