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DEVELOPING AN INTEGRATED SYSTEM BASED ON INTERNET OF THINGS (IoT) TO ENHANCE WOMEN SAFETY SYSTEM

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ABSTRACT

Recently, the rise in women's harassment has been a concerning societal issue. The only thing that concerns women is when they will move freely, even at odd hours, without thinking about security. In a recent report of India, 848 women were raped, killed and harassed daily. That's a huge number. In this research, we propose an idea that helps women wander freely. It's a feat achievement when the media shows more of the achievement of women rather than a crime against women. Since we (humans) can't respond aptly in critical situation, the need for a device which automatically faculties and protect the victim is the endeavour of our idea in this research. We propose to have a device which is the integration of multiple sensors such as accelerometer, vibration sensor and pulse sensor. The hardware comprises of a device which continuously communicate with smart phone has access to the web. The application is programmed and loaded with all the requires data which includes human behaviours and reactions to different situations. Like anger, fear, and anxiety. This generates a signal which is transmitted to the smart phone. The software or application has access to GPS, which is reprogrammed in such a way that whenever it receives the emergency signal, it can send a help request along with the location coordinates to the respective person.

INTRODUCTION

In the current situation, women stay mindful of men all around life, be that as it may, to the detriment of being given irritating violence and savagery out in the open and, surprisingly, in their own homes. They can't leave their homes at whatever point of the day. They can't wear pieces of clothing as demonstrated by their will and can't go to work as one. There is a disgrace towards women that crushes their sensations of chance and subverts their trust and dreams. In light of the above factors, it is very certain that there is a striving need for ladies' security in the country. This paper makes the strength of a protection contraption arranged essentially to serve the justification for giving security to ladies. Subsequently, they never experience frailty while overseeing such friendly mentioning conditions. A moving structure can be gathered to help ladies at risk. In this paper, we are utilizing Raspberry pi, which is a minimal expense and can be versatile, and we utilize a temperature sensor, GSM, GPS, and a Camera module. Our paper utilizes three different ways of associating with the concerned specialists. For ladies' security frailty, we made an incredibly smaller gadget that might be set off by using the victim by simply tapping the button and utilization of temperature and pulse, and voice information incorporated into the raspberry pi.

IoT is a plan of associated sensors, enrolling and high-level devices spread over the globe over the web, which can pass among them on to share and move information using special id, which is consigned to every contraption, as UIDs (remarkable identifiers). With the improvement of different business premises and social orders, the fixation on modernizing these premises has extended. The application sends an alarm via an SMS with the individual's area to the designed gathering through the Global Positioning System (GPS), and the caught image of the occurrence is put away in a distant outer server. The application likewise settles on a telephone decision to one of the oversaw contacts. It can likewise be utilized in the event of an endeavoured attack, mishap, family crisis and chain grabbing. This application can be an occurrence. Likewise, it can be utilized by an individual. The clients should submit individual subtleties, for example, email IDs and crisis contact numbers. The clients can design their contacts list, including direct relations and companions.

PROPOSED WORK

Our framework fills in as an android telephone-based innovation to follow the guilty party with the recognizable geological proof of the occurrence. The clients should submit individual subtleties, for example, email IDs and crisis contact numbers. The clients can design their contacts list, including direct relations and companions. During basic occurrences, our application will save the lady by suggesting the close police headquarters protect her and give data to her loved ones.

