



WOMEN SAFETY DEVICE USING IOT

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Abstract: Today in the current global scenario, women are facing many problems like women's Harassment. We propose to have a System which is the integration of multiple devices, Hardware comprises of Portable system that endlessly communicates with a sensible phone that has access to the web. This paper covers descriptive details about the design and implementation of "System". The System consists of an A9G Module, GSM module (SIM900A), GPS module (Neo-6M), AG9Module (RDA8955), Bluetooth (HC-05) Module, Panic Button. In this project, when a woman senses danger she has to press the Panic Button of the device. Once the system is activated, it tracks the current location using GPS (Global Positioning System) and sends an emergency message using GSM (Global System for Mobile communication) to the registered mobile number and nearby police station. IoT module is used to track the location continuously and update it into the webpage with help of android safety app we can track location and ask for help with voice command and reaches to nearby contacts. The main advantage of this project is that this device can be carried everywhere since it is small and also provides safety to Women.

Keywords: A9G, GSM, GPS, Bluetooth module, Panic Button

I. INTRODUCTION

In the present-day scenario, women are actively participating and competing with men in every aspect of society. Women make a significant contribution to the development of our nation. However, despite their many achievements, women still face the very real fear of harassment and violence. Unfortunately, cases of harassment against women are on the rise. Therefore, it is imperative to ensure the safety and security of women. Introduces a proposed model of a system that aims to provide the necessary safety and protection for women. The model consists of a device capable of continuously tracking the user's location and sending location information to a predefined contact or number. Additionally, this system leverages the Internet of Things (IoT), which is a relatively new and rapidly evolving concept in technology. By utilizing IoT based technology, guardians, relatives, and law enforcement can monitor and track various sensor data and the precise position of the device in real-time. The system is designed to be user-friendly, and it offers the advantage of portability, making it easy to carry and use. This innovative system is designed to address the increasing concern of women's safety by providing a means for continuous tracking and communication, ultimately offering a sense of security and peace of mind to women in our society.

1.1 Purpose

Ever rising increase of issues on women harassment in recent past is mostly about her safety and security. Women's safety is a major issue and the need for the hour. Thus we are implementing a women's safety app which will enable us to track her live location and which will allow her to send instant message to her relatives and a nearest police station.

Key objectives and purposes of a Women Safety Device include:

The GPS tracking, messaging and the alarm facility of the smart phone are also utilized. Here we are using a power supply of 9V. Hardware is paired with the smart phone via Bluetooth. . If a switch Safety Device For Women is pressed then simply the location will be sent to one or more predefined numbers. Another switch is used to spot the phone if lost or misplaced. The circuit consists of an AG9(RDA8955) module , HC-05 Bluetooth module and a button. Rising Concerns about Women's Safety: In recent times, there has been a significant increase in cases of harassment, violence, and other forms of abuse against women. This alarming trend has raised serious concerns about the safety and well-being of women in society. . It provides a sense of control and agency over their own safety. The presence and use of women's safety devices can also contribute to raising awareness about the importance of women's safety and advocating for measures to address violence against women in society. Women's safety devices are designed to deter potential attackers and prevent assaults from occurring in the first place



OBJECTIVE OF SYSTEM

- To create safety device carried by everyone
- To be able to wear easily
- To have compact structure for easy handling
- To have ultra-low power consumption
- To prevent assaults against women

II. LITERATURE SURVEY

[1] Islam et al. purposed “Design and Implementation of Women Aus- price System by Utilizing GSM and GPS-

In this system, they used a GPS module, three pushbuttons, PIC16F887 microcontroller. GPS is used to get to the area of the client quickly. Three press catches are executed to characterize the kinds of a mishap casualty is confronting. At the point when the client faces any issues wherever, it can press any of these three catches. At that point, the microcontroller will get it and send an SMS to the particular telephone number. The area of the client will be constantly followed until the client switch off the framework when saved.

