SMART SECURITY DEVICE FOR WOMEN SAFETY USING IoT

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ABSTRACT

Today, the current global television, the main question in the mind of every girl, because of the increasing problems facing the women in the recent past, most security. The fact that places it can move freely, with all the single girl, with neither point to without worrying about safe hours of the odd. This article is to use technology to offer a new perspective of the women to safety. "848 Indian women are harassed, raped, killed all day!!" The huge number no more! He takes into consideration women an idea of the salvation of each one of us, how he put up. One of the day's broadcast media achievements many women harassment is a perfect song? When (people) are not in critical situations correctly answer the need for the device that saves the victim discovered and to our wonderful idea in this article. It is our purpose is the integration of many devices has a device that supports the hardware includes a "smart strip" laptop that constantly comes to a smartphone that has Internet access. Application is programmed and loaded with the required information, including how human behavior and perception, like anger, fear, and anxiety. With the help of any electronic devices, store data from the system controller can operate freely through understanding.

Keywords: Arduino mega, Nodemcu, Zig bee modules, LCD, GPS, GSM, Buzzer.

INTRODUCTION:

This is not a major problem in the region and to the women, the example of the increase of all. Here, many texts brought by the government. But the issues are not reduced. For emergency communications system (ECS) (usually computerized) Setting the first hope in one-way communication and information between the two victims as

Unlike emergency information systems, which typically provide emergency information in one direction, it can be almost as emergency communication systems among many parties and to receive information. These systems are often from sensors, microcontrollers, device IOT (WiFi shield), GSM. Hence, from the data of the

various sources and can come to the places of origin, from which these particulars or the scope of the reason is not that they are cast, for a pattern to those who hear. They plotted to belong to a body called the Internet of all electronic lorem. Confidentiality is very high in the Internet of Things. This is very useful for people to develop smart security. And the organs of sensation that are exposed to things which are therein, that they may not trigger an automatic response button. It can take up to founding the city of women, such as the pain of the salvation of these people was gathered.

LITERATURE SURVEY

1. Health Monitoring Laboratories by Interfacing Physiological Sensors to Mobile Android Devices:

This paper describes, Android Java-DSP (AJDSP) as a mobile application that interfaces with sensors and enables simulation. This also helped in the visualization of signal processing. In this system firstly there is the creation of an interface between both external sensors and on-board device sensors for monitoring the physiological parameter of the human being. This paper also explored the trend of mobile sensing and adapted it towards improving digital signal processing (DSP), by building interfaces to medical sensors and external sensors. In this paper, there is the use of SHIMMER. It is a small wireless low power sensor International Journal of Advance Foundation and Research in Computer platform that can record and transmit physiological (Health-related like ECG) and kinematic data in real-time. The drawback of this system is that it only monitors the patient which is admitted to the hospital. In this low power, the sensor is used.

2. Smart Elderly Home Monitoring System with an Android Phone

This paper considers or takes into account certain facts, which are heart attack and stroke as they are the major cause of hospitalization of the elder people. There are more chances of survival if the older people get the treatment within an hour. it had also been developed. An android smartphone with an accelerometer is used to detect a fall of the carrier, and this android device is known as a healthcare device. The android phone is then connected to the monitoring system by using the TCP/IP protocol through Wi-Fi. Because of this system, elderly and chronically ill patients can stay independently in their own homes and secure in the knowledge that they are being monitored. The drawback of this system is that it only considers elder people as there are more chances of a sudden (emergency) outbreak in them like heart attack and stroke.

3. Design and Implementation of Wearable ECG System:

This system describes the design and implementation part of wearable ECG with the smartphone for the real-time monitoring of health. In this system, a smart shirt is developed with ECG sensors and can be worn by any type of patient for monitoring his or her health in real-time and get the required treatment or prescription. These systems are mainly developed considering elder people in mind as they live alone in their homes. Therefore this system monitors elderly people for self-diagnosis purposes. The result of this system was the system could monitor and diagnose patients' heart conditions in real-time, when they wear a sports-shirt with an ECG sensor in it. In addition to this, the system also provides graphical information with history management tools and an automatic

emergency call system to the patient to get the required treatment in time. The drawback of the system is that it only concentrates on elder people and it includes a shirt (ECG sensor) for wearing which costs a lot.

