

Enhancing women safety and Security Smart Identification System using Internet of Things (IOT)

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Abstract:

When a problem signal is received, software or application can connect to pre-arranged GPS administrations, enabling a request for assistance and area communication to be addressed to the nearest police headquarters, family members, and individuals who have applied for a local area. This action helps the police and the immediate community to get assistance instantly, and they will arrive at the casualty in a timely manner. This intervention enables the police and the local community to receive immediate assistance, and they will arrive in a timely manner.

Keywords: Raspberry pi, Heartbeat sensor, Pressure sensor, Tilt sensor, Vibration sensor, SOS button.

Objective:

This article proposes a snappy reaction that can help ladies in the midst of emergency. At the point when somebody is bothering you, they can press the catch appended to the gadget, and the area data will be shipped off some crisis calls of predefined length and length as SMS notice. The microcontroller utilized is Raspberry pi. Associated with catches, GPS module, and GSM modem.

Introduction:

According to the measurable examination of the World Health Organization (WHO), about 32% of grown-up passing's on the planet and in India are brought about via cardiovascular infections 1-4. These incorporate different heart-related sicknesses, including coronary illness (coronary illness), ligament coronary illness, (hypertension), cerebrovascular infection (stroke), cardiovascular sickness, intrinsic coronary illness and heart failure¹. As indicated by flow insights, India will before long turn into the country with the most elevated pace of coronary illness on the planet[10,11,12].

Literature survey:

B.Vijaylakshmi et.al [1] This framework chapter explains a low-cost, quick-response mechanism for individuals, especially women, in which a woman in trouble may request assistance by pressing a button on a smart device. The Women's Self-Defense System resembles a wearable device for women. With innovation embedded into a small unit, it has the potential to benefit women. When a girl wearing this piece of technology as a watch or band is harassed or suspects that someone is about to harass her, When she clicks a button on her watch or device, or even when she falls, the details of the attack, as well as her body position and location, are sent as an SMS warning to a few pre-defined helplines. And help is on the way!

Himadri Nath Saha, SupratimAuddy et.al [2] Life is a level of ease of use and metabolic capability of organic entities. For individuals, whenever they have gone through physical, mental, mental and social change, it is the force of people or networks to adjust and control themselves. Following the existence of a patient beneficiary can be an overwhelming assignment. Patients with intermittent ailments ought to be given extraordinary consideration and their friends and family ought to be instructed about their wellbeing at work. In this article, we will probably screen patients' wellbeing with the assistance of nervous system specialists and the Internet. The Internet is utilized to tell their friends and family if there is opposition. A wellbeing registration framework can follow a patient's pulse, pulse, pressure, temperature, and so forth.

Swapnali N. Gadhve et.al [3] This work concentrates on women's safeguard and making them feel safe. Since women are being molested, abducted, and abused by drivers, this section illustrates a women's protection electronic framework for public transportation vehicles on the road. Games, dancing, learning, corporation, and political are just a few of the places where women have a major impact. Women are in power in every industry. Is it true that Indian women are protected? We often receive a negative response. As a consequence a Raspberry Pi model board controls GPS, GSM, Video, Shocking Circuit, Burglar alarm, and Memory Stick, all of which are controlled by the jacket [13,14,15].

Niket Patil et.al [4] This paper describes a military well-being monitoring and checking system based on the Internet of Things (IoT). The new methodology can be implanted into a fighter's body and used to monitor their health and location using Location services. The Internet of Things will be used to transport this data to the control room. The proposed framework incorporates compact actual gadgets, sensors, and transmission modules. Consequently, by utilizing the proposed gear, a more affordable cycle can be performed to ensure valuable lives on the combat zone.

Ahmed Abdelgawad¹, Ahmed Khattab², Kumar Yelamarthi¹ et.al [5]

The Internet of Things (IoT) has been generally used to interface accessible clinical benefits and to give astute, solid and viable clinical benefits for the older. Observing of dynamic and helped living is one of the models that can utilize the Internet of Things to improve the personal satisfaction of more seasoned individuals. In this article, we propose a redid IoT plan for wellbeing applications. Proposed structures gather information and move it to the cloud, where it is handled and examined. Clients may receive reaction details based on the findings of the investigation. To demonstrate the operational benefits of a proposed development, an illustration was made [16,17].

Existing system:

With this as a main priority, numerous designers have proposed inventive projects. A portion of these applications are: * 91 # and different codes that are utilized to give crisis administrations, which will make the police aware of their control. The free portable application "Help me on versatile" (guarantee portable security) has been dispatched to console ladies needing crisis care.

These projects can achieve this undertaking with a solitary snap. Nonetheless, when a young lady is in a difficult situation, it can now and then reason the young lady to be not able to answer calls and press catches.

Disadvantages of existing system:

All the existing system made up with gps and gsm that makes circuit bulky so it's not possible to pick the module and press the sos button at critical time

By using Gsm and gps makes cost level increase its not affordable for all Maintenance needed periodically

Proposed system:

We use multiple sensor for the safety purpose like flux sensor, vibration sensor, tilt sensor, heartbeat sensor, shock sensor and GPS and raspberry pi

The GPS is used to identify location

Heartbeat sensor is used to identify the heartbeat level if any critical level means heartbeat level is high by using IOT sends message alert to police and also to the home

If any Harassment is happening means tilt and vibration become high by using IOT sends message alert to police and also to the home

Advantages:

Internet connected to module so monitor at anywhere there is no distance parameter

