Security Solution for Women Safety

.Ms. P.M.Chavan[1], Alfa Bagwan[2], Amodha Ankam[3], Akshay Bedare[4]
[1]Professor, Dept of electronics and telecommunication engineering
[2, 3, 4]Dept of electronics and telecommunication engineering
[1, 2, 3, 4] PES's Modern college of engineering,pune,india.

Abstract- *Today in the current global scenario, the prime question in every girl's mind, considering the ever rising increase of issues on women harassment in recent past is mostly about her safety and security. The only thought haunting every girl is when they will be able to move freely on the streets even in odd hours without worrying about their security. This paper suggests a new perspective to use technology for women safety. "848 Indian Women Are Harassed, Raped, Killed Every Day!!" That's a way beyond HUGE number!*

We propose an idea which changes the way everyone thinks about women safety. A day when media broadcasts more of women's achievements rather than harassment, it's a feat achieved! We propose to have a device which is the integration of multiple devices, hardware comprises of a wearable "Panic Button" which continuously communicates with Smart phone that has access to the internet. The software or application has access to GPS and Messaging services which is pre-programmed in such a way that whenever it receives emergency signal, it can send help request along with the location co-ordinates to the nearest Police station, relatives and the people in the near radius who have application. This action enables help Instantaneously from the Police as well as Public in the near radius who can reach the victim with great accuracy.

Keywords- GPS, Raspberry Pi, Camera, Panic button, Audio Adopter.

I. INTRODUCTION

In today's world, women come across many situations that make them feel unsafe. Women from various walks of life face situations that make them feel threatened in different environments. Sixty six percent of women have reported sexual harassment in the year 2010 in New Delhi. It has also been proven that in urban environments, women are more prone to experience harassment especially in developing countries [1]. In such situations, the aid of a safety device that will inform the victim's family members or the authorities (in severe situations) may help women feel safer, confident and reduce the chances of harassment. Though there are a few Smartphone based solutions for the same, it might not be possible for the victim to reach for her phone in some situations without the knowledge of the perpetuator.

The capital city New Delhi in 2012 arrested the attention of not only the people of the nation but also the entire world. A rape incident captured the attention of the entire human kind that occurred on 16th December 2012 at a place Munirka, a neighbourhood in south Delhi which was a fatal assault. A 23 year old woman physiotherapy (intern) was hit and molested by a gang at 9:30 PM when she was travelling in a private bus with a male counterpart. They were returning after watching the film Life of Pi in saket, south Delhi and boarded an of duty charter bus at Munirka to Dwaraka, which was driven by joy riders at that time. The family members and colleagues of TCS software engineer Esther Anuhaya found her body with the help of a Vijayawada police team. Her parents spent the entire Thursday looking for her in Bhandup (East) as her last call signal on January 5th was from Bhandupeshwar Kund in Kanjurmarg, which falls under Bhandup (East) jurisdiction. The family had been trying to trace her where about by showing the locals her photographs. Locals said that the spot where her body was found is a hangout for criminals. The body of Anuhaya has been procured by Vijayawada police.

Ban Ki-Moon, the secretary general of United Nations stated that "There is one universal truth, applicable to all countries, cultures and communities: violence against women is never acceptable, never excusable, and never tolerable"

With increasing atrocities on women and children, arises the need of an advanced system to serve the purpose of alerting someone for help. Most of the cases remain mystery because of lack of evidences or them being tweaked. The situation is noxious and we propose a system that would aid the victims not only to send a panic and alert message but also collect evidences in the form of images. We propose a system initiated by a human action. It is also given with an option of switch button and a fall detector to activate the system. The armband would have a controller with GSM/GPS kit interfaced. The band would also be interfaced with a camera for collecting images. A human action would initiate the system. On initiation, the video and audio is recorded. On

initiation of emergency An alert message along with the location is sent to a predefined Mobile Station until the system is reset. Since change in Longitude and Latitude is sent continuously, the person can be tracked. The system is designed also to be used as an alert system during medical emergency.

II. BLOCK DIAGRAM AND DESCRIPTION
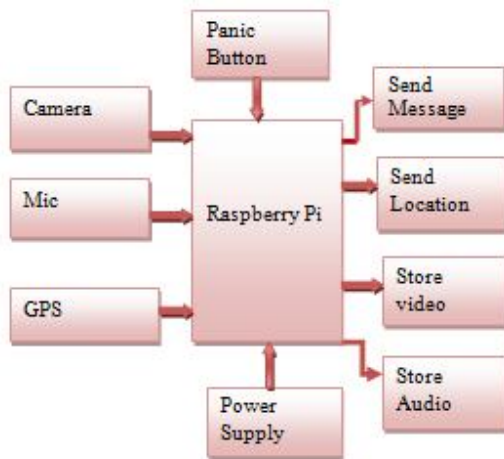
CAMERA:

Hidden camera detector is a radio frequency receiver, which picks up electromagnetic signals that are broad-casted from electronic device such as spy camera. By moving this detector, we are able to alert the user about the hidden camera. It lights up when it receives a strong frequency.A very simple hidden spy camera to use is the self-recording spy camera. In our system, the camera is placed near to panic button. When the women pressed panic button the camera starts video capturing and stored in SD card. It is very useful as it is used as a evidence.

