A Survey on Smart Gadget for Women's Safety using Raspberry pi

ASHWINI G B[1] , Mrs. NIRMALA HIREMANI[2]

[1]Student /Department of CSE/Visvesvaraya Technological University/Centre for PG Studies/Mysuru/ India.

[2]Assistant Professor /Department of CSE/Visvesvaraya Technological University/Centre for PG Studies/ Mysuru/India.

Abstract: Now-a-days women are facing many problems based on their security. The application which is proposed has access to track location and will send emergency messages to the nearby police stations and the registered phone numbers. This application is not only used for cases like harassment, molestation and any perverts teasing girls but this also helps them from any bad condition or any health problem like fainting suddenly. GPS is to track the location of the victim and to send message with the area of the injured individual to the close-by police headquarters and the telephone contacts of the relatives of the person. This application encourages ladies to beat their dread in going out and do things what they like to do.

Keywords— GSM, GPS, PANIC SWITCH, RASPBERRY PI.

I.INTRODUCTION

Internet of things is the extension of internet connectivity into physical devices and everyday objects; the privacy is very high in the Internet of Things. It is very helpful to people to develop a smart- based security. The module is developed in such a way that there is an instant response with triggering button. This can help people to overcome difficulties like women security, constructing smart city.

Without a doubt, even today in India, women can't move amid the night in various spots and even at day time swarmed spots a considerable number of scenes of physical/sexual abuse happens to women reliably. Among various bad behaviors, ambush is the speediest creating bad behavior in the country today. Ladies will be furnished with hardware which isn't noticeable to others the gear comprises of GPS (Global Positioning System) module by which we can get the geological area and these area esteems are shown on the LCD (Liquid Crystal Display). From the Judicial perspective there is more significance for the photograph; it is the premise of all wrongdoing scenes and is completed on need.

The use of embedded technology has proved to be very beneficial in present generation and that will minimize waiting time of taking actions on the culprit. In this paper we exploit the emergence of new technology called as smart gadget for women's safety, This makes the use of sensor n/w along with embedded technology it serves to bolsters the gender uniformity by giving safe condition to ladies in the general public and enables them to work till late evening.

fig 1: architectural module

This device is to act as an emergency device for women who are in potential danger of being attacked; GPS are used for safety purposes. IOT is used to send the location and message to nearby police station. Raspberry pi3 are used it has capability to perform multiple task unlike the Arduino microcontroller. The application proposed gives the security system which is designed to help women to do their work with comfort and can to the places they wanted and work with comfort. GPS is used to track location and send messages to nearby police station and relatives. Choosing Pi camera which is compatible with the Raspberry pi 3 boards to do task more easily.

II. LITERATURE SURVEY

Parthsethi et al (2018) proves the theory of using alarm system in his work published in **"Safe sole Distress Alarm system for female security using IOT".** Development of a sole for protection of female using Arduino microcontroller which is named as 'SAFE SOLE'. "Central controller, GSM module, GPS module gesture control System, smart phone connecting". It utilizes GPS and GSM to ping client's area naturally. The gadget is customized so that it perceives defined developments as tapping strongly multiple times on ground or any strange/energetic development/walk of client quickly and pings the misery flag and the area to pertinent experts and spared contacts, and moreover taking countermeasures—activating of alarm. Constraints of this work are the snap in a versatile is required, even however there is a programmed identification they may confront any risk when alarm is activated on spot. [1]

Dr. J. PREETHI, et al. **"Smart Self-Defense Gadget for Women's Safety Using IoT"** This paper focuses on women's safety and to be freely moved out of their house in an odd hour without considering their security. So they proposed a gadget for women safety. The proposed gadget provides the user location (LATITUDE & LONGITUDE) values for every 1 minute; these tracked locations are sending to emergency contacts by using GSM Module. [2]

Andre Gloria et al (2017) prove the new concept of IOT gateways in his work. The concept of IOT gateways, multiple communication protocols has been implemented in this work. A handy usage for an IoT portal devoted to continuous checking and remote control of a pool. In light of a Raspberry Pi, the entrance grants bidirectional correspondence and data exchange between the customer and the sensor arrange executed on the earth using an Arduino. The confinements of this work are a ton of diligent work is expected to actualize this and the application is additionally expensive to be executed. [3]

Phooshkar Rajiv et al (2016) prove the theory of using Email in **"Email based Remote access and surveillance system for smart home infrastructure".** "The Email from inserted framework to client and answer handling has been actualized in this work". Here this designing uses standard email expert associations to advise and invigorate the customer about the home access. It sends an email to the owner with the associated picture of the person who is at the gateway. It also melds a verified segment to give access of the route to a remote customer by responding to that email. It essentially infers that we can view and offer access to the person at our door by methods for sending and tolerating an email. The limitations of this work are the application is incredibly over the top and GPS and GMS are not used [4].