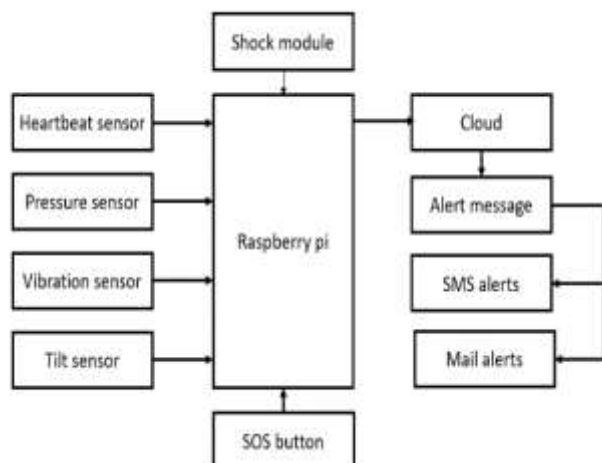
All the sensor are very small in size and portable to handle at any condition

No needed for help by someone it's very easy to give shock to the person (self-protect)

User friendly, low cost affordable for all

Block diagram:

Component required:



HARDWARE USED:

- Raspberry pi
- Heartbeat sensor
- Pressure sensor
- Tilt sensor
- Vibration sensor
- SOS button

SOFTWARE USED:

- Arduino c

RASPBERRY PI:



Figure 1:Raspberry Pi

Raspberry Pi is a line of small single-PC computers developed by the Raspberry Pi Foundation in the Commonwealth to stimulate crucial software engineering education in schools and developing economies.

The first model turned out to be more mainstream than anticipated and sold out the objective market for the robot application. Avoid input (like console, mouse, and shell). Nonetheless, a few connections have been remembered for some authority and illicit beans.

Heartbeat sensor:



Figure 2:Heartbeat sensor

The heartbeat sensor gives a simple method to become familiar with the pulse, which can be estimated dependent on the standards of mental and actual signs utilized as a genuine program boost. The measure of blood on the finger changes over the long run

The sensor enlightens the brilliant flap (a little splendid LED) in the ear and measures the light communicated to the photoresistor.

Adjust the intensified sign to the circuit. To compute the pulse dependent on the blood stream of the finger, the pulse is incorporated with the assistance of the LM358 OP-AMP pulse screen

Pressure sensor:



Figure 3: Pressure sensor

This Bosch accuracy sensor is the most cost-effective solution for estimating pressing factor and gaseous stress. You may also use it as an altimeter since the pressing factor varies with elevation. A 3.3V controller, I2C level shift lever, and I2C anchor pull-up resistor are used to link the sensor to a PCB.

The BMP180 is Bosch's succeeding sensor, which upgrades the BMP085. The excellent thing is that it is similar to the BMP085 in terms of firmware/software - you can use our BMP085 tutorial and any example code/libraries as a drop-in replacement. The XCLR pin is not physically present on the BMP180 so if you need to know that data is ready you will need to query the I2C bus.

VIBRATION SENSOR:



Figure 4: Vibration sensor

Use suitable sensors to give delicate execution data. Both the machine and the individual dealing with the machine, the machine can work under safe conditions.

Various working conditions, such as high temperature, attractive power, vibration frequency, recurrence scope, electromagnetic coefficient (EMC), and electrolytic outflow conditions, as well as the necessary sign reliability, necessitate the use of a variety of sensors.

Tilt sensor:



Figure 5: Tilt sensor

An **accelerometer** is a device used to gauge the speed of development or development of a structure. The power brought about by vibrations or changes moving (speeding up) makes the item "choke" the piezoelectric material, making an electrical charge with respect to the power applied on it.

- The **accelerometer** is an electromechanical gadget used to gauge speed. Such force can be static, as constant gravitational power, or, as most cell phones, it tends to be incredible to hear development or vibration. Speed is a proportion of the adjustment in speed or speed isolated by time.
- **Accelerometers** can be utilized to quantify vibrations in vehicles, hardware, structures, measure control frameworks and security gadgets. They can likewise be utilized to gauge quake action, incline, vibration, rotational distance and speed, without gravity.

SOS button:



Figure 6: SOS button

By utilizing the **SOS** key, you can send custom SMS messages (counting your present area) to up to three contacts depicted in the accompanying manners

After opening the Samsung **SOS** work, this implies that on the off chance that you press the lock key multiple times, the gadget will consequently send the message "SOS" and show a connection that will demonstrate your area when it is opened. The "Area Alert" application is introduced on the gadget.

This component is designated "**Emergency SOS**" and is presented as a feature of WatchOS 4 and iOS 11. (There is a comparable capacity on Android.) The nuts and bolts are basic: on the off chance that you are at serious risk or need assistance, squeezing and holding the suitable catch permits you to request help without focusing.

Application:

It's being used to keep a woman safe.

It will be used to monitor youngsters during the school term.

It will be used in a monitoring and safety system for automobiles.

It could be used to supervise wild creatures.

Conclusion:

A safety device for women has been constructed, which includes GPS and three different sensors. This could be helpful to society in the emergency situation.

By watching their location, the GPS automatically sends a signal to the local police station and relations. Women can be able to travel freely anywhere they want as a result of this.

Screenshots:



Figure 7: Alert message

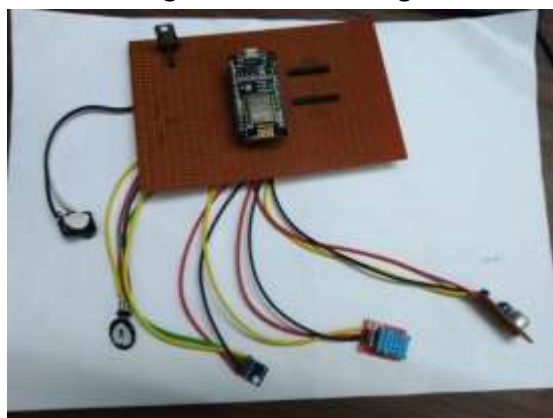


Figure 8: Device

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