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Women Safety Using IoT

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Abstract - *Women Safety Using IOT is one of most important factor. In today's world, women safety has become a major issue as they can't step out of their house at any given time due to fear of physical/sexual abuse and violence This Project presents a women safety detection system using GPS module, GSM module, Accelerometer sensor, Heartbeat sensor. This detection and messaging system is composed of a GPS receiver, Microcontroller and a GSM Modem. GPS Receiver gets the location information from satellites in the form of latitude and longitude. When a women is in danger and in need of self-defense then she can press the switch or use tap also which is allotted to her. By pressing the switch, the entire system will be activated then immediately a SMS will be sent to concern person with location using GSM and GPS. This safety device consists of a microcontroller, a heartbeat sensor, Accelerometer sensor, GPS module, GSM module and an emergency panic button. On sensing the emergency situation, this device fetches the current location of women and sends it to emergency contacts via Global System for Mobile (GSM) module.*

Key Words: **Women Safety, Self Defence, Alert System, GPS, GSM, SMS, Microcontrollers, Safety.**

1. INTRODUCTION

At the present scenario Women are competing with men in every prospect of society. Women contribute fifty percent to the development of our nation. But the women have fear of getting harassed and killed. All these types of women harassment cases are increasing day by day. So it is very important to ensure the safety of women.

The problem with apps is that they tend to be clumsy. The women have to open her phone, unlock it, open the app and then press a button. Also, most of the times, the perpetrators usually go for the phone first. The need is to develop independent devices like safety bands, rings, key rings etc. that can be carried around in disguise and used faster, and which will allow the women to send emergency messages with their location in times of distress.

Communication of alarming situation & prevention of incident has achieved by GPS, GSM technology, and defensive system respectively. With the use of GPS and GSM module live location of that girl will be sent to the parent via cloud server. This is the aim of our system. It Can be avoid number of incidents through the system like automated sensors like heart beat sensor, accelerometer sensor and panic button which it can works also automated to reduce a works in dangerous situation. There is also real time tracking system to track the current location of that girl by their parents in web UI or in an android application. In our system some drawbacks of existing systems are reduced like false alarm conditions using accelerometer sensor.

GSM module is the data to be transmitted to the server.

GPS module is get current location of the girl.

Heart beat sensor is get weather she is in trouble or not.

Panic button is for sending an emergency alert.

Ardino uno is used for processing the gathered data from various sensors.

Accelerometer sensor is used to identify the position of girl.

2. LITERATURE SURVEY

The recently developed solutions for the safety of women include Smartphone Applications, Intelligent Security Systems and Wearable devices. Security device that can be activated in three ways; a voice command, click of a button and when it is thrown with a force. Upon activation, this system sends the location of the device to preselected contacts via an inbuilt GSM module. But during times of distress, it might not always be possible for the user to carry this device in her hand. Also, the attacker might notice the device that the victim is holding another such solution is a one touch alarm system designed to look like a watch. The GSM and GPS module within the device is used to send the user's location to preset SOS contacts when triggered by pressing a button. This device may be aesthetically unappealing to the user and might be noticed by the attacker. Channel V developed an application that is triggered by holding the power button down two times in a row.

Another solution suggested installing an Intelligent Security System in public places that would detect the facial expressions of women. If the expression was suggestive of anger or fear, a message would be sent to the control room. But in situations where a women is angry or upset over any other issue, a false alarm will be triggered. Also, it is not possible to install such surveillance cameras in all areas .The Smartphone based solutions that exist require the user to have access to her phone as all of them are triggered by some action performed on the phone.

2. PROPOSED SYSTEM

2.1 BLOCK DIAGRAM

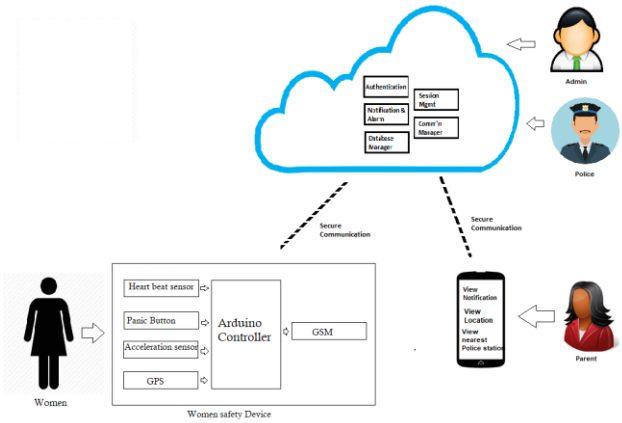

Fig -1: System block diagram

Fig -1 shows the basic work flow of proposed system.