In this world there are several self-defense gadgets are available in market. But there is disadvantages of those gadgets are without internet connection they don't have a chance to send an emergency message to emergency contacts like Police Station, Ambulance, Fire Station, Relatives, Friends, Neighbors and Parent's. So in that case IOT is very useful, to connect a device and humans.
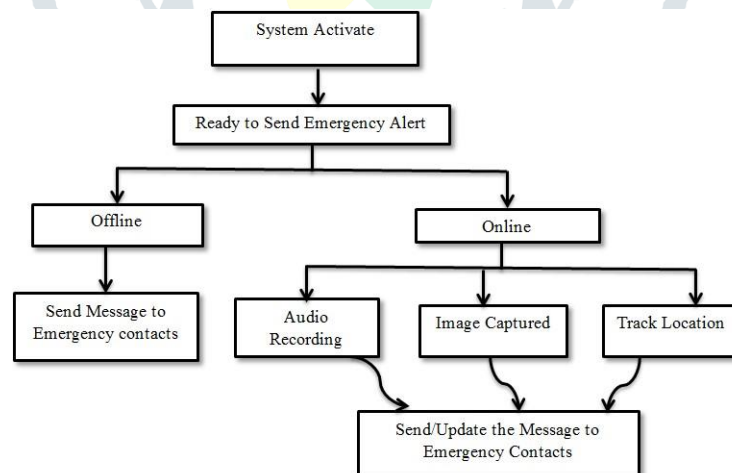
III. PROPOSED SYSTEM AND MODULES

fig 2: architecture diagram for proposed system

Particularly for ladies in trouble can call for help just by squeezing the frenzy switch catch on this savvy contraption. At the collector, just by tapping on the area interface gave in the message it can demonstrate the area on the Google map. Proposed framework for ladies security resembles a savvy or wrist band in this perspective sending message can be ordered in two different ways on the web and disconnected.

IV.   MODULE DESCRIPTION

The system resembles a unit which will be kept in bag or it's a wearable belt, which comprises of following modules in its design.

4.1 Global Positioning System (GPS): -

fig 3: gps receiver.

GPS is used to locate the longitude, latitude of the victim. The GPS tracks the location of the victim if any of the sensors shows bad output. The latitude and longitude of the location is tracked and the location is sent. The emergency text message can be sent by the offline messaging service. This safety device uses GPS tracker to get the position / location of the victim and attaches it with the captured image of the attacker in the Email service that is online message service is used. It is a course and accurate arranging gadget, tracks the zone as longitude and extension based. The GPS Coder Module used this information to glance through a cautious area of that territory as the street name, contiguous convergence, etc. In case where GPS is impeded then the structure will simply send the longitude and extension.

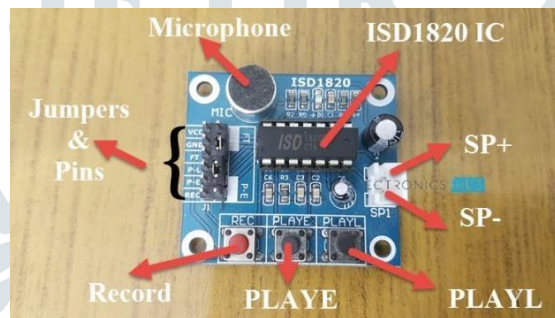### 4.2 PANIC Key and Voice Recorder:-

fig 4: voice recorder

A frenzy key can initiates the framework in single tick, which sends the message including the client area to the enrolled contacts. ISD1820 voice recorder module can be used in various small-scale applications like

- Security Systems
- Accident voice recordings
- Record message during collisions

4.3 GSM System: -

SIM card is implanted inside the mobile phone to send and get the messages using GPRS. The GSM SIM card number is enrolled with the system. With growing use of GSM, orchestrate organizations are reached out past talk correspondence to join various other custom applications, machine computerization and machine to machine correspondence.