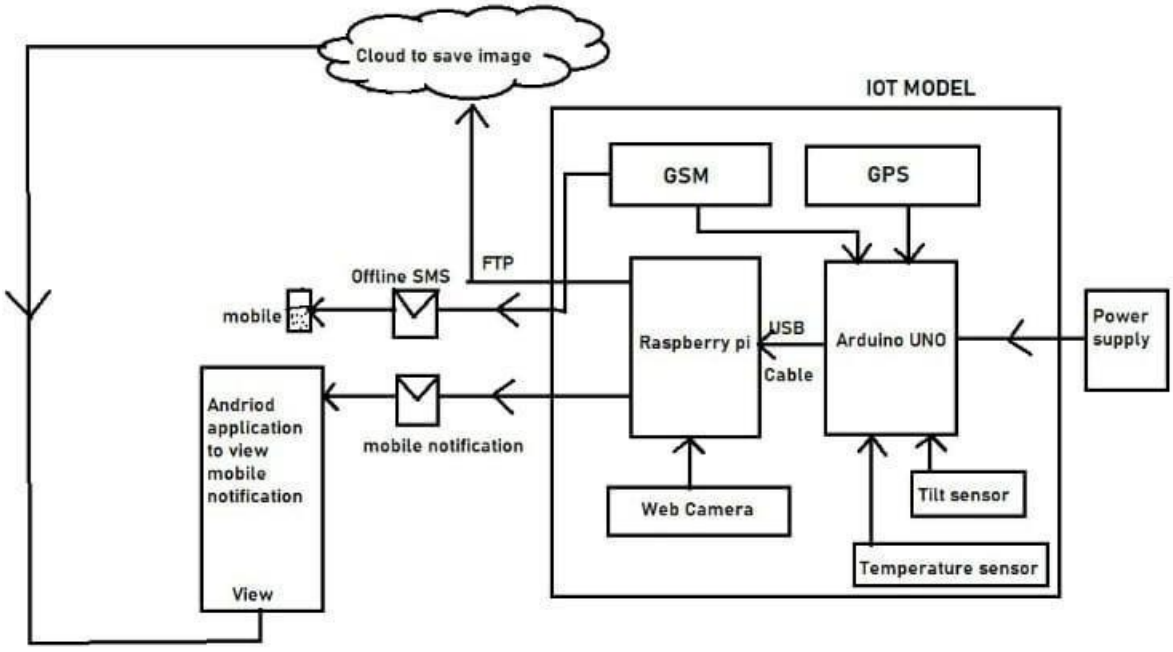

Fig 1 shows the block chart of the proposed work. The framework design contains the power supply, Arduino, temperature sensor, raspberry pi module, camera, GPS, GSM, and an emergency signal that goes about as a contribution to the gadget.

A. Power supply

This is a 5v Micro USB power connector into which you can plug your viable gadget.

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Arduino UNO is a microcontroller with underlying RAM, ROM, and inherent memory space. It is utilized for versatility purposes. It has 14 computerized and 6 simple pins, a power pins segment (Vin/Vout is 5V), Crystal Oscillator(16MHz), and Register ICatmega328P.DHT11 sensor estimates the temperature and dampness of the encompassing region of the water and sends the information to the regulator.

B. Raspberry pi

.Raspberry Pi is a versatile microcontroller upheld by the most recent programming language. It upholds numerous OS very much like the profundity of the machine to perform different cycles before the information is shipped off the cloud. It chips away at fewer power associations and ought to have the option to make focal points for the closest Wi-Fi gadgets. It is likewise open or controlled from a remote spot. Accordingly, it is additionally called an IOT centre.

C.GSM (Global framework for portable correspondence)

GSM (Global portable correspondence framework) sends preset messages to the family and police control room. A chip or circuit lays out the correspondence between a gadget or a registering machine and a GSM or GPRS framework. It works with a recurrence of 2.4GHz for 4G web. SIM800 module is utilized for this sort of correspondence. The GSM module speaks with the microcontroller through the UART port, which upholds SIMCOM upgraded AT Commands.

D.GPS (Global situating framework)

GPS gives data about the area of the casualty's scope and longitude. Here we utilize the SKG13BL GPS module. It is an extended outside receiving wire with a working recurrence of 1575MHz and a working voltage of 3-5V. The information synchronization is high in this sort of module. NMEA-National Marine Electronics Authority is utilized to get information from satellites.

E. Temperature Sensor

The Dallas temperature (DS18B20) is a waterproof sensor utilized for detecting surrounding temperature and stickiness. It comprises a detecting temperature handle and chiefly has three pins Red-VCC, Black-Ground and Yellow-Data.

F. Web Camera

A web camera is a camera that catches pictures and recordings through a PC organization. These are more modest in size.

G. Signal for an emergency response

The signal for an emergency response is an electronic gadget utilized in crisis circumstances to caution somebody when the casualty is at serious risk. This gadget gets enacted when a singular call for help. It is a resistive sensor and can't get steady information.

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H. Tilt Sensor

A Tilt sensor is a little gadget used to detect the body tendency concerning the reference plane (point of tendency 0 to 140 degrees). At the point when the result of the sensor is high, it sends the portable notice to the crisis numbers.

WORKING

• The gadget is turned ON manually by the lady when the switch is pushed, specifically misuse.

• The Raspberry pi will get initiated when it gets a sign from the press button.

