Safety Companion

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Abstract- Women's safety is becoming an increasingly pressing topic in India and other nations. The fundamental difficulty with the police handling of these incidents is that they are limited in their ability to respond swiftly to distress calls. These limits include not knowing the location of the crime and not knowing the crime is occurring at all at the victim's end, making reaching the police confidently and discreetly difficult. To avoid these circumstances, this project develops a mobile application that provides women with a dependable option to make an emergency call, send a message, and update her whereabouts to the police as well as her family's close relatives.

Keywords- Women's Safety, Emergency Alert App, Location Tracking

I. INTRODUCTION

In the modern world, it is dangerous for anybody to walk alone at night, especially women; it will be more prudent to go alone since women are less able than males to defend themselves from danger. Whether you are in an emergency situation or have become separated from friends in the middle of the night and are unsure how to get home, having these applications on your phone may reduce our risk and provide support when we need it. In this project, we introduce Security Alert, an application for smartphones that runs on the Android platform and sends SMS alerts to the victim's selected contacts as well as an emergency number. A smart strategy to lessen your chances of being a victim of a violent crime (robbery, sexual assault, rape, or domestic abuse) is to identify and contact resources that can assist you in getting out of dangerous circumstances. One-third of all women will face violence at some point in their lives. Such occurrences are becoming increasingly prevalent lately. There are several procedures in place to protect vulnerable women.

The rest of this paper is organized as follows. The next section composes a review of similar researches that have beenimplemented and tested for real time women safety application. In Section III, the proposed algorithm is described. Thestages of the proposed real time women safety application. In Section IV, experimental results are reported.Finally, some conclusions are given and future work is proposed.

II. LITERATURE SURVEY

Literature Survey is most important step in the software development process. Before developing the tool, it is necessary to determine the time factor, economy and company strength. Once these things are satisfied, the next step is to determine which operating system and language can be used in developing the tool.

[1]Smart girls security systemby B.Chougula, International Journal of Application or Innovation in Engineering & Management, Volume 3, Issue 4, April 2014M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989[1]This paper presents the development of a Smart Girls Security System designed to enhance the safety of women in emergency situations. The system integrates GPS and GSM technologies to provide real-time location tracking and instant communication with pre-defined emergency contacts. A key feature is its motion detection mechanism, which allows users to discreetly trigger alerts through simple gestures such as shaking the device. Once activated, the system sends a distress message with the user's current location and initiates an audible alarm to attract nearby attention.

[2] Android App for Women Safety Dr. K Srinivas, Dr. Suwarna Gothane, C. Saisha Krithika, Anshika, T. Susmitha, "Android App for Women Safety," International Journal of Scientific Research in Computer Science Engineering and Information Technology. The paper discusses the development of an Android application focused on enhancing women's safety during emergencies. The app incorporates features such as real-time GPS tracking, a panic button, and automatic emergency alerts that send the user's location and a distress message to pre-defined contacts. Emphasizing simplicity and accessibility, the app is designed to be easily used by women of all ages, even in high-stress situations. Its user-friendly interface ensures quick activation, enabling immediate help during critical moments. With its reliable and fast response capabilities, the app serves as a practical tool to improve personal security. Overall, the application aims to reduce vulnerability and offer a greater sense of safety in daily life.

[3] WoSAppWoSApp, National Institute of Technology Karnataka, Surathkal Karnataka, India.Mehta, WoSApp is a safety application developed at the National Institute of Technology Karnataka, focused on enhancing women's security. It features real-time GPS tracking, SOS alerts, and emergency contact notifications. The app allows users to send distress messages with their location to trusted contacts during emergencies. Designed for ease of use, it ensures quick access to help with minimal effort. WoSApp leverages smartphone capabilities to offer a reliable personal safety tool. By empowering women to respond confidently in unsafe situations, the app promotes a safer environment.

