iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** VI **Month of publication:** June 2023

DOI: https://doi.org/10.22214/ijraset.2023.53728

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue VI Jun 2023- Available at www.ijraset.com

Women's Safety Jacket by using Raspberry Pi-3 Module

Gavali Sneha[1], Lokhande Pooja[2], Jagtap Pratiksha[3], Prof. S. M. Lambe[4]
[1, 2, 3]*Student,* [4]*Ass Prof, E&TC KIT Shelve, Pandharpur,*

Abstract: ***Now-a-days, the situation is become worst for women relating her safety. The government has provided security through rules and regulations to the society but the existing system needs advanced smart security for women safety. The purpose of our project is to design an easy and portable device for girl's safety. Our project focuses on "women safety". In our project we prepared safety jacket in which we provided different features like: Buzzer system. Video capturing of attacker. Location tracking by GPS. Msg sending to predefined numbers like: family, friend through Gmail. Video sending to selected family, friend numbers& police station. Msg sending to predefined numbers like: family, friend through Gmail. We used components such as Push Buttons, module raspberry pi 3, GPS NEO6MV2, GSM SIM900D, buzzer, and Lipo batteries etc.***
Keywords: Raspberrypi3, GPS, GSM, Camera, buzzer

I. INTRODUCTION

The most important and The prime question of every girl's mind is her about safety, so that's why we are implement this project. status of women in India has gone through many great changes over the past few millennia. From equal status with men in ancient times through the low points of the medieval period to the promotion of equal rights by many reformers, the history of women in India has been eventful. It is based on women's security and it is an easy to handle. This paper presents design and implementation of women safety system which will ensure women safety while travelling at odd hours or they need the help of someone's. The system consists of three main components namely, GSM raspberry pi 3 module with buzzer and GPS. In global scenario, the prime question in every girl's mind is about her safety and the harassment issues. 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 project suggests a new technology to protect women. This project focuses on a security for women so that they will never feel helpless. The system consists of various modules such as Push Buttons, GSM, GPS, memory card, buzzer, camera, Raspberry pi-3 module. In this project we are using wireless technology for security purpose. An electronic jacket for women safety means that allow users to protect while traveling odd hours or when they feel helpless. This project is based on women's security as it is reported that everyday there is many cases about women harassment. Although an Android based application on Women security is already out in the market but for non-android users, I thought an idea for developing a project based on women security using Raspberry pi module.

II. BLOCK DIAGRAM DESCRIPTION

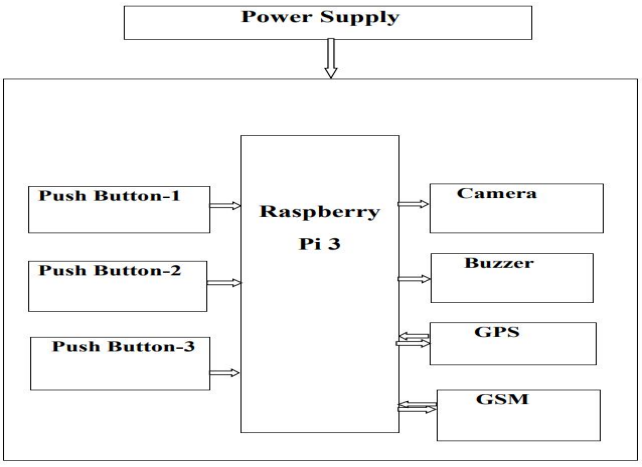


Fig. Block Diagram of Women's Safety Jacket

©IJRASET: All Rights are Reserved

III. METHODOLOGY

1) In this project we are use Raspberry pi module is main part.

2) In our project we are using three buttons. out of that Three buttons first button is used for circuit on/off. Second bottom is used for on GPS, GSM& buzzer. Third button is used for Camera.

3) Once first button is pressed that time circuit is on.

4) 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".