[2] Muskan et al. Implemented “Women Safety Device Designed using IoT and Machine Learning”-

This study is going to design a device. For generating alarm, the device is customized to learn the individual pattern of temperature and heart rate and find out the threshold when both temperature and heart rate exceeds above the threshold it automatically sends SMS and location to emergency contact number to take action

[3] Navya R Shogi purposed “SMARISA -

A Raspberry Pi based Smart Ring for Women Safety using IoT. They have actualized a wearable gadget for ladies as a savvy ring (SMARISA) and contain Raspberry Pi, camera, signal and catch to initiate the administrations and the gadget is very compact and can be enacted by tapping the catch that will bring her present area and catch the picture of aggressor employing Raspberry pi camera and send to the crisis contact number.

[4] A. Priyadarshini suggested “Women Empowerment towards developing India”

Women fortifying bases on empowering every woman in the country to make them self-ruling in all perspectives as a rule open, to be careful about the rights and cause them to get ready about physical security. This paper canters around portraying the issues that ladies are looking in their day by day life plans accessible for Women Empowerment in India and Self-Help Group which is effectively running in the province of Tamil Nadu, proposals on Self Help Group for future upgrade and a contextual investigation of Women Empowerment Cell.

[5] D. G. Monisha et al

Proposed a system which contain a location tracking mechanism, it works if the suffered person press a single click it sends a SOS message with current location to pre-set contact of every 2 minutes, if the person clicks a button double times then it records and sends SOS message and also it calls to the pre- set contact numbers when the person pressed a button for a longtime.

III. SYSTEM REQUIREMENTS

Software Used:

1. Operating System: Windows XP and later versions
2. Programming Language: Python , Java
3. Tool – Android Studio Code

Hardware Used:

1. Processor – i3 processor
2. Sensors used-
 - a. A9G module
 - b. GSM module
 - c. GPS module
 - d. WIFI module

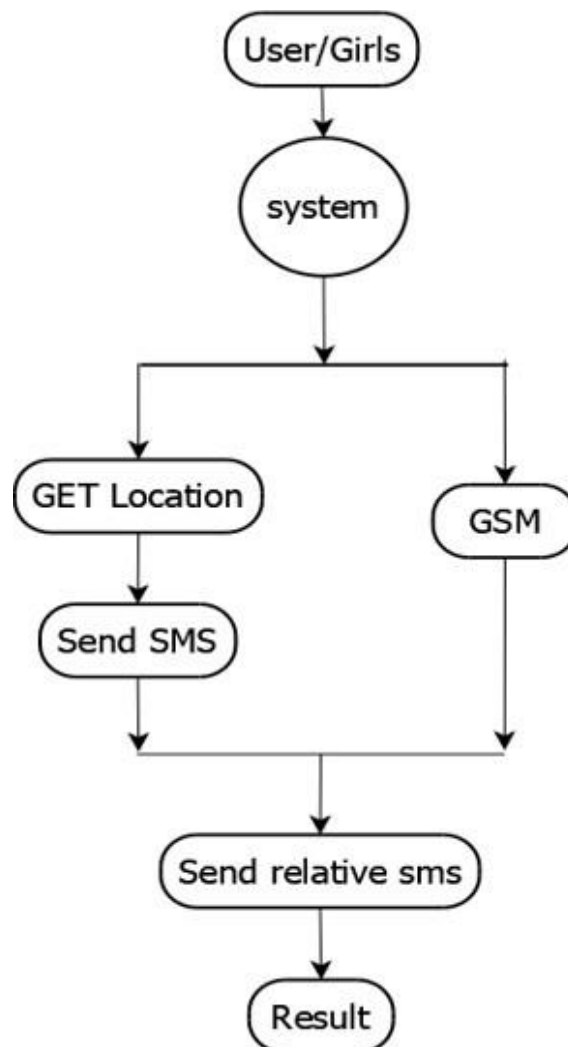


IV. DESIGN OF SYSTEM

In this the software analyses sensor data to identify potential risks or threats to the user's safety. In case of an emergency, the device can trigger predefined actions such as sending distress signals to predefined contacts, activating alarms, or even notifying authorities with precise location information.