[4] IoT Wearables (Smartwatch) Connected to Safety App: Limited Range and Device Failure Risks R. Verma, "IoT Wearables (Smartwatch) Connected to Safety App: Limited Range and Device Failure Risks," in Journal of IoT Research and ApplicationsThe paper explores the integration of IoT wearables like smartwatches with safety applications, highlighting both their potential and limitations. These devices enhance personal safety by enabling real-time alerts, location tracking, and emergency communication. However, challenges such as limited Bluetooth range, reliance on smartphones, and risks of device failure affect their reliability. The study evaluates performance under various conditions and suggests improvements in connectivity, durability, and system backup. It emphasizes the need for more resilient hardware and advanced communication technologies. The findings offer insights to guide the development of robust IoT-based safety solutions.

A literature survey on women safety applications reveals a growing emphasis on leveraging mobile technologies to enhance personal security. Various studies highlight the integration of GPS, real-time tracking, and emergency alert systems as core features in these applications. Research shows that many apps allow users to share their live location with trusted contacts or authorities during distress. Several papers explore the use of voice recognition and shake detection to trigger alerts without unlocking the device. Machine learning and AI-based threat prediction models are also being incorporated to anticipate and prevent potential risks. Some studies examine wearable tech integration, such as smart jewelry or bands, to discreetly send alerts. A recurring theme in the literature is user privacy and data security, which remain crucial concerns. Usability and accessibility, especially in lownetwork areas, are also frequently discussed. Comparisons among existing applications show a gap in widespread adoption due to a lack of awareness and trust. Overall, literature emphasizes the need for robust, user-friendly, and culturally adaptive solutions to improve women's safety.

The Methodology for developing a women safety application involves a structured approach based on the Software Development Life Cycle (SDLC). It begins with requirement analysis, where user needs are gathered through surveys and research, focusing on features like emergency alerts, live location sharing, and SOS buttons. This is followed by system design, where the app's architecture is outlined, including modules for user registration, location tracking, and alert messaging. Suitable technologies such as Android Studio, Firebase, and Google Maps API are selected to build the app. During the development phase, key features like one-tap alerts, GPS tracking, and emergency contact notifications are implemented, along with optional voice or gesture-based triggers. In some cases, machine learning models are integrated to predict threats based on location or behavior patterns. The application then undergoes rigorous testing for functionality, usability, and security. Once tested, it is deployed on relevant platforms like the Google Play Store.

Women Safety Application

The diagram illustrates the operational workflow of a Women Safety Application Using Android Studio.

- 1. User Registration/Login: The user begins by registering or logging into the Women Safety Application to create a secure, personalized profile. This enables access to key features like emergency contacts and safety settings.
- 2. Accessing the Home Dashboard: After login, users access the Home Dashboard with key features like the SOS button, location sharing, and incident reporting. It's designed for quick, one-tap responses during emergencies.
- **3. Triggering the SOS Alert**: When the SOS button is activated, the system immediately initiates a safety protocol. It collects the user's GPS location and sends alerts to the registered emergency contacts. Optionally, it can notify the nearest police station or emergency services.
- 4. SOS Alert Response Features: The SOS alert is triggered, the app activates location-based alerts and It provides access to nearby safe zones or police stations and can optionally call the police automatically. This ensures real-time GPS guidance and support, keeping the user connected and protected during emergencies
- **5. Incident Reporting and Additional Support**: After a situation has occurred, the user can submit a detailed incident report through the app. This feature documents the event for future reference or legal action.

Additionally, the application provides access to safety tips and emergency contact numbers, serving as a proactive educational tool. This final step not only supports reactive safety but also encourages preparedness and awareness



Figure 1 :Workfow Of Women Safety Application

IV. SNAPSHOTS



Snapshot 1: Interface Page



Snapshot 2:HomePage



Snapshot3 : Contact Adapter

W-Safe	
CONTACT	SMS ALERT
WOMEN LAWS	SELF DEFENSE
PANIC	
Snapshot 4 :Helplines number	
Women In Distress	
Domestic Abuse	
Police	
Student / Child Helpline	
Ambulance	

Snapshot 5:Helplines number for emergency



Snapshot 6: Displaying videos of self-defense Page



Snapshot 7: Message Alert Result Page

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