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HUMAN SAFE GUARD SYSTEM

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Abstract

From the last decade the harassment of the women was rapidly increased, which have drawn a considerable attention to protect them. The primary goal was to develop a device which is used to detect the harassment which they are facing. In this proposal we present a smart phone based wireless women harassment monitoring system called "Human safeguard" this can provide real time online information about psychological conditions and GPS locationof a victim during hazardous conditions. Our proposed system is designed to measure and monitor the Blood Pressure of the victim. In addition, the proposed system is able to send the alarming message about the victim's critical conditions by text reports to the nearby police station, their corresponding ones and to the nearby hospitals. By using the information contained in the form of text, the police department, Ambulance services and their corresponding one's can take necessary steps to protect them and Human safeguard can be useful to the patients who are suffering from the High/Low B.P. The system mainly consists of sensors, microcontroller and software by using this victim blood pressure is monitored and in necessary conditions the message will be sent.

I. INTRODUCTION

Women security is one of the great challenges in our society. To provide security to the every woman an effectively and rapidly accessible modern security system is prerequisite. A modern security system should provide better security services to women at any time and from anywhere in an economical manner. The safety of the women will be increased by using Human safeguard. By using Human safeguard the message will be automatically sent to the nearby police station and their corresponding ones when the women are facing any harassment from the sociality. The need for a real time recording and notification of vital signs of a victim is of prime importance for our device. By encapsulating the modern bioinstrumentation, computers, and telecommunication technologies our device should record and transmit the necessary data from the victim's body to the nearby police stations. The critical Victims health condition and GPRS location should be sent in form of text messages in case the monitored go outside their normal ranges. Thus a victim can be monitored from remote locations. Existing and wide spread mobile phone networks can assist in this regard.

The proposed system consists of Sensors such as Skin sensor, Wi-Fi, GPS and Inertial sensors. Skin sensors are used to record and send health information to synced smart phones and computers. Wi-Fi is used to determine the victim location. If the victim goes into a place where no wireless system works in those cases to identify the location of victim by using inertial sensors instead of Wi-Fi.

II. RELATED WORK

Human safeguard has drawn considerable attentions from the research Community as well as industry during the last decade. Numerous and yearly increasing research and development
Efforts have been posted in the literatures. We have limited this effort to include only some of the very recent related works. Real time mobile healthcare system for monitoring the elderly patients from indoor or outdoor locations has been presented in [1]. A bio-signal sensor and a Smartphone are the main components of the system. The data collected by the biosignal sensor are transmitted to an intelligent server via GPRS/UMTS network. The system is able to monitor the mobility, location, and vital signs of the elderly patient from a remote location. The wearable devices consume low power and they are small enough to fit into a shirt. To reduce the noise associated with the ECG signal an adaptive filtering method has also been proposed in this work. Windows Mobile based system for monitoring body parameters has been presented in [2].The proposed system consists of a body sensor network that is used to measure and collect physiological data. Bluetooth has been used to transmit data from the sensor network to a mobile device. The reliability and robustness of the proposed system has been verified by the authors. The experimental results show that the proposed system is able to monitor the physiological data of patients under mobility condition [3].Although mobile devices are always considered a promising tool to monitor and manage Patient's' own health status, these devices have some inherent limitations in Computation or data Intensive tasks. A new hybrid mobile cloud computational solution has been Proposed in [4] to overcome these limitations we introduced a mobile cloud based electrocardiograph monitoring system. The experimental results show that the proposed system can significantly enhance the conventional mobile based medical monitoring system in terms of diagnostic accuracy, execution efficiency, and energy efficiency.

III. PROPOSED SYSTEM

The primary goal was to develop adevice which is used to detect the harassment which Women are facing. In this paper we present a smart phone based wireless women harassment monitoring system called "Human safe guard" this can provide real time online information about psychological conditions and GPS location of a victim during hazardous conditions. Our proposed system is designed to measure and monitor the Blood Pressure of the victim. In addition, the proposed system is able to send the alarming message about the victim's critical conditions by text reports to the nearby police station, their corresponding ones and to the nearby hospitals. By using the information contained in the form of text, the police department, Ambulance services and their corresponding one's can take necessary steps to protect them. Human safeguard can also be used to the patients who are suffering from the High/Low B.P, then the patient psychological conditions and GPS location send to the ambulance and to the corresponding ones in the form of text messages.

IV. WORKINGPROTOTYPEDETAILS

The following components are used to implement Human safeguard system
a. Skin sensor
b. Wi-Fi
c. GPS
d. Inertial Sensors

a) Skin sensor:

It stretches and moves with the skin and records and sends health information to synced smart phones and computers. As of the time of this blog post being published the sensor has yet to be given a name and it's not clear

what exactly it tracks other than EKG and EEG. "The application of stretchable electronics to medicine has a lot of potential. If we can continuously monitor our health with a comfortable, small device that attaches to our skin, it could be possible to catch health conditions before experiencing pain, discomfort and illness."

Figure: 1.Skin Sensor

Figure:2.WiFi Sensor

Figure:3.GPS

b) Wi-Fi : Wi-Fi can do much the same thing as Cell ID, but with greater precision because Wi-Fi access points cover a smaller area. There are actually two ways Wi-Fi can be used to determine location. The most common, called RSSI (receivedsignal strength indication), takes the signals your phone detects from nearby access points and refers to a database of Wi-Fi networks. The database says where each uniquely identified access point is located. Using signal strength to determine distance, RSSI determines where you are (down to tens of meters) in relation to those known access points.

c) GPS

Global Positioning System was developed by the U.S. Department of Defense and was first included in cell phones in the late 1990s. It's still the best-known way to find your location Outdoors.GPS send location and timing data from space directly to your phone. If the phone can pick up signals from three satellites, it can show where you are on a flat map, and with four, it can also show your elevation.

d) Inertial Sensors

If you go into a place where no wireless system works, inertial sensors can keep track of your location based on other inputs. Most smart phones now come with three inertial sensors: a compass (or magnetometer) to determine direction, an accelerometer to report how fast your phone is moving in that direction, and a gyroscope to sense turning motions. The classic use case is driving into a tunnel: If the phone knows your location from the usual sources before you enter, it can then determine where you've gone from the speed and direction you're moving.