4. Remote patient monitoring system:

This paper provides the image-based system which acquires the ECG signal via digital camera; this information is performed on the tool like MATLAB and data sending through the internet network and stored in a database. Then the original image is then availed to the doctor via Android mobiles. The purpose of this system is the vital signs and parameters from the ICU monitoring system and makes this data to be available to the doctor who may not be in the hospital and the country. In case of any abnormality, the doctor is alerted by sending a notification from the C2DM server to his mobile. The drawback of this paper is that due to the slow internet connection the data will not be sent to the doctor which is located remotely. The image is captured through the camera, which must be HD which cost a lot

5. Hospital Health Care Monitoring System using Wireless Sensors Network:

In this paper, there is the continuous observation of the patient's physiological parameters such as blood pressure of the patient as well as heart rate. This system is mainly useful for pregnant women to measure the various parameters like blood pressure, heartbeat and fatal movement to control the health issue. This system has to monitor more than one patient at a time and easily able to sense the blood pressure (BP) and heart rate of the patients. In this system, there is a sensor node attached to the body of the patient to measure signals from the wireless sensors and sends these signals to the database. This system can detect the abnormal conditions of the patient, raise an alarm to the patient and sends an SMS/Email to the doctor for treatment. The main advantage of this system is to increase the freedom for enhancing the patient's quality of life. The demerit of this system is that in this the patients need to get admitted to the hospital for continuous monitoring of the patient's physiological parameters. This WSN gets complicated if several patients are admitted in the hospital beyond the specified limit.

These papers tell us that mobile health uses embedded sensors and their applications 1. Microphone Sensors-Use to access patients feel i.e. my tonic syndrome 2. Camera Sensors-Provides information about images and videos. 3. Acidometer Sensors-Purpose of this system is to track the person's physical activity. The purpose of this paper is to use applications embedded in mobile phone sensors. The drawback of this system is that various sensors are used which cost a lot.

6.Wireless Health and the Smart Phone Conundrum

This paper tells us that, they implemented wireless healthcare by sensor communication, data processing, data visualization, etc on different mobile platforms. There is a central controller for wireless health applications. They developed libraries for particular mobile devices to implement health care on different platforms. CDMA and UTMS have more networks then Bluetooth and Wi-Fi, and all this cellular connectivity is supported by mobile platforms. They started by, assessing the best smartphone platform for health care, next they determine the runtime environment to the smartphone platform and finally, they developed the wireless health

application for that particular platform. They provide a different and better-debugging environment for different platforms. The drawback of this paper is that they do not represent the complete wireless health software library

Existing system:

- Having this concern in mind many developers have come up with creative applications. Some of such applications are: Codes like *91# is used to provide emergency services, which will alert police control. The free mobile application 'Help me on mobile' to ensure the safety of women was launched to assist those who need emergency.
- These applications need a single click to do this task. But when a girl is in trouble, there can be times that the girl is not capable of taking the phone and pressing button.

Drawbacks of the existing system:

- There is no device that helps women at emergency automatically.
- There is no system to take immediate action for women's safety automatically.

Proposed system:

We use multiple sensors for safety purposes like flux sensor, vibration sensor, tilt sensor, heartbeat sensor, shock sensor, and GPS. GPS is used to identify the 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. If anyone touches means shock

sensor is activated and then shock the person.

Advantages of the proposed system:

- Internet-connected to the 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 a shock to the person (self-protect)
- User friendly, low cost affordable for all

BLOCK DIAGRAM
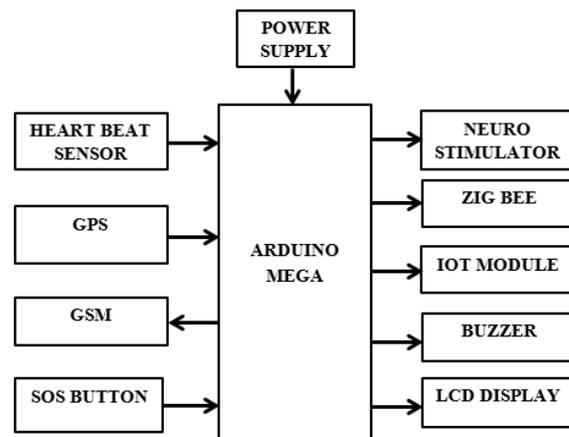
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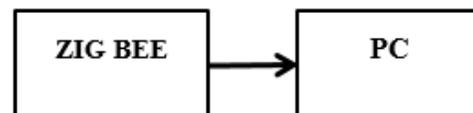
HARDWARE REQUIREMENTS:

- Arduino mega
- GPS
- LCD
- GSM
- IoT module (Nodemcu)
- Zig bee (2)
- SOS button(2)

- Buzzer
- Heartbeat sensor

SOFTWARE REQUIREMENTS:

- Arduino ide
- Embedded c

HARDWARE EXPLANATION:

ARDUINO MICRO-CONTROLLER

INTRODUCTION TO ARDUINO:

Arduino is one of the main heart of the system. It is one type of microcontroller. The Arduino is used as an ATMEGA 2560P is the microcontroller. And it haves 54 digital I/O pins and 16 analog pins, so we can easily use to connect the number of sensors to this development board. The programing and software tool is an open-source platform.

