

SMART BAG FOR WOMEN SAFETY USING IOT

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Abstract: In today's world the safety of women, girls have become an major issue. They are struggling to be protected and feel safe in the outside world. Also in urban areas the women experience harassment. The horribly insensitive men who threatened the women, who molest them, harass them on daily basis. Due to this scenario a smart security device developed for the security of the women using internet of things. It is been implement in the form of smart gadget which consists of Arduino uno, touch sensor esp32, buzzer, camera module, push button to trigger the services for security of the women. This device has been made more compact so that it can be used by a victim in any situation by just clicking a press button. To this button the device will get triggered which will turn on the camera , give the location of the victim. Location of the victim along with the image link will be send on the emergency contact numbers or police through smart phone of victim and not also making the use of any extra hardware thus making the device compact.

Keywords: Women safety, Smart bag, , Send an automatic alert , mobile-app

I. INTRODUCTION

In the current state of affairs, women are keeping up with males in every field, but tragically at the cost of experiencing abuse, harassment, and violence in public and even at their own homes. They are unable to leave their homes at any hour of the day, are unable to dress appropriately, and will not even choose add peace. There is a certain kind of restriction that girls experience that not only robs them of their sense of freedom but also shatter their dreams and confidence. Due to the above-mentioned factors, it is clear that the country needs to make efforts to improve women's security. However, it's worth noting to some extent that technological progress has paved its way in the majority of spheres of existence. As a result, there is currently the potential for intelligent application of the benefits of modern technology to address social group issues. Therefore, the goal of this project is to employ the web of things(IoT), a current technology trend, to help women stop living stressful lives.

The Internet of Things (IoT) is a system of interconnected physical things that can be accessed online. It refers to the constantly expanding network of physical objects with scientific disciplinary addresses for online properties and the communication that takes place between these objects and other Internet-enabled equipment and systems. IoT is typically expected to provide expanded capabilities of devices, systems, and services that go beyond machine-to-machine (M2M) connections and span a variety of protocols, domains, and applications. The interconnection of these embedded devices, which includes sensible things, is projected to start automation in almost every industry while also enabling cutting-edge applications like a sensible grid and expanding to sectors like sensible cities. Recent years have seen an increase in the incidence of female harassment, which is distressing and upsetting modern-day women. This study introduces an E.S.P.-based wearable smart gadget that helps the at-risk women overcome these challenges because it addresses a serious issue.

II. LITERATURE SURVEY

[1] This paper suggests a smart shoe that not only helps women take care of themselves but also help them be fearless. This project makes use of GPS, GSM modules, a shock circuit and camera, that are interfaced with Raspberry Pi board and Arduino. Women facing any troubles or in any kind of danger, can immediately make use of this device, embedded in their shoe to escape from the dangerous situation and even harm the attacker.

[2] a smart security wearable device for women based on Internet of Things is proposed. It is implemented in the form of a smart ring (SMARISA) and comprises of Raspberry Pi Zero, Raspberry Pi camera, buzzer and button to activate the services. This device is extremely portable and can be activated by the victim on being assaulted just by the click

of a button that will fetch her current location and also capture the image of the attacker via Raspberry Pi camera. The location and the link of the image captured will be sent to predefined emergency contact numbers or police via smart phone of the victim thus preventing the use of additional hardware devices/modules and making the device compact.

[3] In this paper, we have developed an intelligent women safety system using Radio Frequency Identification (RFID) and Global positioning system (GPS). The main idea here is using an active RFID tag with passive RFID reader to scan the information and this information is transferred to the AT89C52 microcontroller where in the contacts of around 4 to 5 people is stored in the data base. Once the information is received by the controller, it sends the message to the contacts through GSM module and the location is tracked through the GPS. The simulation is done in ISIS proteus.

[4] In this paper, an attempt has been made to develop a smart device that can assist women when they feel unsafe. This smart device will be clipped to the footwear of the user and can be triggered discreetly. On tapping one foot behind the other four times, an alert is sent via Bluetooth Low Energy communication to an application on the victim's phone, programmed to generate a message seeking help with the location of the device attached. The results obtained were analysed using Naïve Bayes classifier and this low cost device showed an overall accuracy of 97.5%.

