

Smart Electronic System for Women Safety

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ABSTRACT

This paper describes about a safety jacket of electronic system for women, built in women body using the jacket. Nowadays women are being molested, kidnapped and harassed by the drivers. Hence implemented electronic system is fitted in the jacket which has using Camera, GPS, GSM and embedded board to control and interconnect all of the above. As journey is started passenger can enter her guardian, friend or relative mobile no, he/she is going to get all the notifications of the female passenger journey. We can also add destination region even though if the concerned person does not check the updates, then also it would be useful in investigation, if any mishappening occurs. Hence implemented electronic system is fitted in the jacket which has GPS, GSM, Camera, Shock circuit, Buzzer, memory card which are interfaced with Raspberry pi -3 board to control all of the above.

Keywords: Safety System, GPS, GSM, Embedded System

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I. INTRODUCTION

India is a country of peace-loving and law-abiding citizens. It is a safe destination for domestic and international tourists. However, like any other civil society, there are aberrations, and a few persons break the law now and then. In recent past, a few isolated incidents have been reported in India in which women travellers were sexually assaulted. There have been many cases where cab drivers, taxi drivers or auto rickshaw drivers have harassed, molested or tried to kidnap the women passengers. Many women are afraid to be alone in public places due to fear of being harmed.

This fear has been caused by repeated cases of violence towards women. Women's empowerment in the country can be brought once their safety and security is ensure, either it may be at home, publics places or during travelling. Many attempts are made to make women journey safer [1- 6].

This paper presents design and implementation of women safety system which will ensure women safety during travelling (as shown in below figure-1) in public transport vehicles such as cabs, taxi, bus and auto rickshaw.

II. EXISTING SYSTEM

- Women are the subject of exploitation inside and outside the home say whether on roads, trains, cabs, schools etc.
- Women occupy almost half the globe. But their survival has always been a question, when it comes to existence with honour and dignity.
- Women's empowerment in the country can be brought once their safety and security is ensure, either it may be at home, publics places or during travelling.

III. LITERATURE SURVEY

The paper [1] proposes a voice keyword recognizing app to recognize the user and activate the app functionality even when the mobile keypad locked. The GPS module tracks the longitude and latitude to trace an exact location of a user and sends the pre-stored emergency message including location to the registered contact numbers. The Audio Recording module starts the recording of the conversation for five minutes and stored as evidences. The message goes in queue if network problem and send when network gets available. A notification is generated for successful deliver message. Also user can select contact through voice based contact list and make a call. Note: The spoken keyword

converted into a text to compare with the registered keyword.

The paper [2] proposes an emergency response situation recognizing app called as IPROB to provide women safety even in the situation like terrorist attacks or natural disaster, by just shaking the mobile above the predefined threshold value automatically activate the system. It starts capturing the surrounding voice to test and confirm the unsafe IPROB situation where it raised the notification and user fail to respond in predefined time then the message alert sends to the register contacts. If the mobile profile at the receiver is in silent mode then convert it into the General profile to give the voice notification as “YOUR CHILD IS IN TROUBLE PLZ HELP...PLZ HELP ...” continuously like a ring tone, until they stop it. If a register contact confirms a PROB then appropriate emergency services like ambulance, fire brigade are alerted.

The paper [3] proposes a SCIWARS app (Spy Camera Identification and Women Attack Rescue System) which consist of two modules. A first module act as an intelligent alerts system which detects the infrared rays coming from every Night-vision hidden cameras placed in changing roomhotels room etc and also informed the user about unsafe place through message. Now it's the user responsibility whether to register a complaint or not by forwarding the notification with the location to legal authorities such as Police. The second module will get activated by pressing any key continuously which will provide the help to the victim from physic attack in unsafe situation. It sends the emergency message containing location to register contacts.

The paper [4] proposes an android app to provide security at two different situations as follows. The First module provide security to Women at Emergency Situations propose a Save Our Souls (SOS) app to provides the security on a single click of SOS button for the women travelling at night or alone. No need to unlock the screen, instead by just pressing the power button it directly triggers the application to run at the background, to send the emergency message including the location in the form of latitude and longitude to the registered contacts. The second module proposes an android based home security system that provides security of house belongings and Senior Citizen in the user absence. The minimum requirement is the android mobile, a hardware circuit embedded with a switch and GSM modem that are connected to the door. When an intruder tries to open the door, the switch triggers an interrupt for the microcontroller to activate the GSM modem to send warning SMS to the store registered number in the modem. At the receivers end the application pop up the menu frequently for user attention. If the user fails to acknowledge in the defined time interval, then the automatic positive acknowledgement message get send to the remote GSM modem which in turn interrupt the microcontroller for an alarm.

The paper [5] proposes an app, in which a single click of SOS sends a message containing the location and/ or audio-video call to the guardian number. At receiver touch the location URL in the message to view it in the Google Map.

It also provides different help tools like First-Aid help, Fake Call Help and video call. The First-Aid help tool provides the help on various health issue problems occurred at an accidental or emergency situation during the night time. First aid help for various problems are as: unconscious and not breathing, choking, bleeding heavily, burns, heart attack, diabetes etc. The Fake call help to escape from the meetings- parties at a time when women start feeling uncomfortable and think that, “if someone calls me then I can leave this place”.