GPS:

GPS module is used for the location tracking device, here we can use to find the women location tracking when the women press the SOS button it will track the live location of the device. So we can easily find out and

save women and children. Nowadays it is very useful.

LCD:

LCD is used to monitor the women's heartbeat. When the women have to get harassment by someone her heartbeat is sudden raises. So we can continuously monitor heartbeat using LCD. And also we can monitor location.
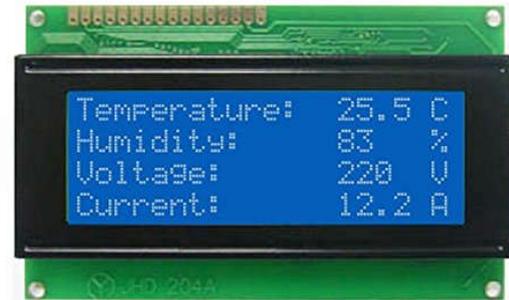

GSM

GSM is used to send a message to the parent and informs to police by using the microcontroller. When the children are kidnaped or women get harassment by someone then it will send the message to parents and police station immediately.

IOT MODULE:

IoT (internet of things) is a trending technology, it is used to continuously monitor the women from any in the world. Suppose our system is connected to this device we can easily save and secure the women's and child's, for continuous monitor we can use an app, here we can use Ubidots Explorer and Ubidots GPS trackers. We are using Nodemcu is the IOT module.
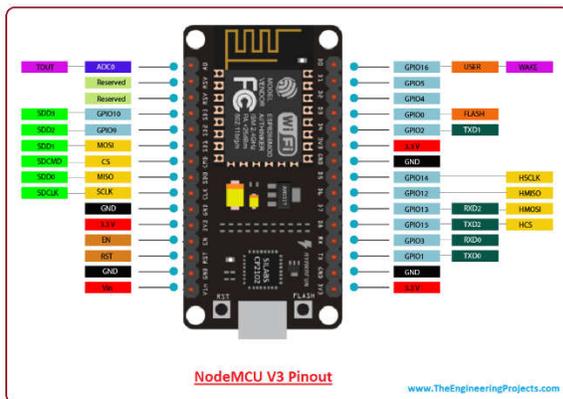
Zig bee:

Zig bee is the advanced technology of the Bluetooth if the Bluetooth shares the information from one end another end within the range is 10 meters only, which is visible for nearby people (women harassment done by someone the Bluetooth send the information around 10 meters). So

we can use the Zig bee technology and the range is 30 to 300 meters it is used for instant helps by someone by nearby people.

Zig bee is the wireless data transmitter from Transmitter to a receiver, where we can connect the transmitter to the women and receiver are placed at who likes to help the people. So nearby any helper's available means she will help by them.


SOS BUTTON:

SOS button is like a switch, it is used to send information and on the buzzer. When the women press the button it will activate and send a message and also share the live location of the device to the police and parents.

HEARTBEAT SENSOR:

This sensor is used to calculate the pulse rate of the persons, we can use this sensor to monitor the pulse rate of the women and child's life. When their pulse rate increased automatically send the information to the family, and also family doctors.
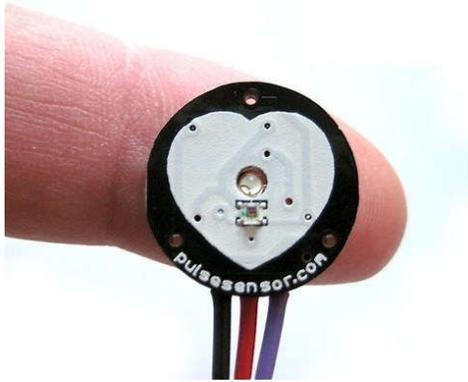
APPLICATION:

- It will be used for the safety of women.
- It will be used for child tracking during school time.
- It will be used in the vehicle tracking & safety system.
- It can be used for wildlife tracking

CONCLUSION:

In this system, we use the microcontroller Arduino Mega (ATmega2560), which acts as the brain of the system is that all the instructions of the system program stored there. Here we have a heart rate sensor to determine the health of other women, women can also manually trigger another device to point out that it is in the emergency. The use of GPS module, so this is a way for the online version is sent out to the person concerned and the public service for immediate action against the women were ordered to attack when using a wireless module and Marcus called Zig bee. Nor do we mean by a person sending a message GSM women. The reason is that women can use neurostimulator to replicate the time of emergency and if we also used to inform others of the emergency alarm device. In a

modern sensor and puts all the information. The operation of the system is to be controlled or pull in aliment.

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