5) When third button is pressed that time buzzer will be on. 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 attracter.

a) *SIM900D:* GSM means global system for mobile communication. GSM is used to send the alert message to the predefined numbers.The SIM900D is a complete Quad-band GSM/GPRS solution in a SMT module which can be embedded in the customer applications. Featuring an industry- standardinterface, theSIM900DdeliverGSM/GPRS850/900/1800/1900MHz performance for voice, SMS, Data, and Fax in a small form factor and with low power consumption.

b) *GPS:* gps means global positiong system.GPS is used to track the location of the user . the location is tracked in the form of latitude and lingitude coordinates. A GPS (global positioning system) unit uses information from United States satellites to provide an accurate location almost anywhere on Earth. The global positioning system (GPS) is a network of satellites and receiving devices used to determine the location of something on Earth.The operting voltage of GPS is 4.3v-5.7v

c) *Raspberry pi 3:* All over the world, people use the Raspberry Pi to learn programming skills, build hardware projects, do home automation, implement Kubernetes clusters and Edge computing, and even use them in industrial applications. The Raspberry Pi 3 is equipped with a quad-core 64-bit Broadcom BCM2837 ARM Cortex-A53 SoC processor running at 1.2 GHz, making it about 50% more powerful than the Pi 2. Which means the new Raspberry Pi 3 can be used for office applications and web browsing. Generally, Raspberry PI 3 offers the user a wide range of use. It comes with the standard HDMI and USB ports, 1GB RAM, and Wi-Fi and Bluetooth connections in addition to the already functional Ethernet.

There are various benefits to the Raspberry Pi:

- Low cost
- Huge processing power in a compact board.
- Many interfaces (HDMI, multiple USB, Ethernet, onboard Wi-Fi and Bluetooth, many GPIOs, USB powered, etc.
- Supports Linux, Python (making it easy to build applications)

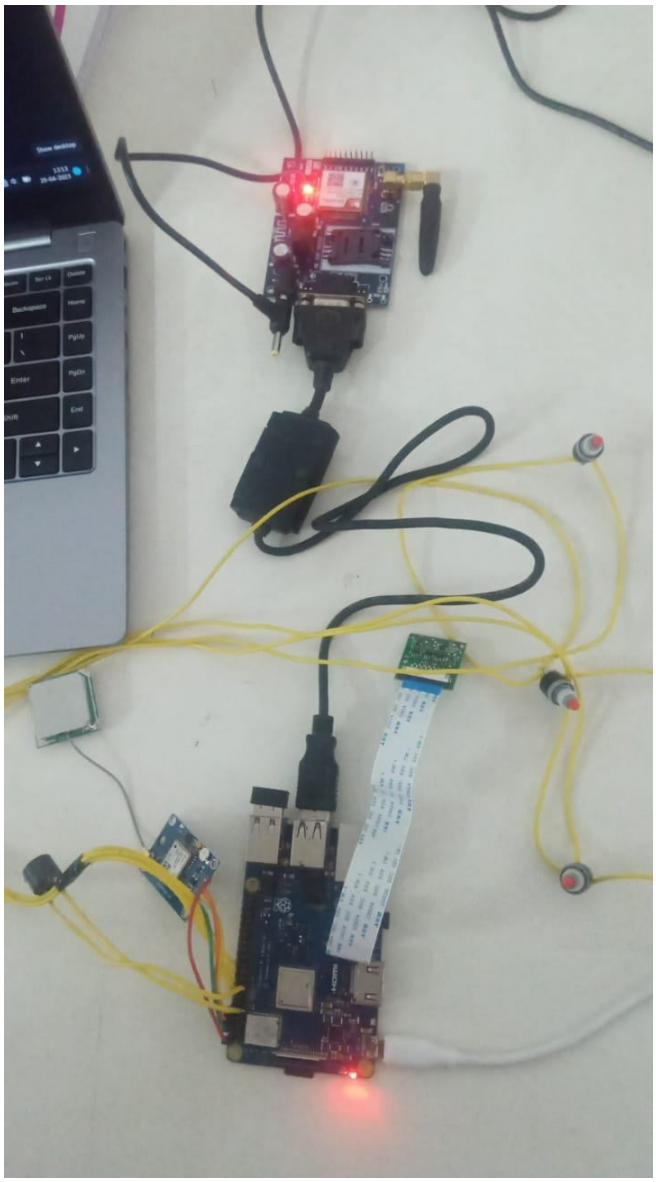
d) *Push Button:* we are using 3 push buttons in our project. A Push Button switch is a type of switch which consists of a simple electric mechanism or air switch mechanism to turn on or off. Depending on model they could operate with momentary or latching action function. The button itself is usually constructed of a strong durable material such as metal or plastic. There are four pins.The purpose of using 4 pins is to provide stability when the device is mounted on a circuit board.