III. PROPOSED SYSTEM

Nowadays, there are many problems raised against women. If a girl or woman goes alone to a strange place, it is not sure she is in a safe place. To overcome these problems, there are many applications and devices available, but our device is slightly different from others because it has an automatic alert mechanism for the user.

If she goes alone in a strange place, travels at night, or goes to any other unsafe place, she needs to carry our device. If she knows the place is unsafe, she can press the device's activation button before entering the place. When a third person or thief touches the device, it will automatically start to buzz and send the notification message along with the live location to the registered number. Then the woman is aware if someone is following; if she knows that person, no problem; she can turn off the device manually. If she doesn't know the person. She can press the emergency button, and it will send an emergency message like her name, age, and address to her parent's or guardian's phone number. If anyone applies force to the woman's body, the force sensor can deduct it and send an alert message like "emergency physical violence is deducted." The main advantage of our device is that it can send notifications for a maximum of 3 minutes and will send an automatic alert to the victim. The device also doesn't require any internet connection.

IV. DESIGN APPROACH

The hardware does its part of the task, which is to alert when women are in trouble and to send alert SMS through GSM. The emergency button and touch sensor can be installed in the hardware device. When the emergency button was pressed or the touch sensor activated, the alerting system started to work automatically and sent alert SMS messages and images to the authorised person. The SMS alert will be sent to the registered phone number. In this, we used an Arduino microcontroller, which is used to create the respective data for this hardware device. Through Arduino, we should install the respecting code for this project, and then it will be completely setup for the alerting.

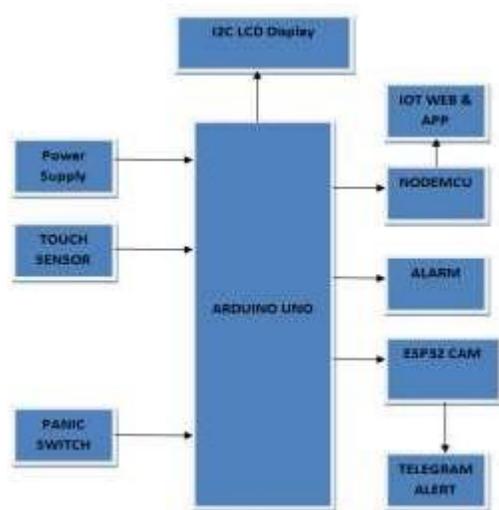


Fig 1. Data Flow Diagram

V. IMPLEMENTATIONS OF THE PROPOSED SYSTEM

Our main goal is to keep the women safe from outsiders. The Arduino UNO, L2C LCD display, power source, body touch sensor, emergency button, camera, and panic switch were used in the design of the gadget. The Arduino Uno is connected to a power source and LCD display to turn on the system and show the instructions. Before entering, a person may push the emergency button or touch the body sensor if she knows the area is dangerous or if she is in distress. The person can manually turn off the device if she is aware of that location. The web application is being used to send the person's updates. The risk of theft increases if a stranger or crook touches the gadget. The system will automatically activate the buzzer, display the text "The woman is in trouble," and send the SMS notification message along with the person's live position to the registered mobile number when a third party or thief touches the device, which can be detected by the touch sensor. Additionally, it takes a picture of the stranger and telegrams it to the registered mobile number. Additionally, it has the ability to contact the pre-registered cellphone numbers till someone answers. The same procedure will be performed when the individual who pressed the emergency button telephones. Our system's benefit is that it will automatically alert the victim and can send notifications for up to three minutes. An internet connection is not necessary for our system.

VI. RESULTS AND DISCUSSION

The components are used to designed the device are Arduino UNO IOT. When the victim is in danger and presses the button, an alert message is sent to the 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. SMS alert, current location, and the captured image will send to the concerned authorities.



Fig. 1. GPS location

despite the victim's current location. And share this location to the registered mobile number. Displays the victim's picture taken with the camera and sent to the community.

VII. CONCLUSION

The objective of formulating women's safety and security system is proposed and designed in this paper. The proposed design for IOT based smart wearable device for women safety is making safe environment for women in the society and allows them to go anywhere fear free. This women's safety device aims to prove complete protection to women in the present scenario.

VIII. REFERENCES

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