In this system we have implemented a device consist of different IOT modules which provides seamless connectivity, when women's detects the danger then we send the message via GSM to the nearby contacts, In case of if GSM module fails to fetch the information of women location then we implement Bluetooth module. It connects to nearby WIFI and sends the message to nearby contacts.

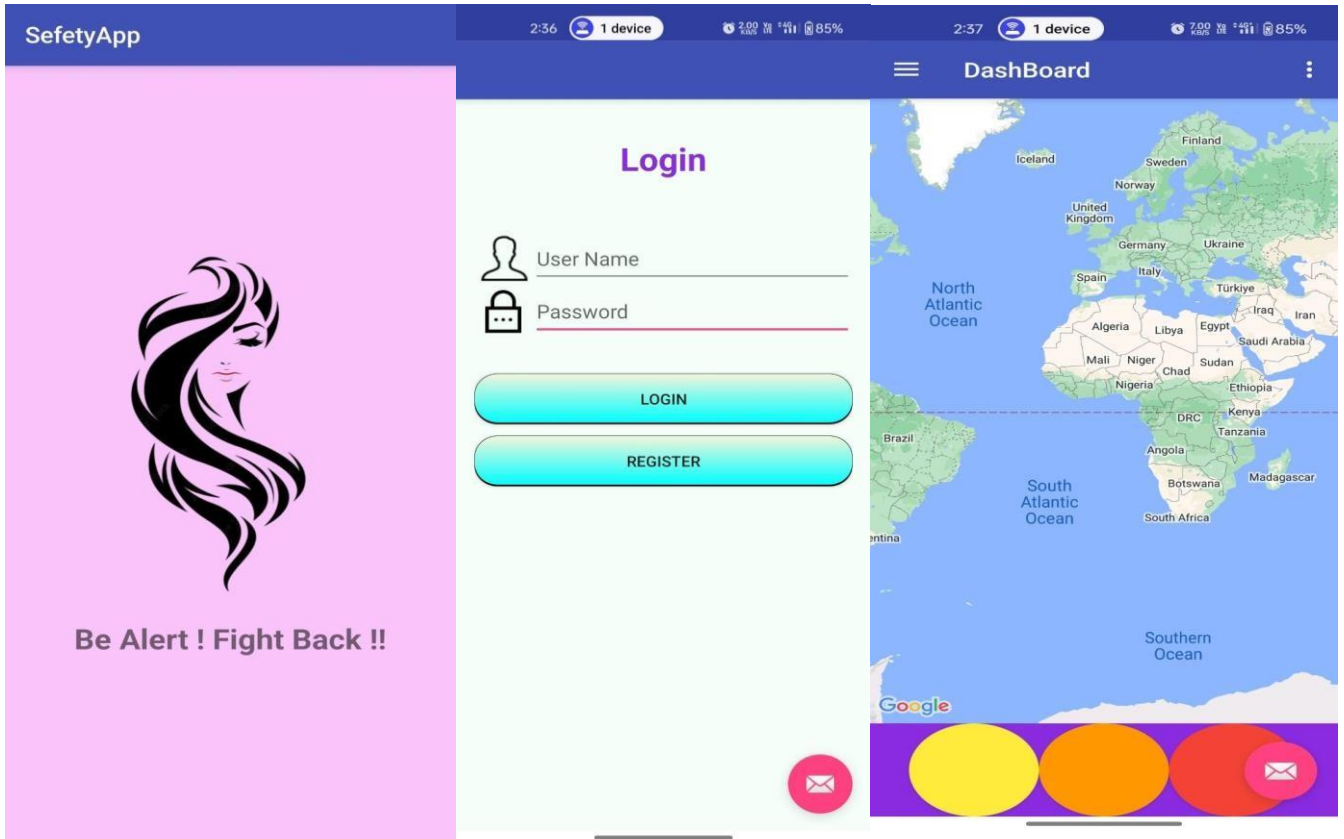
In this system we also have implemented the App. In the app we provided 3 buttons constitutently as first that is panic button which is pressed at the time of danger detection the second button used if women feels there is no more danger and the situation is normalised. And the last button is used. If she senses any threat beforehand. We have implemented two systems which will portable and efficient for a women to used in danger.

