

WOMEN SAFETY DEVICE

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Abstract

Women safety has always been an issue even in these modern times with so much advancement in technology. Women are not safe anywhere and are most vulnerable when travelling alone into lonely roads and deserted places. Existing hand held safety devices for women have many disadvantages as they require a software application to be connected with and also should be connected with Bluetooth . So to overcome these disadvantages we propose a solution which will try to overcome the disadvantages of the existing systems and also aim at providing true proof safety to women. The proposed work aims at designing an IoT based safety device that relies on providing security to women by connecting GPS and GSM to locate place and alert message is send to registered numbers when a women is not safe. When there is unsafe situation women can press push button of the device which sends alert message with location automatically to the registered numbers

1. INTRODUCTION

Women safety has always been an issue even in these modern times with so much advancement in technology. Women are not safe anywhere and are most vulnerable when traveling alone into lonely roads and deserted places. Existing handheld devices that are available for women safety require women intervention to activate them such as pressing the button or shake the device etc after sensing the danger. However, for some reason if a woman has no time to activate it when she is danger, then the purpose of the safety device is not solved.

In a country like India where the growth rate of crime is considered to be more than the growth rate of population, which includes burglary, murders, rapes, and many more women's safety is believed to be one of the most important issues. According to a report by Thomson Reuters Foundation, India is ranked as a highly dangerous place for women world wide, India has the greatest number of child brides as well. In 2016, the number of reported rapes is almost 39,000. Experts that were interviewed for the reason why India is presumed to be dangerous for

women said India is on top of the list because its government has done almost nothing to provide safety to women since the rape and murder of a student in early 20's in 2012 which prompted changes in the rape laws of the country. Most of the attacks on women happen when they are traveling alone or are in a remote area where they are not able to find any help or proper assistance. This paper proposes a IoT based solution to address the problem of women safety and that overcome the shortcomings of existing devices. The proposed design comprises of features to notify family members and nearby police station for immediate assistance when women are not safe.

2. RELATED WORK

In the modern world, most of the women are in working in order to stand by their own. Unfortunately, due to security issues not only women even the girl children in the world are facing lot of problem in their day to day life. However, safety and security of women and children in the country is the utmost priority for the Government and it's a responsibility of each and every individual to provide a safer environment to the women. In the recent days, the educated women are supposed to work in a different environment and surrounding and also way from their

native. So, being safer is becoming a vital problem for the working women. In these days the technology developing sharply in day by day and many people are providing a solution to this problem in their own using the developed technology. It is time to provide a save world to the women. The women should carry a device with them while going out for work to track them when they are outside. The devices which already designed are like a accessory to carry with them. The provided solution is discussed to give a more effective and better solution for this problem. We have referred Ahir, S., Kapadia, S., Chauhan, J., & Sanghavi, N. (2018, January). The Personal Stun-A Smart Device For Women's Safety. In 2018 International Conference on Smart City and Emerging Technology (ICSCET) (pp. 1-3). IEEE, N. Bhardwaj, N. & Aggarwal Design and Development of "Suraksha"-A Women Safety Device International Journal of Information & Computational Technology, 4 (8) (2014), pp. 787-792, N.V. Kumar, S. & Vahini effecient tracking for womensafety and securi ty using IOT International Journal of Advanced Research in Computer Science, 8 (9) (2017).

3. IMPLEMENTATION

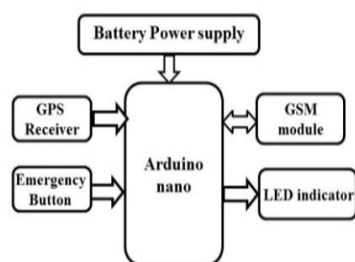
Women safety device is used to ensure security for women in an emergency situation .As crime rate against women is increasing day by day we came up with a solution to implement a device that is capable of sending SMS with current location to the registered numbers of the parents or guardians in a risky situation

- The main aim of our project is to design an effective safety device for women.
- Our device will be tracking the location using GPS receiver and sending sms through gsm modem at the end of our project.
- Our main aim is to safeguard a women in an emergency situation by alerting the registered members in this device about the situation with the location.

