Wireless Smart Device for Women Safety Based on IOT

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Abstract

The current world faces many problems regarding women safety. The top notch question in every woman's mind is when they will be able to move freely in odd hours. The perspective of the project is to propose a new technology for women safety. "848 Indian woman are harassed, raped, killed every day!!". That's away beyond huge number, we design this as for us to reduce the number of harrassements. Since we cannot react or respond immediately to such difficult situations. There is a need of a device that helps to rescue and recover the victim from that condition. The main objective of this project is to automatically sense and protect the victim. We proposed to build a new device which is the composition of multiple devices the hardware comprises of a wearable and protective "Smart Gloves" ,which helps to communicate with the relatives, police stations during any emergency. Sign language can be used so that it will be easier to send a message. When a woman is in trouble there can be times that she may not be able of taking the mobile and pressing the buttons. The software consist of GPS and messaging services in such a way that whenever it receives an emergency signal, it will send help request to the nearby police stations,relatives so that it enables them to take instantaneous help from the message receivers who can reach the victim and protect them from the situation

Keywords - *Touch sensor, Internet of things, Arduino, GPS, GSM, Bread Board .*

I. INTRODUCTION

The paper focuses on a smart security system for woman so that they never feel helpless while facing social challenges.Even in the 21st century ,though the technology is rapidly growing and new devices were developed but still women's and girls are facing problems in the current world. The Internet of things is the network of devices that contain things such as electronics, software, sensors, actuators, and connectivity which allows all the items to connect, interact and exchange data.

The Internet of Things is very emerging and developing concept.The security and privacy is very higher and secured in IoT.It is very useful for develop smart devices for security purposes.The sensors are used in such a way that the responses received from the person will be automatically responded without any triggering actions. This can help the people to overcome many difficult situations like woman security ,smart city development and so on. Sensors such as touch sensors and GPS are used to notify the situation of the person.Touch Sensor is used to identify the movements and then alert the message receivers.GPS is used to identify the location . IOT is used to send the location and message to nearby police station when the victim produces a specific touch that alerts the receivers.If there are different changes found in the touch sensor, then the alert message is sent. We can make use of sensors to precisely detect the current time situation of the women in critical dangerous situations.

The application proposed gives the security system which is designed to help women to do their work with comfort and can go to the places they wanted and freely walk through the environment.Touch sensors and GPRS is used to track location and send messages to nearby police station and relatives.A particular type of touch will be already initialized in the touch sensor so that when the woman shows off particular touch then automatically the alert message will be sent the message receivers.

II. LITERATURE SURVEY

G.C.Harikiran [1] et al focuses on a safety system that is designed particularly to overcome the purpose of providing security to women so that they never feel alone and helpless while facing such social challenges. A system has been built that can detect the location and health condition of person that will enable us to take action accordingly based on electronic gadgets like GPS receiver, body temperature sensor, GSM, Pulse rate sensor.The system has been developed in the form a smart band.The Smart band is been integrated with Smart phone. By integrating the cost of the device and the size will reduced to a large extent The GPS and the GSM can be used of a smartphone in order to track the

location of the user. . This also enables in reduced power use and that the watch can be installed with Bluetooth 4.0 BLE.

Saroja Maralabhavi [2] et al describes the challenges that a woman faces in the current world. Even though the technology has been developed to a greater extent, woman cannot move freely during the odd hours. The paper focuses on creating a smart band that the woman could carry anywhere when they move alone. The Node MCU that plays a vital role in the setup. Node MCU can be used to host the application or to offload Wi-Fi networking functions from another application processor. The device also consists of various components such as Temperature sensor, Motion sensor, Buzzer and a GPS for tracking the particular location of the user .

B.SindhuBala[3] et al explains about when the women face into unsecured situations, to ensure the safety, automatic detection system needs to be developed which send an alert message to the police department and people. In the paper,the author has analyzed that GPS, GSM and sensor can be used to track only users nearby locations and can only send alert SMS to limited people. The accuracy level of detecting violation of women can be improved by sensing more physical human body parameters.

K.Kavya[4] et al proposed a major issue that a woman faces as they can't step out of their house at some times due to physical/ sexual abuse and a fear of violence.In the case of any emergency conditions the user can press a button once then the location information will be tracked and sent to police and family members so that they will be protected in proper time.

R.A.Jain[5] et al proposed a model with a band that will provide a required safety to women so that they can do late night work. Proposed model contains various sensors which will measure different parameters continually. IOT(internet of things) is relatively new and fast-developing concept.The model ensured the security of the women in the society by providing automatic sensing of threats and send the help and position to the relatives and the Police Station using Internet Of Things.

