

Designing a Women's Safety Application Connected via Bluetooth

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Abstract- This study's real-time women's safety app objective is Bluetooth. This app is developed for Android phones, which are connected to Bluetooth devices. If the woman in trouble clicks that button, she sends a prompt message to her parents. If the Bluetooth is disconnected there, it quickly sends a message to the parents to ensure that they receive the operation, setup, and response event of the Problem. It accent the connection of the app for women's safety as they provide peace of mind to women. Additionally, the project seeks to identify areas for potential improvement in the app's features and functionalities, with a broader goal of contributing to societal safety measures. The study takes a look at the future improvements of the large social implication.

Keywords- Women's Safety, Bluetooth, Mobile Application, Emergency Alert, Wearable Device

I. INTRODUCTION

Safety is crucial in today's environment, particularly for women. Bluetooth and cellphones can be used to improve safety apps. The goal of this research is to create an app that will keep women secure. The plan is to pair the app with another device, such as a bracelet or unique gadget, via Bluetooth. The application notifies the user's parents or guardians that something might be amiss if the connection drops. This is crucial because it provides a means for women to obtain assistance in an emergency. Women frequently experience safety concerns in their daily lives, and solutions like this app can help them feel more comfortable. This study investigates how well the app performs and how it might be improved in the future. By creating safety apps like this one, we can help women feel safer and more confident in their daily lives. This study intends to demonstrate how technology may play a significant role in keeping women safe and making the world a better place for all. Despite technological advancements, many women still lack adequate tools to ensure their security. Existing safety apps and devices often fail

to provide comprehensive solutions, leaving women feeling vulnerable and unprotected.

II. LITERATURE REVIEW

In Today's society the protection and safety of the woman has become very important that's leading to many new technologies solutions. Existing studies show that women faces dangers in both public and private places (Johnson, 2018). Because of this more people want to create phone apps that helps in improving women's safety by giving quick help and ways to prevent problems. Research like that carried out by Gupta et al.(2020) shows that how phones application with features like GPS tracking and emergency alerts can reduce risk and help quickly during times of trouble. These apps use smartphones features to make ways to talk and notify Police authorities or any specified Contact from your Relation. Also, Bluetooth's ability to boost connection and make devices talk easily has make interest in adding it to the safety applications. According to Research by Smith and Jones (2019) shows that wearable technology with Bluetooth capabilities like bracelet and pendants is effective in automating emergency responses and allowing quite distress signals.

This approach outlines the various stages involved in developing a software product, starting from the gathering and analysis of initial requirements, and progressing through to the final deployment and ongoing maintenance of the system. The protection and security of women has become a top priority in today's society, spurring the development of numerous technology solutions. Existing work emphasises the prevalence of safety hazards experienced by women in both public and private settings (Johnson, 2018).

Research like that carried out by Gupta et al. (2020) highlights how mobile applications with features like

GPS tracking and emergency warning systems can reduce risks and offer immediate assistance in times of trouble. These apps use smartphone technologies to create channels of communication and notify authorities or specified contacts in real time.

III. METHODOLOGY

In this section , we explain the Hardware which is used in this Project.

A. Bluetooth Module:

A Bluetooth is a device that enables wireless communication between electronic devices over short distance. It is design to easily integrated into embedded system supports various data connection interfaces.

B. Battery for Bracelet:

The bracelet is often powered by a lithium-ion battery, which is chosen for its high energy density, lightweight design, and rechargeability. Lithium-ion batteries provide dependable power, making them

ideal for wearable devices such as safety wristbands.



Fig. Battery. A.

The lithium batteries are more powerful and are used for watches with a large number of functions and are fond of energy. Lithium batteries can provide a voltage of up to 3V (volts), while silver oxide batteries provide 1.55V (volts). All in all, smart bracelets are usually powered by high-performance polymer batteries to ensure the continuous, efficient, and stable operation of the product. We not only value the capacity and performance of the batteries but also pursue appearance and wear comfort.