IV. BLOCK DIAGRAM

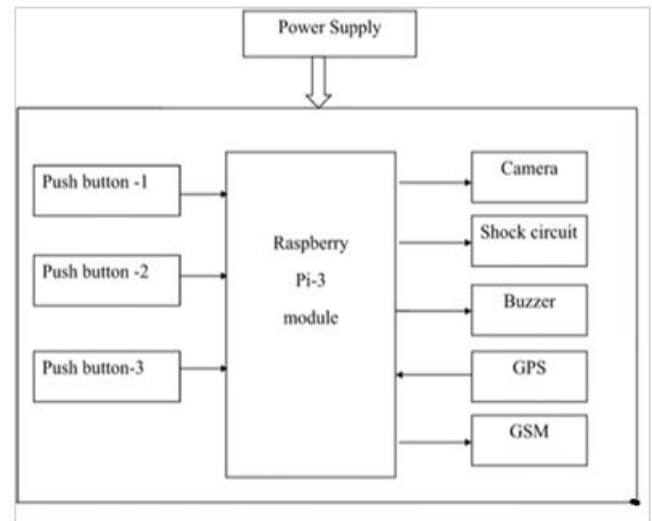


Fig 1. Block diagram

DESCRIPTION

In this project we are use Raspberry pi module is main part. This module has total 40 pins. In our project we are using three buttons. Out of that three buttons first button is used for circuit on/off. Second button is used for on GPS, GSM & buzzer. Third button is used for shock circuit. Once first button is pressed that time circuit is on. When second button is pressed that time GSM is on & GPS is also on. It sends location to predefined numbers. We save three numbers that three numbers are police station, neighbor's, and parents. Location is send to that three numbers in the form of latitude and longitude also using GSM alert message “MY LIFE IS IN DANGER SITUATION”. At that also buzzer will be on. When third button is pressed that time shock circuit will be on. when attacker attack to women that time shock circuit is used to injure attacker for self-defence. At time camera will be on for capturing image and that capturing image is saved on memory card. Therefore it is helpful for police for searching attacker. Today's life this system is most useful.

In the below architectural model of our project, gps, gsm controller, camera etc. Modules are used.

GSM:- A GSM modem is a wireless modem that works with a GSM wireless network .it operates at either the 900MHZ or 1800MHZ frequency band . It supports voice calls AND data transfer speeds.

GPS:- Useable in solder-free breadboard projects **READY** use with both 3.3 v and 5 v microcontrollers.

Camera:- In this system we are attaching a camera on jacket which will capture the image of culprit. So that it will be easy for police to search the culprit.

Buzzer:- The alarm is Designed to Assist In Alerting Somebody in case of Emergency SITUATIONS.

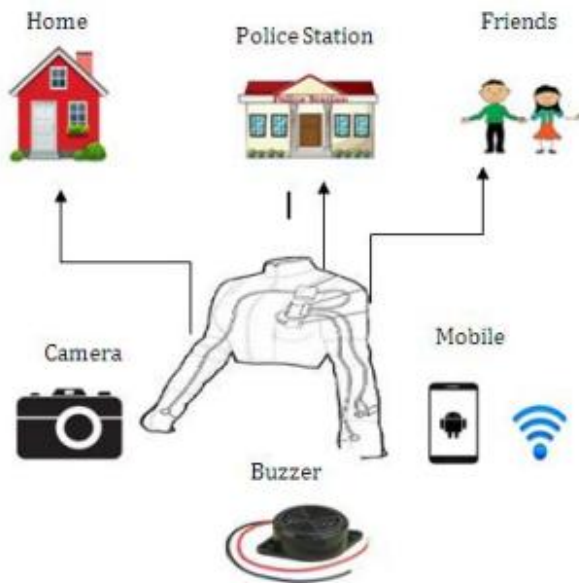


Fig.2 : Architectural model

GOAL AND OBJECTIVE:

The main purpose of our project is to provide safety to the women's from the dangerous zone. Providing facility to secure the women's by providing wireless key GSM and GPS module with controller. As the women feels insecure at that time she can press the wireless key then the GPS and GSM modules are activated .GPS will calculate the latitude and longitude co-ordinates of that area .GSM module will send SMS which contains the latitude and longitude co-ordinates to the numbers such as family, friends, police station and neighbours which are already stored in microcontrollers memory. Also GSM module will make call to these numbers.

V. APPLICATION

- It will be used for safety of women's.
- It will be used for child tracking during school time.
- It will be used in vehicle tracking & safety system
- It can be used for wild life tracking.

VI. CONCLUSION

The proposed design will deal with critical issues faced by women in the near past and will help to solve them with technically sound equipment's and ideas. This system can overcome the fear that scares every woman in the country about her safety and security. The proposed design will help

the girl when she is danger zone. She can make rescue of herself in danger situations. And this circuit will use to remove or decrease the tension of girl when she walks alone in night hour also, so that she will never feel helpless at any situation and can protect her by herself. And the culprits face will be captured by camera so that police will be able to catch him easily

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