The women safety device comprises of Arduino Nano,A6 mini GSM, Rechargeable LIPO battery and NZ GPS. The NZ GPS sends latitudinal and longitudinal location to the Arduino Nano. The Arduino Nano is connected to battery for power input and it will provide power to gsm, GPS and push button. The LIPO batteries positive terminal is connected to switch which is providing

5V power to Arduino Nano. The GPS in the device track the location when the push button is pressed and sends to Arduino Nano. The GSM will send a SMS with location to the registered numbers in the device. The registered numbers will get an alert message which also will have location of victim. This will help women to get rescued when there is mis-happening or any harassment.The major problem in the current society is women security as harassment cases are increasing day-by-day. We came up with a solution to create a smart women safety device which can alert victim's parents or guardians during mis-happening. The women safety device consists of gps which tracks the exact location and sends it to Arduino and GSM receives this location and sends an alert message to the registered numbers with the location of the victim. This device does not require any Bluetooth or mobile application. This device is economic and affordable by every community.The aim of this project is to ensure security for women if there is any physical harassment on women. Our main intention in this project is to safeguard a women in an emergency situation. If there is any mis-happening or harassment over women any there is no way for women to rescue herself then the women can use our device which sends an

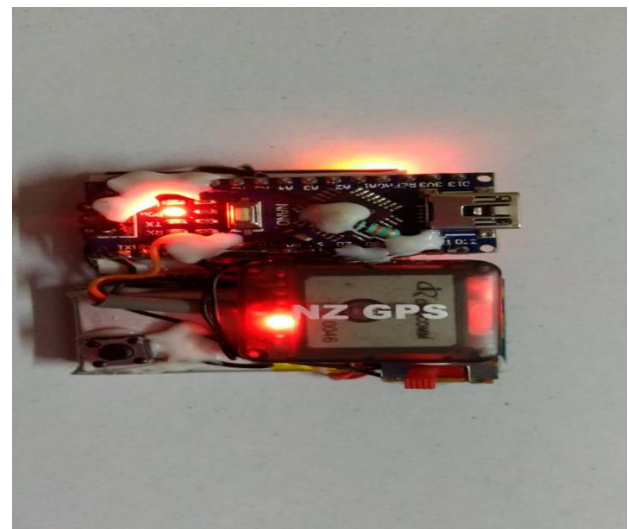
alert message to the registered numbers with the exact location. If the registered numbers respective people are not near the location then also they can save victim by informing to police or women rescue teams. In this way our project will help the women to rescue from the physical harassment.



4. EXPERIMENTAL RESULTS

The women safety device consists of Arduino Nano, Mini A6 GSM, NZ GPS, switch and LIPO rechargeable battery. The RX pin, TX pin of GSM are connected to digital pin 8 and digital pin 9 of Arduino NANO respectively. The VCC pin of GSM is connected to 3.3V pin of Arduino Nano. The RX pin of GPS is connected to digital pin 2 of Arduino Nano. The VCC pin of GPS is 5V pin of Arduino Nano. The ground pins of GPS and GSM are connected to ground pins of Arduino Nano. The push button VCC pin is connected to 5V pin of Arduino Nano with the help of 10ohm resistance. The battery positive terminal is connected to V input

pin of Arduino Nano through a switch. The battery negative terminal is connected to ground pin of Arduino Nano. These are the hardware connections of women safety device. The women safety device design is similar to bracelet and the main hardware components is placed at middle of the design and stretchable band is attached to give accessible to every women with any hand size.



5. CONCLUSION

The proposed women safety device aims at providing security to women in current scenarios. To provide comprehensive security, push button is included in the design, so that when pressed sms is sent to registered numbers about the mis-happening. Sending text messages with location ensure that registered numbers gets alerted with the current location of victim. The paper presents the business model of a smart device for women safety,

performance metrics have to be considered for further analysis to prove its efficiency.

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