e) *Camera:* Pi Camera module is a camera which can be used to take pictures and highdefinition video. Raspberry Pi Board has CSI (Camera Serial Interface) interface to which we can attach Pi Camera module directly. The Raspberry Pi Camera Board is a custom designed add-on module for Raspberry Pi hardware. It attaches to Raspberry Pi hardware through a custom CSI interface. Raspberry Pi camera module is a tiny board that can be interfaced with Raspberry Pi for capturing pictures and streaming videos.

f) *Buzzer:* An audio signaling device like a beeper or buzzer may be electromechanical or mechanical type. The main function of this is to convert the signal from audio to sound. Generally, it is powered through DC voltage and used in timers, alarm devices, printers, alarms, computers, etc. Based on the various designs, it can generate different sounds like alarm, music, bell & siren.

g) *Voltage Regulator:* A voltage regulator is used after the filter capacitor to generate a constant DC voltage supply of 5V. We have used 7805 as a voltage regulator it is a three-pin IC which are namely input, ground, and output. We have to give an output of the filter capacitor to the input of the regulator, and we get 5V at the output pin of the regulator.

IV. HARDWARE



V. CONCLUSION

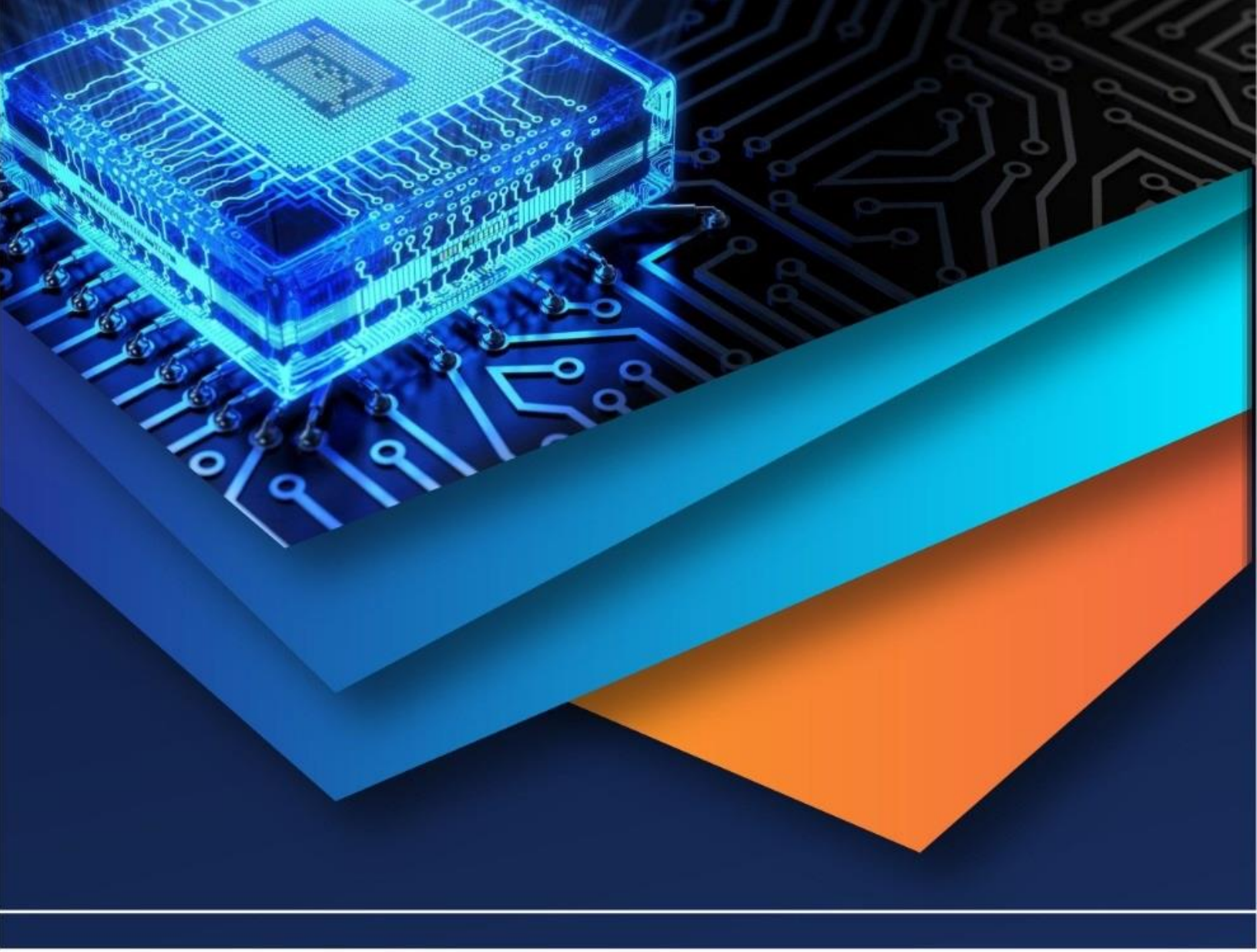
The proposed design will help the girl when she is in emergency situation. The main objective of the project is to provide the reliable security to the women as well as girls. The system design will deal with critical issues faced by the women and will help for the self-defense. This system is easy to handle and light in weight. This system encourages to women to work till late night also vanishes the fear of the women.