A.Jesudoss[6] et al makes use of multiple sensors like flux sensor, vibration sensor, tilt sensor, heartbeat sensor and GPS are used for safety purposes. The GPS is used to identify the location. 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. Body sensors and GPS is used to track location and send messages to nearby police station and relatives.

S.Krishna Priyanka[7] et al have proposed the system for security of Women Safety. The author

presented a wireless method which will alert and communicate with secure medium. It will also capture image via camera when any problem occurs. When the sensor kit button is pressed the camera will collect the information of user.

This information will be sent to the registered phone number along with the link. This will speed monitoring for Women safety and it can also be done by GPS tracking Mechanism. This GPS can help for women while travelling in bus at night it can locate the traveling routes.

B.Vijayalakshmi [8] et al proposed a scheme to improve the women safety by using GPS and gsm model. A small device with a buzzer and microcontroller is designed, and it can be placed on band or watch. When any insecure situation, the woman can make use of this device to send alert SMS by pressing this buzzer to predefined numbers. But this scheme cannot

generate automatic alert SMS. Instead, it requires the human interaction during a panic situation.

Mr.Amar Saraswat et al [9] proposed a model to sense the heart beat and body temperature using Arduino. LM35 is used for the sensing the body temperature which is a basic parameter for monitoring and diagnosing human health. Heart beat sensor was used for sensing heart rate. This device will allow one to measure their mean arterial pressure (MAP) in about one minute and the

accurate body temperature will be displayed on the Android. Though the system can be used to measure physiological parameters, such as Heart rate (Systolic and diastolic), Pulse rate.

III. MOTIVATION

The challenging situations faced by many women nowadays gave motivation to come up with a smart security device to help the women to do the work they liked to do. The application helps women to overcome their fear and can roam freely and complete their works even in odd hours.They need not worry about any condition and can be able to move anywhere when they wish to do so.This system acts as a protective aid for the woman

IV. PROPOSED SYSTEM

Touch sensor is used to detect the movements of women and the notify their situations to the receivers. GPS and GSM is used to track the location of the victim and send alert message to the receivers. The touch sensor receives the signal from the user and and then activates the gsm.The GSM module produces the latitude and longitude of the current location via the GPS module.The details thus collected from the current

location will be generated in the form of a message and will be sent to the specified receivers.

Since there is only one ground supply available so the one ground supply is given to a breadboard and many 5V supply are provided. This could be very useful for the safety of the woman. Most the woman who used to go for work during the odd hours can carry this device so that they could alert the receivers if they face any dangerous situation.The device is portable so that they could carry it anywhere they go and easy to use.

VII. GLOBAL POSITIONING SYSTEM

GPS systems are tremendously very able to adapt in all situations.In the whole setup the GPS will be fixed Anywhere such as inside the vehicle so it can useful to guide the user s to their destination by using the preinstalled digital maps and pre-recorded voice text or commands .It is used to find the exact location or position of the user including the latitude and the longitude.

VIII. ARDUINO MICROCONTROLLER

Then the location received via the GPS is then transmitted to the receiver with the help of arduino microcontroller. The microcontroller the converts the raw data into processed data from the GPS and then it is displayed as a SMS alert that has been loaded in the Arduino Uno microcontroller. The Arduino UNO is an open-source microcontroller board based on the microchip ATmega328P microcontroller. The microcontroller board is filled with sets of digital and analog input/output pins that may be interfaced to various expansion boards or bread boards and other circuits which includes the sensors, acutators, and some reflectors.

IX. TOUCH SENSOR

A touch sensor is a type of device that captures and records physical touch or embrace on a device and/or object. It enables a device or object to detect touch, typically by a human user or operator.A touch sensor is also called as touch detector.A touch sensor works when an object or when an individual gets in physical contact with it. Unlike a button or switch, touch sensors are more sensitive, and are often able to respond differently to different kinds of touch. The touch sensor is main device used in this setup. Generally the touch sensor acts the hero of this application.When a person or user gives a physical touch through the sensor, the sensor gets activated and begins to get the location where the user is situated so that it will get the message