WIOLINK Board

Wio Link is designed to simplify your IoT development. It is an ESP8266 based Wi-Fi development board for you to create IoT applications with open-source, plug and play electronics, mobile APPs and Restful APIs.

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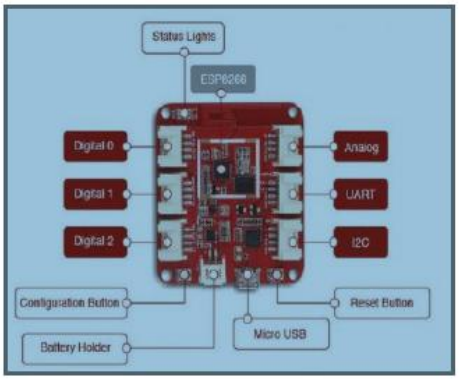

Figure 4.Wiolink Board

Creating an IFTTT Service:

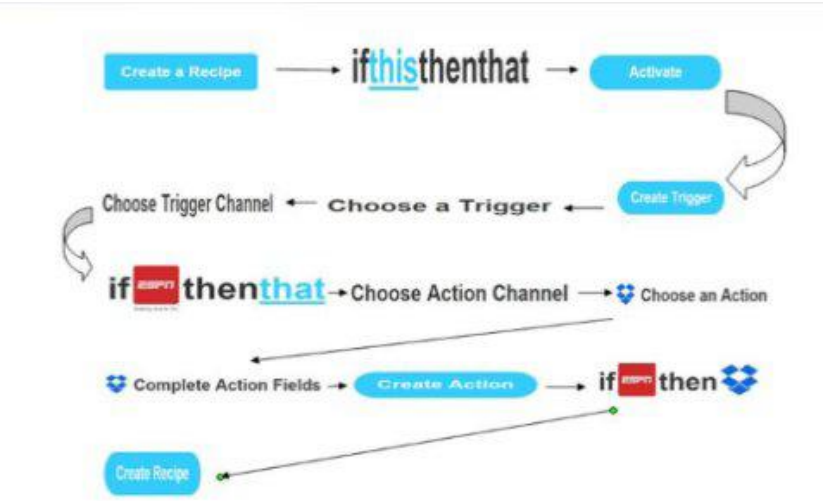

Figure 5: Creating a recipe in IFTTT

IFTTT application is more useful to send a message or call or mail whenever we are in tremendous situation. v How it send means ,by connecting the chip to that application and write some program regarding to that person problem then it will sends message or phone call or mail to the police, any relatives or any hospital . v It can works based on GPS it will send the location and also capture the data.

V. RESULTS

Skin sensor is used to measure the Blood Pressure .In the Hazard's Condition it is used send the message Here the location of victim sends to the parent number for any issues faced by victim by using IFTTT service.

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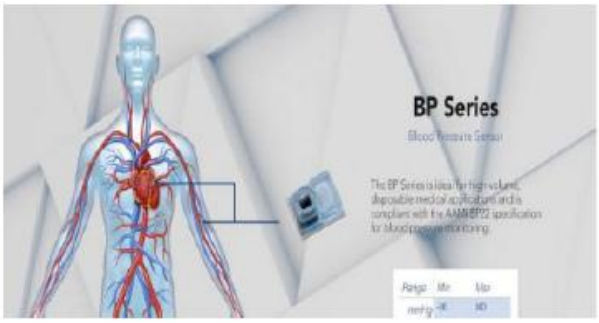

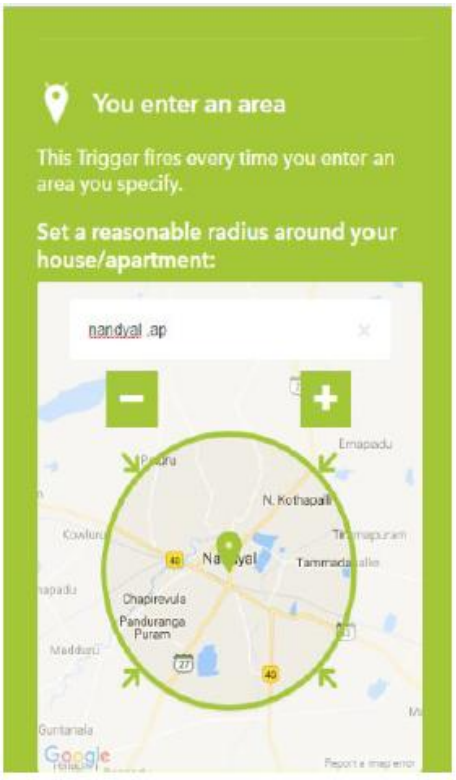

VI. CONCLUSION

A Smartphone based security system has been presented in this work. By using this system we can provide security to the women at any location irrespective of the availability of the Wi-Fi. If any problem arises to the women then the information is transferred through online in the form of text messages to police, ambulance and the corresponding ones who can help the victim. It also helps for the patients and children are who are in hazardous conditions.

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