fig 5: gsm module

4.4 RASPBERRY PI 3:-

Raspberry Pi board is the core of the framework. Battery is utilized to give supply to the framework. When ladies press the crisis switch raspberry pi board will get the flag and triggers the GPS. While GPS module gather the present area and send SMS through GSM module to the put away/enrolled numbers. Same time raspberry pi camera will jump on and catch picture and all the while sound player will record the voice note. The proposed structure will manage basic issues looked by ladies in the close past and will understand them with mechanically stable gear's and thoughts.

fig 6: raspberry pi3

4.5 l RASPBERRY PI CAMERA

Raspberry Pi Camera bolsters all updates of the Pi and the highlights of this Raspberry Pi camera are enrolled beneath

- 5 megapixel Omni vision camera module.
- The camera is equipped for 2592 x 1944 pixel static pictures.
- Video Support 1080p30, 720p60 and 640x480p60/90 video record.
- Dimension/size: 20 x 25 x 9mm.
- Compatible with both A and B models of Raspberry pi.
- Weighs simply over 3g, making it ideal for versatile or different applications where size and weight are imperative. The sensor itself has a still resolution of 5 megapixels, and has a settled center focal point installed.

fig 7: raspberry pi camera

V. RESULTS AND CONCLUSION

The ladies wellbeing gadget is to accomplish an exactness of the area, the caught pictures and sound can be utilized to partner or connection suspects. This framework can conquer the dread that panics each lady in the nation about her wellbeing and security. The wrongdoing (attacks, burglary, rape, aggressive behavior at home) against the ladies can be presently finished with the assistance of genuine framework execution of this proposed paper. This structure can beat the fear that panics every woman in the country about her prosperity and security. Accordingly, a clarified system that highlights new vistas for developing progressively solid picture division strategy is abundantly searched for. Our endeavor behind this paper is to outline and make a contraption which is so conventionalist in it that gives perfect position of cover. The major point of convergence of this structure is that the client does not require a Smartphone not under any condition like particular applications that have been made already. The device outfits with every one of the components which will examine each probability to help the trap in any kind of emergency conditions. The gadget moreover contains human administrations system for patients and the people who required essential thought.

REFERENCES

[1]   Parth Sethi, Lakshey Juneja, Punit Gupta and Kaushlendra Kumar Pandey "Safe Sole Distress Alarm System for Female Security Using IOT", Springer Nature Singapore Ptc Ltd. 2018.

[2]   ASWINI A, Dr. J. PREETHI, "Smart Self-Defense Gadget For Women's Safety Using IoT",
(IJREAM) ISSN : 2454-9150 Special Issue - NCCT - 2018.

[3]   R.A.Jain, Aditya.Patil, Prasenjeet Nikam, Shubham More, Saurabh Totewar – "WOMEN'S SAFETY USING IOT", published in IRJET, vol.4, issue.05, 2017.

[4]   Pooshkar Rajiv, Rohit Raj, Mahesh Chandra "The Email Based Remote Access and Surveillance System   for   Smart   Home   Infrastructure",   Perspectives in Science, http://dx.doi.org/doi:10.1016/j.pisc.2016.04. 104, 2016.

[5]   ] M. Pradeep, R. Abinya, S. Sathya Anandhi And S. Soundarya , "DYNAMIC SMART ALERT SERVICE FOR WOMEN SAFETY SYSTEM", published in International Journal of Communication and Computer Technologies Volume 05– No. 18, Issue: 01- ISSN NO: 2278-9723 Volume 05 – No.18, Issue: 01 Page 115 International Journal of Communication and Computer Technologies, 2017.

[6]   Aroma Angelin, P.Deepika – "WOMEN'S SAFETY SYSTEM USING RASPBERRY PI", published in IJIRAS, vol.4, Issue.3, 2017.

[7]   Asmita Pawar, Pratiksha Sagare, Tejal Sasane and Kiran Shinde, "Smart Security Solution for Women and Children Safety Based on GPS Using IOT", March 2017.

[8]   Swapnali N.Gadhave1, Saloni D. Kale2, Sonali N. Shinde3, Prof. Amol C. Bhosale4, "Electronic Jacket For Women Safety", IRJET, May 2017.

[9]   S. Krishna Priyanka1, Tatavarthi Tarun2, Venkata Vamsi Krishna3, "IOT for Women Safety", IJARSE, September 2017.

[10]   Shubham Sharma1, Fasil Ayaz2, Rajan Sharma3, Divya Jain4, "IoT Based Women Safety Device using ARM7", IJESC, May 2017.

[11]   http://www.xojane.com/fashion/pretty-weaponry-girly-warfare