The proposed design will help the girl when she is in emergency situation. She can protect herself in emergency situation and this circuit will be used to decrease the tension of girl when she walks alone in odd hours also, so that she will never fill helpless at any situation and can protect her by herself and the videos at that instant will be captured and sending to Gmail by camera so that police will be able to catch him easily end itemize. The accurate location will be stressing through tracker app.

REFERENCES

[1] https://nevonprojects.com/womens-safety-device-with-gps-tracking-alerts.
[2] https://www.ijraset.com/research-paper/womens-safety-device-with-gps-tracking-and-alert.
[3] https://www.slideshare.net/SubmissionResearchpa/womens-safety-jacket.
[4] https://www.researchgate.net/publication/326083428

[5] M. Lakshmi Pradheepa, M. Nivetha and Lakshmi, "Women's safety app in mobile application", International Journal of Science Engineering and Management (IJSEM).
[6] J Sunil Kumar, D Sreelakshmi and G Sindhura Bhargavi, "Women Safety System using GSM & GPS Tracking", Journal of Emerging Technologies and Innovative Research (JETIR), vol. 5, no. 7, pp. 1157-1160.
[7] Swapnali N. Gadhave, Saloni D. Kale, Sonali N. Shinde and Amol C. Bhosale, "Electronic Jacket For Women Safety", International Research Journal of Engineering and Technology (IRJET), vol. 04, no. 05, pp.
[8] K.N. Likhitha and K.N Hemalatha, "Women Safety Device using GPS and GSM", International Journal of Innovative Science and Research Technology, vol. 4, no. 6, pp. 780-782.
[9] Yatharth Choudhary, Surbhi Upadhyay, Rita Jain and Abhishek Chakraborty, "Women Safety Device", International Journal of Advance Research in Science and Engineering, vol. 6, no. 05, pp. 413-421.
[10] Narang Parv,https://youtu.be/Hu2-h_mW9j.
[11] Joshua Samual, "Implementation of GPS Based Object Location and Route Tracking on Android Device", International Journal of Information System and Engineering (IJISE), vol. 3, no. 2, pp. 61-72
[12] Abhijith Paradkar and Deepak Sharma, "All in one Intelligent Safety System for Women Security", International Journal of Computer Applications, vol. 130, no. 11, pp. 33-40.
[13] https://www.neliti.com/publications/334296/womens-safety-jacket.
[14] https://www.electronicwings.com/raspberry-pi/raspberry-pi.
[15] https://www.piday.org/whats-a-raspberry-pi-and-how-does-it-work.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)