GPS:

GPS Module continuously receives the data from the satellite and transmits correspondingly to the RS232. It is developed by US department of defense (DOD).The GPS signal is applied to the antenna input of module, and a complete serial data message with position, velocity and time information is presented at the serial interface.

The current date, time, longitude, latitude, altitude, speed, and travel direction among other data, are provided by the module and can be used in a many applications including navigation, fleet management, tracking systems, mapping and robotics. The module can support up to 51 channels. The GPS solution enables small form factor devices which deliver

major advancements in GPS performances, accuracy, integration, computing power and flexibility. They are used to simplify the embedded system integration process.

MIC:

When you speak, sound waves created by your voice carry energy toward the microphone. Remember that sound we can hear is energy carried by vibrations in the air. Inside the microphone, the diaphragm (much smaller than you'd find in a loudspeaker and usually made of very thin plastic) moves back and forth when the sound waves hit it. The coil, attached to the diaphragm, moves back and forth as well. The permanent magnet produces a magnetic field that cuts through the coil. As the coil moves back and forth through the magnetic field, an electric current flows through it.

The electric current flows out from the microphone to an amplifier or sound recording device. By using this current to drive sound recording equipment, you can effectively store the sound forever more. Or you could amplify (boost the size of) the current and then feed it into a loudspeaker, turning the electricity back into much louder sound. That's how PA (personal address) systems, electric guitar amplifiers, and rock concert amplifiers work.

PANIC BUTTON:

A panic alarm is an electronic device designed to assist in alerting somebody in emergency situation where a threat to persons or property exists. This device activates when an individual calls for help. There are different kinds of panic buttons offered by different alarm companies. It can be a single push button or two push buttons that are simultaneously pressed.

They are also mostly installed in visible locations that are easy to reach but for some situations like in commercial applications, they can be hidden from view such as the underside of a desk or counter. These devices may also be wireless or wired. Wired panic buttons have higher degree of reliability but they can cost more. Wireless panic buttons use radio transmitters similar to those found in garage openers. They are easier to install and can be carried around. Usually, they require batteries and need frequent testing.

RASPBERRY PI:

The Raspberry Pi board comes equipped with an SD card. This slot permits us to insert an SD card and that can use it as our devices. The SD card is a main storage device for raspberry pi board like a hard disk of a personal computer.

The Raspbian operating system is loaded on to the raspberry pi board. It also has onboard memory between 256MB the various components on the Raspberry Pi board.

The Raspberry pi is a single computer board with credit card size, that can be used for many tasks that your computer does, like games, word processing, spreadsheets and also to play HD video.

Although Raspberry Pi is as small as the size of a credit card, it works as if a normal computer at a relatively low price. It is possible to work as a low-cost server to handle light internal or web traffic.Grouping a set of Raspberry Pi to work as a server is more cost-effective than a normal server. If all light traffic servers are changed into Raspberry Pi, it can certainly minimize an enterprise's budget. Although Raspberry Pi is as small as the size of accredit card, it works as if a normal computer at a relatively low price.

TWILLO SERVICE FOR MESSAGE SENDING :

To optimize project size GSM module function is replaced by twillo service.Twillo is a cloud communication platform as a service company based in san francisco,California.Twillo allows software developers to programmatically make and receive text messages using its web service APIs.An API is provided by service or program so that others may use the function of the system.RESTful API provided by twillo that allow developers to send sms and do tons of other thing.

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III. FLOW CHART
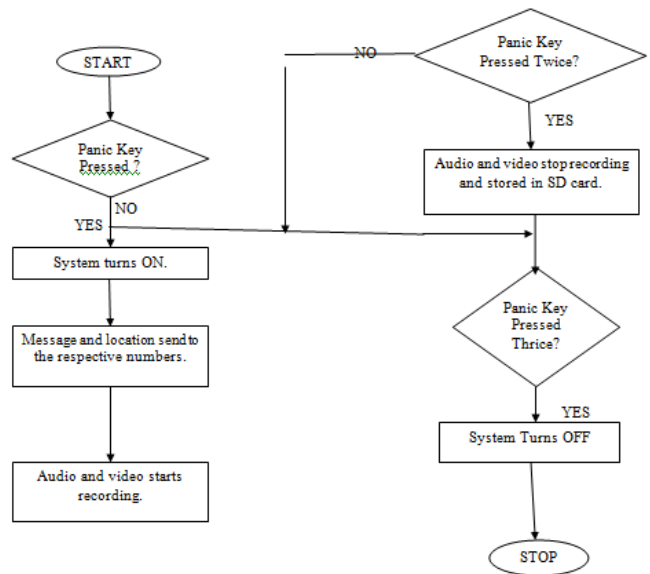
DESCRIPTION:

1. START
2. When panic button pressed once, the system gets turn ON. The audio /video recording start and message and location is send to respective numbers.
3. When panic button pressed twice, audio/video stored in SD card.
4. When panic button pressed thrice, the system gets turn OFF.
5. STOP.

IV. CONCLUSION

This type of an idea being the first of its kind plays a crucial role towards ensuring Women 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. By using this technology, we have proof of incident with us.

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