

Smart Wearable System for Women Security Using IOT

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ABSTRACT: Women security is most important issue even in this today's modern world driven by new technologies. This function demonstrates an efficient women safety identification system using a GPS modem. The proposed women protection device aims to provide complete protection to female in the present scenarios. This system provides a secure and relaxing environment for women with handbag security and android application. The objective of this work is integrating the IOT based women security system with the hardware of the device linked to the handbag and with Android application. This android application connected to handbag through Bluetooth. After pressing the system key the Android Application identifies the location of the victim's place via GPS and sends a message containing this location URL to the registered contact and also call on the registered contact to help their dangerous situation and also send the alert message to the registered mobile number. Location tracking information through SMS helps in finding out the current location of the victim quickly and can be saved securely.

Keyword: Android Application, Arduino UNO, Bluetooth Module

I. INTRODUCTION

The abused against women is increasing rapidly. Social challenges facing women in modern India are often victims of abuse, violent crimes, and harassment. In a well-equipped India, the security of female has always been an important issue with the modern advanced technology. In today's lots of increase in the use of smart phones in the world. There are several mobile application and smart devices developed by the government and people to help the women or girls when they are in the

situation of danger. Even though, they developed various device and application the rate of sexual offenses has not been decreased. Women safety devices or application should be combined with many features which are used in today's life and real emergency cases.

Here, we introduce an Handbag safety device an android safety application that make sure the safety of women. It reduces the risk and helps us in need by identifying the location of person who is in danger situation. This mobile application sends alert message to the registered mobile number.

Android is the most used mobile OS which is motorized by Linux kernel. It developed by Google and later the OHA i.e. Open Handset Alliance. Java language is mainly used for writing code even it can be used through other also. The present system is developed on the basis of android platform. Android uses a custom virtual machine which was designed to optimize memory and hardware resources in a smart phone.

II. LITERATURE SURVEY

2.1[4] A compact device with a weight change. If an attacker ambushed the women/child or recognizes any weakness as a result of the more dangerous situation, he would then be able to press the device. This weight and a regular SMS are immediately identified by the sensor. The casual area will be sent to the telephone numbers of the folks/watchman set in devices when he receives it. Then there's a call to police station.

2.2[5] Abhaya is an android application designed for women safety, this application helps to track victim's location via GPS, receive calls from rooted devices with registered contacts.

2.3[6] An Life CRAFT application for women safety. This app can be a opened by voice command or SOS key, the location of victim with alert message sent to the user registered number in every five minute until the system is turned off and also tracking the victim location showing victim safe zone.

2.4[7] In safety system when power supply is on then the sensors will be sensed the information like heart beat rate, temperature, flexibility, gesture and sound from the victim. These values are checked for threshold that are predefined in the microcontroller. The values are not exceeding the threshold value then the output status will appear as normal. If the value is having more than one then the condition will be unusual. Then buzzer will be makes sound and the process will be shown in the LCD display.

2.5[8] The handbag security system for female and also designed android application for safety. By pressing key the controller key, the device alert the first holder, relatives registered in the database and police when a women is in danger situation. And this device protected the important things to be stolen by thieves from separate alarm system in buses or make use of crowded places and also use heartbeat sensor palpitations sensor setup to monitor heart rate, fingerprint scanner for efficient device accessibility and more mobile android application works to express the location of the victim to the women.

III. MOTIVATION

The challenging situation is facing by each women now-a-days gave motivation to help with a security device women to do the work they liked to do. The application helps women to overcome their fears and can move around freely and fulfill their work.

IV. PROPOSED SYSTEM

In women security system using Arduino UNO to improve the women's safety and security. java programming is used for this purpose. by pressing the key of device the one of the ends of the Bluetooth module hc-05 receives the data and this data send it to Arduino through Bluetooth module of the TX pin (RX pin of Arduino). This handbag device connected to the mobile application through Bluetooth. The android app send the alert message and the location of victim to the registered mobile number. Also call on the registered mobile contact to help the women in dangerous situation. And by using camera capture picture was sent to the community.