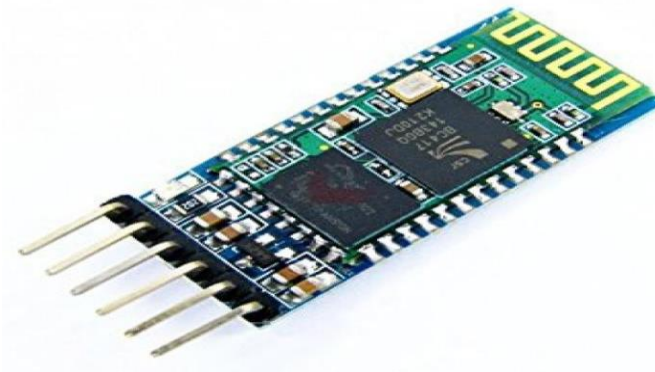
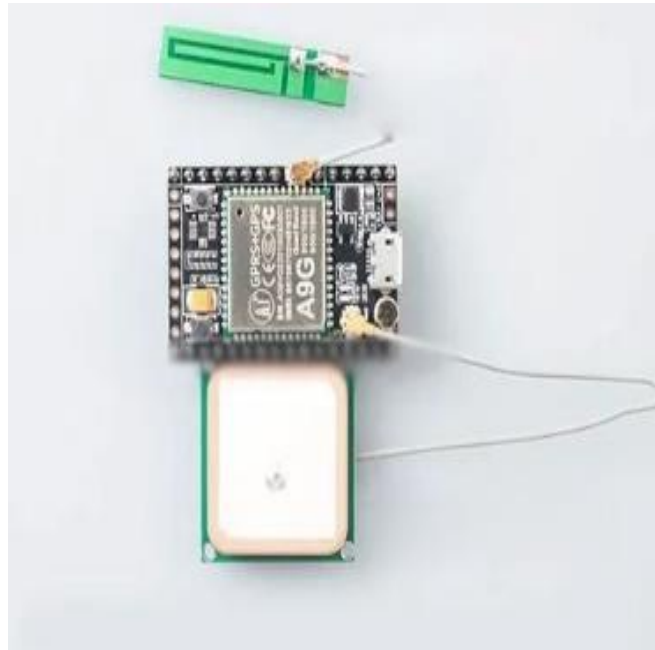


The implementation involves creating a user login module within a mobile app de-signed for women's safety. This app connects to a safety device using IoT technology, allowing for real-time monitoring and control. The connection is established via Wi-Fi, enabling users to access and manage the safety device's features from their smartphones. This integration enhances the user's safety and security, providing features such as emergency alerts and location tracking.



V. RESULT AND SNAPSHOTS





**VI. CONCLUSION**

The incorporation of IoT technology into safety devices allows for seamless connectivity and communication between various components, enabling swift responses to potential threats. By leveraging sensors, GPS, and communication modules, these devices can detect unusual activities or distress signals and alert designated contacts or authorities in real-time. Moreover, they can provide valuable data for analysis, helping to identify patterns of harassment or violence and inform preventive measures.

IoT-integrated women's safety devices, leveraging the A9G module, represent a promising solution for addressing the pervasive issue of gender-based violence. By combining hardware innovation with intelligent software solutions, these devices offer a comprehensive approach to enhancing women's safety in both public and private spaces. Through collaboration, education, and continued innovation, we can strive towards a future where every woman feels empowered and secure, knowing that help is always within reach.

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