GPS is used to tracking location longitude and latitude.

GSM to send sends message to parent and police station.

Accelerometer sensor used to identify the posiotion of the person.

Heart Beat sensor it can count the heart of the person and count them.

Aurdino uno is used to store date into the system and retrieve it.

LCD display shows the status of overall sytem.

Regulated power supply provide to the system.

2.2 FLOWCHART

Fig -2 shows the basic work flow of proposed system.

In case of sensor generates an alert or alert generated by pressing a panic button that time microcontroller will send current location of Girl using GPS module and microcontroller to the cloud.

Through cloud current location of the victim will be sent to the respective parents and nearby police station via SMS.

This process will continue until device gets reset.

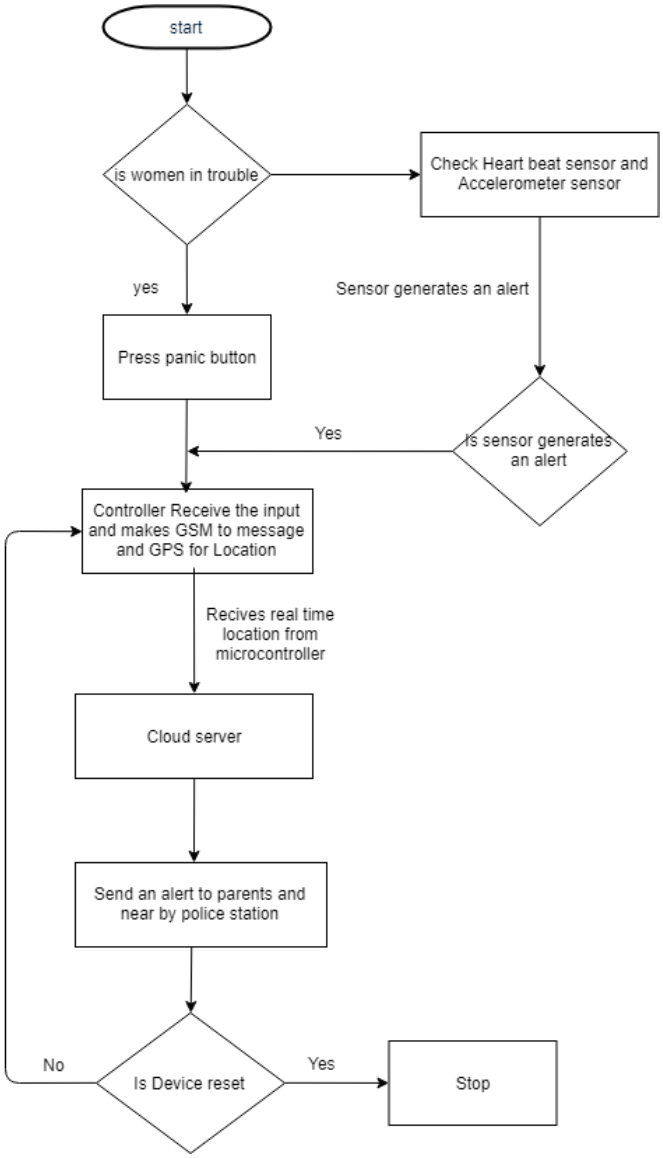

Fig -2: System flow chart

2.3 RESULT AND ANALYSIS

Table -1: Result and analysis

Sr. No	Panic Button	Acceleration sensor values		Heart bit values	Result
		x	y		
1	Pressed 65	350	341	340	Negative
2	Not pressed	66	350	355	Negative
3	Not pressed	108	368	256	Negative
4	Not pressed	110	421	250	Negative
5	Not pressed	70	420	320	Negative

3. CONCLUSIONS

The Women safety Management project is to design and fabricate a gadget which is so compact in itself that provide advantage of personal security system the emergency response system which is helpful for women in the incidents of crime. It is low cost system which can store the data of the members in the particular locality and provide immediate alert in case of crime against women. This provides women security. Being safe and secure is the demand of the day.

The women safety device is capable of securing her in a distress situation. It provides immediate message notification to the near police station and parent which can very critical environment. The family member can locate their women and take necessary action to rescue the women from danger. The safety device can be enhanced much more in the future by using highly compact Arduino uno modules.

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