Fig 1: Main block diagram

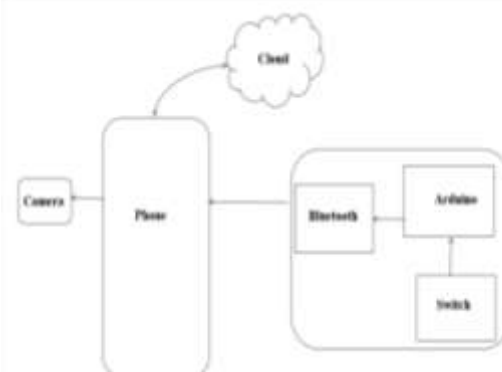


Fig 2: Block diagram for women safety

4.1 Arduino

Arduino UNO is an open source, electronics Forum. This is microcontroller board based on the ATmega328p. Arduino having 14 digital input and output pins. In Arduino 6 pin can be used as PWM output, 6 pin can be analog input, a USB connection, Arduino has 16Mhz quartz crystal, ICSP header and a reset button and power jack. It includes everything needed to support the microcontroller; To get started simply connect the Arduino to a computer with cable or also can apply supplied with ActoDC Adapter or Battery.

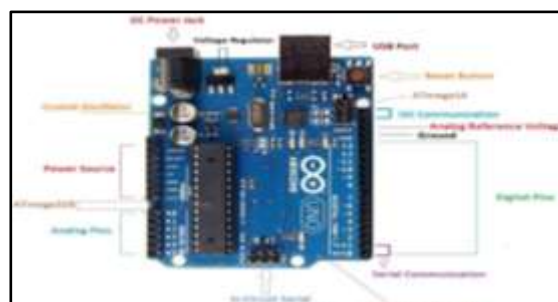


Fig 3: Arduino UNO

4.2 Bluetooth Module hc-05

Bluetooth module hc-05 is used in many applications like game controllers, wireless mouse, wireless keyboard, wireless headset and many more consumer applications. The Bluetooth module range up to <100 which is depends upon transmitter and receiver, atmosphere, geographic

and urban condition. It uses serial communication to communicate with system. It communicates with microcontroller using serial port (USART).

It has 6 pins,
 1Key/EN
 2VCC
 3GND
 4TXD
 5RXD
 6State

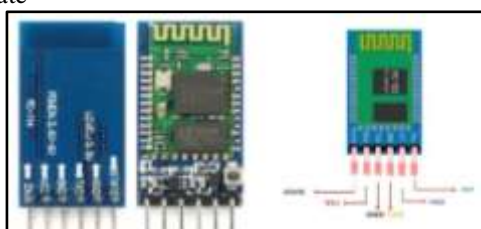


Fig4: Bluetooth hc-05

4.3 Switch

A push button is simple key to control some aspect of a machine or process. A pushbutton is a simple button. Typically, buttons are made of hard material, often plastic or metal fig shows the button image.



Fig5: Switch

V. RESULT

The components are used to designed the device are Arduino UNO Bluetooth module hc-05. When the victim is in danger situation and press the key of system then alert message is sent to the pre-registered mobile number. And also call on the registered mobile number and GPS is used to track the location and send the messages with location of the victim send to the pre-registered phone numbers of the relatives of the victim.



Fig6: Android Application

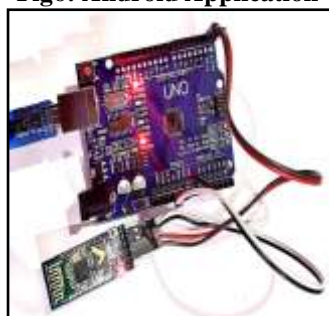


Fig7: Hardware implementation of device

Fig shown in below(8), (9), (10) SMS alert, current location, and the captured image will send to the concerned authorities.

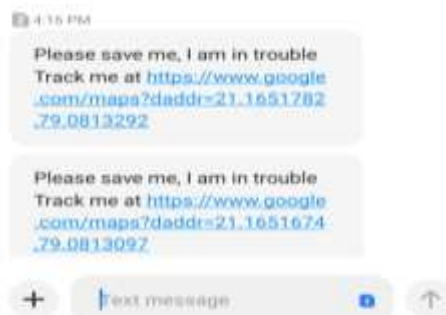


Fig8: Demonstrates how to deliver a text message to a specific contact.



Fig9: Location of the victim

Fig.9 despite the victim's current location. And share this location to the registered mobile number. Fig.10 displays the victim's image taken by the camera and it send to the community.

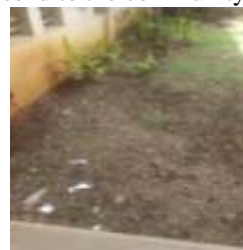


Fig 10: Capture image

VI. CONCLUSION

The objective of formulating women's safety and security system is proposed and designed in this paper. The proposed design for Smart Wearable System For Women Security Using IOT is making safe environment for women in the society, and allows them to go anywhere fear free. The objective of this women safety device is to prove complete protection to women in the present scenario.

Our future scope include heartbeat sensor for monitoring the heartbeat of women. The various added functionalities, like voice detection, shock generator, scream alarm, recording video.

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