• It sets off the camera to catch the picture, GPS tracks the area, and the GSM module will send the picture and area as a message to the individual.

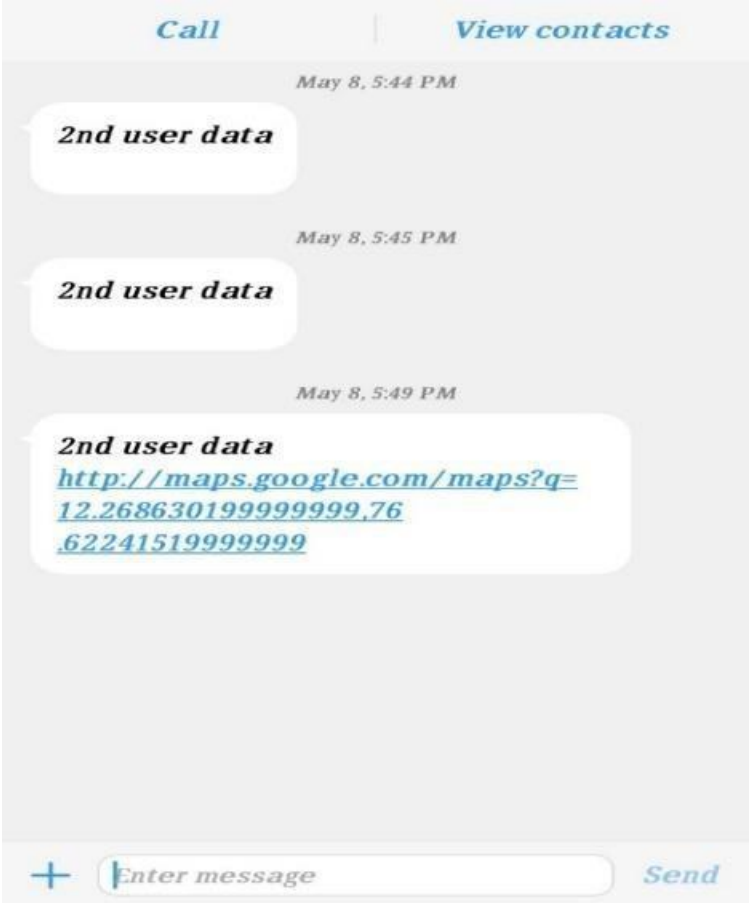
• Here, the TTL module will be worked as an extension for the GSM module and GPS. It additionally divides the information among the

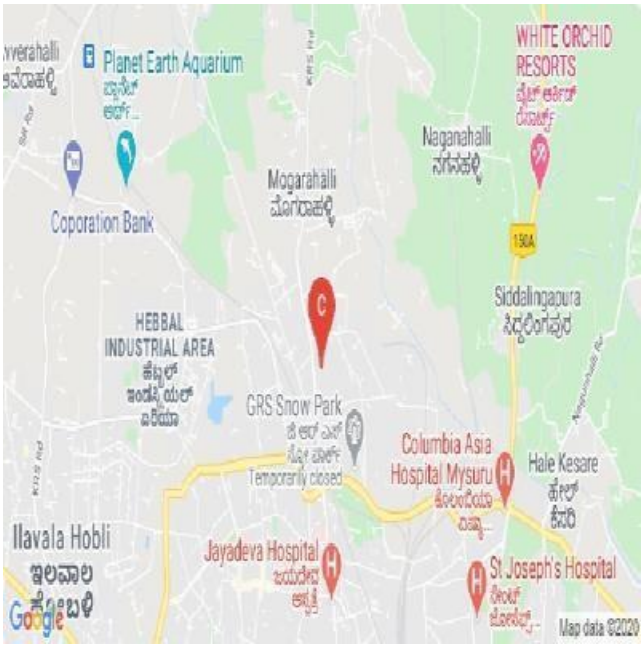
GSM and GPS.

• The caught picture and area will be shipped off crisis contact and sent to your telephone and police by means of the cell phone.

RESULT

This part addresses the showcase of the task model with the utilization of device raspberry pi to get results. We involve Embedded C as the programming language. With this product, we obtain the result of our task.





CONCLUSIONS

The recent technique is not strong enough, which helps women from being harassed. The main objective is fast and low cost. This research will allow women to quickly perceive themselves

with the concerned authorities when they find themselves in danger. This technique is used for alerting. The warning will be automatically sent.

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