International Journal of Engineering Science Invention (IJESI)
ISSN (Online): 2319 – 6734, ISSN (Print): 2319 – 6726
www.ijesi.org || PP. 65-67

Women's Safety Measures Through Sensor Device Using Iot

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Abstract: *Nowadays Personal safety has become a problem of significance for everyone, but especially for women. A recent WHO survey indicates that 35 percent of women, globally, experience some form of abuse or physical violence. The count of the victim is increasing day by day. This paper proposes a model which will help to make sure the safety of women. It describes safety electronic device for women, a wearable smart bracelet, that sends alerts to friends, family, as well as the police when they fell they are in problem. The smart device based on IOT uses a low-energy Bluetooth connection to synchronize to an application on the wearer's Smartphone. The application lets the wearer inform her situation in case of a critical situation - to her friends, family members, the police, or a group. The software or application has access to GPS/GSM and Messaging services, which is pre-programmed in such a way that whenever it receives emergency signal, it can send help request along with the location coordinates to the nearest Police station, relatives using emergency keys (SOS). This action enables help instantaneously from the Police who is in the near geographical location, who can reach the victim with great accuracy. The app also uses the Smartphone's record the incident and subsequently transmits the wearer's location along with the audio recording to the police.*

Keywords: *IOT, Microcontroller, GPS/GSM, Google Map, Sensors.*

I. Introduction

Women always having negative thought of herself as the weaker sex. In today's world, these perceptions are being erased with the evolving technology and the negative thought is replaced by the stronger, self-confident, self-aware images of women. This project is based on women's security as it is reported that every day there are many cases of women harassment. Nowadays everyone using the Android phone. Here Android-based application is used in connection with a wearable sensor bracelet on Women security. The smart device based on IOT uses a low-energy Bluetooth connection to synchronize to an application on the wearer's Smartphone. The application lets the wearer inform her situation in case of an emergency - to her friends, family members, the police, or a group. The software or application has access to GPS and Messaging services which is pre-programmed in such a way that whenever it receives emergency signal, it can send help request along with the location coordinates to the nearest Police station, relatives using emergency keys (SOS). This action enables help instantaneously from the Police in the near radius who can reach the victim with great accuracy. The app also uses the Smartphone's record the incident and subsequently transmits the wearer's location along with the audio recording to the police.

Problem Statement

During emergency situations, women cannot protect themselves, though they are physically weaker than men. They are in need of others help.

II. Description

The methodology used in this paper, the embedded device can be activated by just merely pressing the emergency press button (SOS) once for the alert purpose. This smart device based on IoT gets activated, which includes a GPS modem, which retrieves its location in terms of its longitude and latitude, the data is fed to the microcontroller, which retrieves the location details of the device from GSM and it triggers The wristband also triggers a mobile application will receive information from a chip embedded in the wearable device of the women and send the instant location of the device with a message "Save Me, I'm in Danger", through GSM to her friends, family members, the police, or a group through the chip used in the wearable sensor device along with the audio recordings.

Internet of Things (IoT)

The Internet of Things (IoT) refers to the network of devices that are accessible through internet connectivity and the communication that occurs between these devices and other Internet-enabled devices and systems. IOT is expected to offer advanced connectivity of devices, systems, and services that goes beyond machine-to-machine (M2M) communications and covers a variety of protocols, domains, and applications. The

device works based on the IP address assigned to it, and have the ability to collect and transfer data over a network without manual assistance or intervention. The interconnection of these embedded devices (including smart objects), is expected to lead in automation in nearly all fields, while also enabling advanced applications like a smart grid, and expanding to areas such as smart cities.

III. Architectural Model

GPS Location tracker:

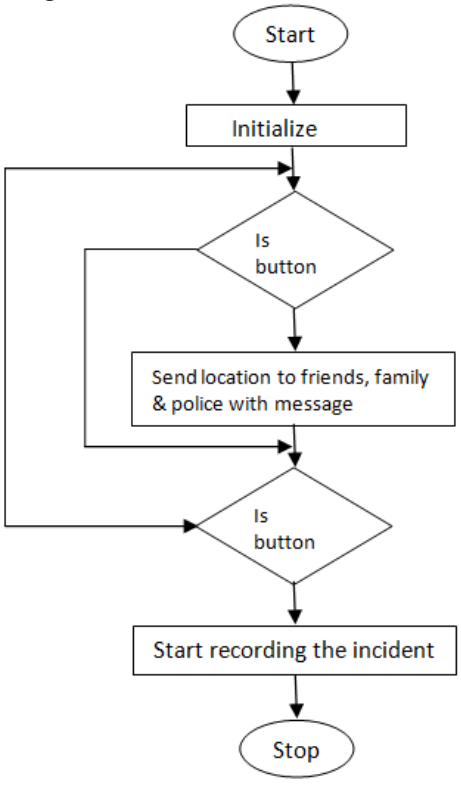
GPS is used to identify the current position of the victim. The device has an accurate GPS sensor and helps others to know the current location of latitude and longitudinal position of the device.

Martphone connectivity:

The device is linked to a smart phone using blue tooth wireless connection. Once the push button pressed, the Smartphone gets connected, through the app it sends alert SMS to those contacts in case of an emergency. The contact numbers can be edited and stored in the permanent memory of the device.

Microcontroller:

A Microcontroller is tools that use a specific code to perform all tasks and control of all devices which are connected to it. It is dedicated to a single function, and is most often embedded in other devices.



IV. Conclusion

This paper proposed the system for security of women. It presented a wireless method which will alert and communicate with the secure medium. It will also record the incident and subsequently transmits the wearer's location along with the audio recording to the police. When the sensor kit button is pressed the mobile will record the incident and it will collect the information of the user. This information will be sent to the registered phone number along with the recordings. This system will Speed monitoring for women's security which can be done by using the GPS tracking mechanism. Alert messaging will be done on the registered phone numbers. This saves the time and that victim gets help without loss of time.

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