in the predefined format and starts to alert the message receivers .
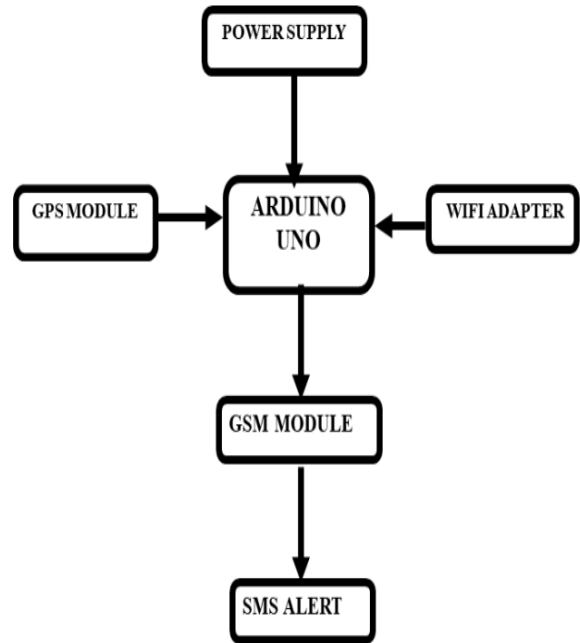
X. BLOCK DIAGRAM

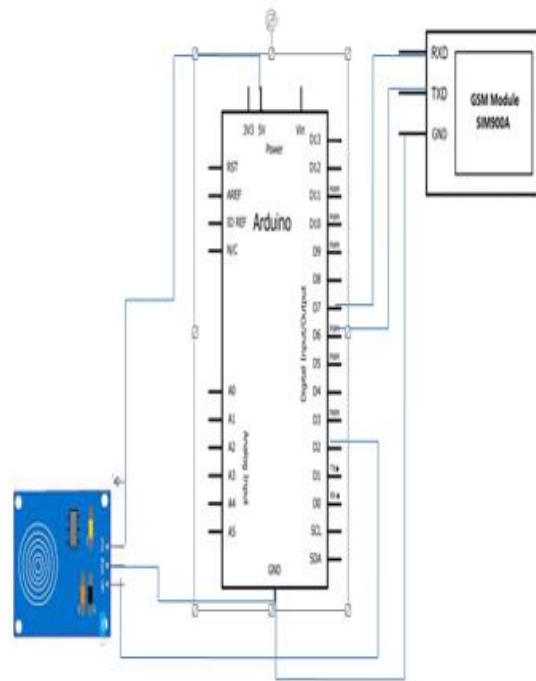**Fig 1.1.Block diagram for the proposed model**

XI. CIRCUIT DIAGRAM

Fig:1.2.Overall flow of the process
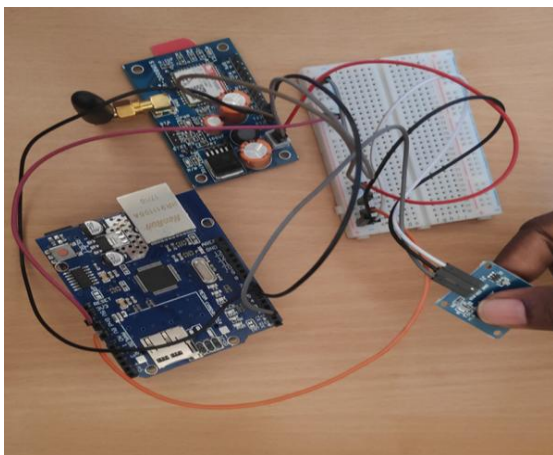
XII. RESULTS

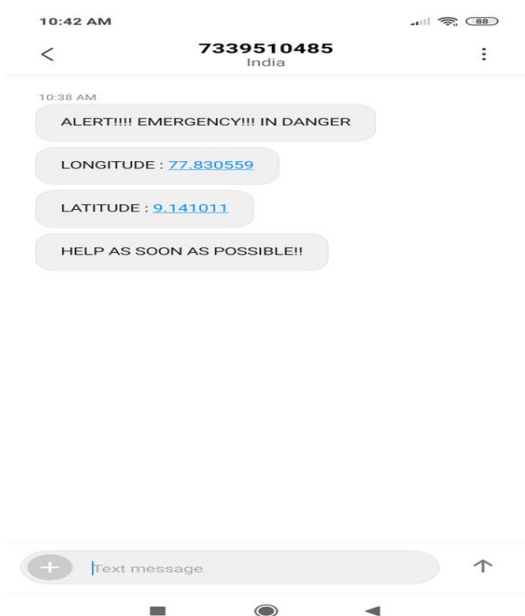
Fig 1.3 Providing alert through touch

Fig 1.4.Receiving Alert via SMS

XIII. CONCLUSION

The device helps the woman community to a larger extent. This will speed monitoring Women's safety can also be done by GPS tracking Mechanism. This GPS can help women while travelling in bus at night by locating the travelling routes.The device can be carried freely from one location to other location. The device is very compact.

With the advancement of the technology in future, nano technology could be also used so that the user could carry it and instead of touch sensor, a method of sign language can be used to make it more confidential and to make a device with high security

presented a wireless method which will alert and communicate with secure medium.

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