Utilizing IoT, A Women's Wearable Safety Device

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Abstract

Despite having an emerging economy, India had a great number of homicides contrary to women. Women particularly, is in significant danger while travelling lonely with remote streets or in isolated areas. Because there are no security mechanisms in place to protect women. As a consequence, they have a lot of appliances. The safety device which was proposed WSM could help to protect females from criminal activity. Arduino board has considered that it consumes less energy and electricity. This suggested framework is an all rounded safeguard system which provides security with a simple single click could be activated, with GSM & GPS technology tracking movements by which a message can be delivered to the Arduino's also before the contact list.

INTRODUCTION

Now a days women are competing with men in each and every aspects of day to day life. Women account is half in our nation's progress. Women, in the other hand, are afraid of being incursion. These kinds of crimes against women are on the rise. Thus, safety of women is crucial. In addition, the attacker will practically takes the smartphone in order to avoid the victim to communicate. In life-threatening situations, women can give signals by broadcasting them as they can carry device like ear studs, rings, safety bands and nose pins which can be carried easily and can be used very quickly. By using this technology a user can give update on their health who are away from home. Widening the alarm conditions is another advantage. In recent years, reported cases of child sexual abuse have been increasing a lot. Crimes against teenagers, particularly those aged 14 to 17, are on the rise. Thus, paternities are continually worried about the safety of their broods. We recommends an alerting system which is based on voice in this project for real-time following of children's locations.

Furthermore, criminalities contrary to women are becoming more common. To provide a safe atmosphere for the working women's who are working late night this proposed system is very useful.

LITERATURE SURVEY

From the paper "Design and Implementation of Women Auspice System Using GPS and GSM" published in 2016, in this paper GPS is used to reach the client's location very quickly. If the client encounters any problems, any of these buttons can be pressed. By receiving the signal device would send a message to specified phone number. This analysis would result in the creation of a gadget. While the rate of heat and the rate of heart exceeds threshold, then programmed device learns the particular pattern of temperature and rate of pulse. If both rate of temperature and rate of heart beat exceeds the threshold, then here this device sends a message with client's location to emergency phone number, allowing the appropriate action to be taken. Women's empowerment in this system is grounded on involving individual lady in our country in order towards make them independent.

"Women Safety Device Designed Using IoT and Machine Learning", according to this paper published in 2018. This research will result in the creation of a gadget. While both the rate of heating and the rate of heart beat exceeds the threshold, this device is programmed to calculate the specific pattern of heart rate and temperature. When both heat & heart rate exceed the threshold, the device will send a text message with the location to the emergency contact number so they can get help. According to the research, it led the development of women's empowerment in India in 2016.

According to the 2015 study "Design and implementation of safety armbands for women and children using ARM7," this study proposes a mechanism triggered by human activity. In order to activate the system clasp switch and fall indicator are provided. A GSM/GPS kit boundary is involved bracelet controller. This band also connects to wireless cameras for image capture. The system is initiated by human actions. The captured footage is a live video which was sent by the device to the control tower located at the start. Alert her messages with location information will be sent to a specific mobile station until the device is reset. Changes in GPS coordinates are continuously transmitted so people can be monitored.

Hardware tools

A. ARDUINO UNO: - An easy-to-use microcontroller with low-cost, versatile, is the ARDUINO UNO. This is a customizable microcontroller board which was appropriate for numerous electronic applications. This board includes a connector of USB. The board have been programmed for using the software named as Arduino IDE connected to computer by an USB. The voltage which is given as an input is in the range is 5V to 21V, so 6V to 13V is the best range.

B. GPS Module: - GPS and #0. It contains a group of satellites which broadcast both GPS, #1; control indications, ground stations and satellite control stations that monitor are used to operate the scheme.

C. GSM Module: - Used to send the pre-arranged message to families and nearby police stations. The 3. GHz frequency have been used for G web. Compared to all the other modules SIM900A GSM module is the smallest of all the others and is the most reasonable GPRS/GSM module. The bands of bandwidth from 900 to 1800 MHz bands are available for users to communicate through SMS. There are essentially the photo of a regular phone and a

SIM card is required in order to connect to a cellular network. GSM modems often provide a TTL level serial interface to the host. They are sometimes used.

D. LCD Displays: Where LEDs are used, LCDs are used in similar applications. In matrix and segment views, these applications display numbers and punctuation.

E. Summer: Buzzer is simple a device which converts audio data into an audio signal. They often operate on DC voltages. We regularly use laptops, alarm clocks, scanners and other electronic appliances as sound sources.

F. IOT: When we received voice commands with abuse, then Arduino Bluetooth voice controller can send voice commands to the Arduino so it can receive voice responses. Command mode can construct Bluetooth properties such as name of a Bluetooth signal, and its positive identifier, and operating signal.

PROPOSED SYSTEM

This system proposes, the woman's GPS location is transmitted to relevant guards and to the closer stations. Modules used in this project are Bluetooth, LCD display, Arduino controller, GSM and GPS. When a woman feels unsafe, she should call for help on her mobile phone. A safety kit is attached to mobile phone. The "help" is a message sent to the controller from her Bluetooth module. Thus, by receiving the problem message, controller uses the GPS module to get the current GPS value.
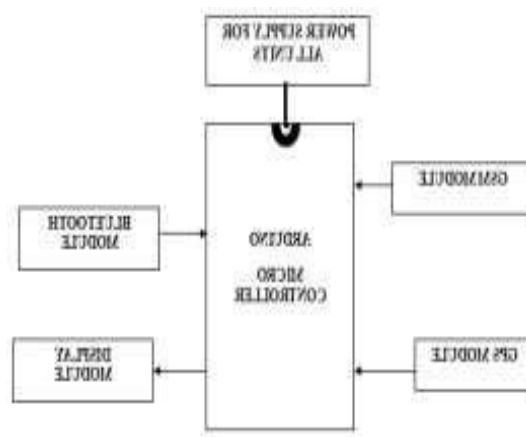

Figure a: to show the block diagram

GSM module is used to the message. At the same point of time, a LCD display will show the woman's GPS value which is nothing but location. This system is useful for women in precarious situations. Figure a shows a block diagram.
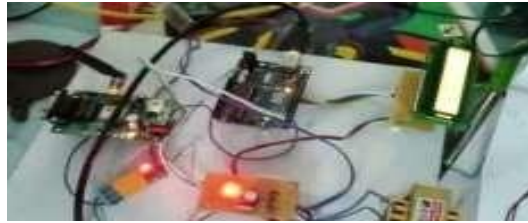
RESULT AND DISCUSSION

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Figure b: Result

This Project's goal is to create an electronic device that is small enough to wear to maintain the safety system that helps women in bad situations. It's a cheap way to keep people's information in a specific area and send instant alerts when crimes against women occur. This keeps women safe. Everyday needs must be protected and secured. Figure 2 shows the result.

CONCLUSION

The results show that the proposed system helps women increase safety in disadvantaged circumstances. By using the proposed system, users can send their location-based information to their guardian's pre-programmed contacts. You have successfully sent information to your controller using Bluetooth technology. The planned model can be replaced in the future from Bluetooth module with another modules like Wi-Fi to increase connectivity for eliminating connectivity issues.

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