IV. WORKING

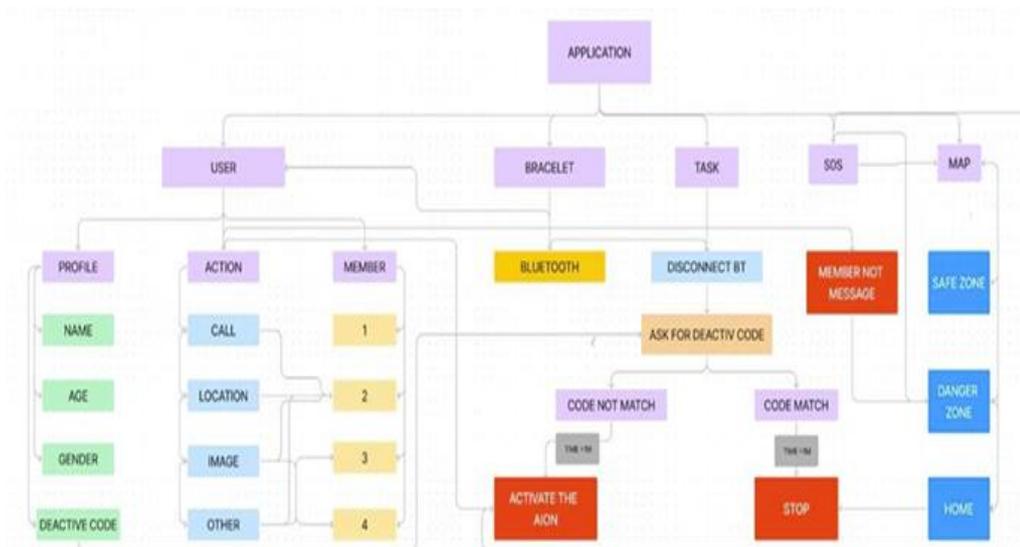


Fig. Flow chat. B

1. Bluetooth Disconnection Detection: The safety software continuously checks the wearable device's and smartphone's Bluetooth connection. The application's safety procedures are activated if the Bluetooth connection is abruptly lost.

2. Activation of Safety Protocols: The safety application is automatically launched when the

disconnection is detected. It starts a number of safety procedures to guarantee the user's welfare.

3. Sending Information to Smartphone: Once launched, the safety app transmits crucial information to the user's smartphone. This information may comprise the user's present position, a timestamp, and any available sensor data from the wearable device.

4. Activation of 10-Second Alert: As an immediate response, the safety application sends a 10-second notice to the smartphone. This warning notifies the user when an emergency situation has been observed.

5. Code Verification: During the 10-second alert period, the user has the option to input a specific code into the safety application. This code acts as a verification mechanism to confirm the user's safety status.

6. Decision Making: If the proper code is input within the time limit, the safety application recognizes the user as safe. In this situation, no more actions are done, and no messages are sent to the user's parents.

7. Alert Message to Parents: If the code is not input or wrong, suggesting that the user is in distress or unable to react, the safety program proceeds to send an alarm message to the user's specified emergency contacts, which are often their parents or guardians.

Results:

The outcome of this project is a safety application through Bluetooth, and it is useful for improving women's safety, and it provides keeping and cleaning in emergency situations.

1. Stable Bluetooth Connectivity: Reliable Bluetooth connectivity is a wireless device, and the Android Bluetooth connection has been proved to be dependable. You should also check the battery level of your Bluetooth device and make sure it is fully charged or plugged in. If you have multiple Bluetooth devices connected, you may want to disconnect the ones you are not using to avoid interference or confusion.

2. GPS Tracking Module: Responsible for tracking the user's location in case of emergencies. This module utilises GPS technology to pinpoint the user's exact location coordinates. It provides essential information to emergency respond for swift assistance.

3. Alert & Notification Module: Tasked with generating alert & notifications. This module informs the user's designated emergency contacts in case of distress situation. This ensure that help summoned promptly, enhancing the user's safety & security.

V. RESULT & ANALYSIS

The aim of this app is to improve the user's comfort and safety in different scenarios .This app allows

users to connect with their family contacts and send helping messages in emergency situations by using Bluetooth technology .To ensure user safety and usability, many features and functionalities are used. This app is basically designed to improve women's safety, especially at night and when they are alone far from their home, so they can do any work or move freely without any headache.

The purpose of the Bluetooth Safety App is to improve user comfort and personal safety in a variety of scenarios. The app allows users to connect with trusted contacts and deliver distress signals in emergency situations by utilizing Bluetooth technology. To guarantee user security and usability, important features and functionalities have been included.

VI. CONCLUSION

In conclusion, using technologies to solve big social problems has come with the Bluetooth women's safety app. This study's real-time women's safety app objective is Bluetooth. This app is developed for Android phones, which are connected to Bluetooth devices. If the woman in trouble clicks that button, she sends a prompt message to her parents. If the Bluetooth is disconnected there, it quickly sends a message to the parents to ensure that they receive the operation, setup, and response event of the Problem.

Women frequently experience safety concerns in their daily lives, and solutions like this app can help them feel more comfortable. This study investigates how well the app performs and how it might be improved in the future. By creating safety apps like this one, we can help women feel safer and more confident in their daily lives. This study intends to demonstrate how technology may play a significant role in keeping women safe and making the world a better place for all. Also, Bluetooth's ability to boost connection and make devices talk easily has make interest in adding it to the safety applications.

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