

Women Safety Application Android Project

Samaikya Konda¹, Vaishnavi Valaboju², Ch Mrunalika³, Neha Jhunjunwala⁴

^{1,2,3}B. Tech Scholars, Department of Computer Science and Engineering, SNIST, Hyderabad-501301, India

⁴Assistant Professor, Department of Computer Science and Engineering, SNIST, Hyderabad-501301, India

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. The user may easily shake the phone in which the app is loaded so that all notifications are received by the appropriate persons. This project presents an application, its development, and technical implementation using Android Studio and a phone running Android 11+.

Key Words: Women Safety, Android, Mobile App, Java, SMS, Shake Detector, Location.

1. 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.

2. REVIEW OF RELATED LITERATURE

The review of related literature on existing systems for women's safety highlights the availability of various mobile applications in the market to ensure personal safety. These applications include Safetipin, bSafe, Circle of 6, VithU, and Hollaback.

Safetipin uses lighting, openness, visibility, and crowd analysis to provide a safety score for a particular area, while bSafe includes GPS tracking, a timer alarm, a fake call feature, and voice activation for emergency situations. Circle of 6 allows women to reach out to six trusted contacts in case of an emergency, and VithU sends an emergency alert to contacts when the power button is pressed twice. Hollaback! is designed to address and prevent street harassment by allowing users to share their stories and experiences and providing information on how to deal with street harassment.

The literature review emphasizes the importance of choosing the most suitable mobile application that addresses individual needs and preferences for personal safety. The applications provide unique features and functionalities to ensure safety and can be used to assess the safety of an area, alert friends and family in emergency situations, and reach out to trusted contacts for help.

In conclusion, the review of related literature on existing systems for women's safety highlights the availability of various mobile applications that can be used to ensure personal safety. Each application provides unique features and functionalities and can be used to address specific aspects of women's safety.

3. EXISTING SYSTEM

Sample Existing systems in the market for women's safety include:

Safetipin: This app enables women to check the safety score of a particular area by analyzing factors like lighting, openness visibility, and crowd. The app also provides features like emergency alerts, safety tips, and route planning.

bSafe: This app allows women to alert their friends and family in case of an emergency with just a tap on the app. The app also includes a GPS tracker, timer alarm, fake call feature, and voice activation.

Circle of 6: This app enables women to reach out to six trusted contacts in case of an emergency by tapping on the app. The app also includes features like GPS location tracking, automated text message alerts, and a "phone a friend" feature.

VithU: This app sends out an emergency alert to contacts saved on the user's phone when the power button is pressed

twice. The app also records audio and video in the background and sends it to the contacts along with the location.

Hollaback!: This app is designed to address and prevent street harassment. The app enables users to share their stories and experiences and provides information on how to deal with street harassment.

4. PROPOSED SYSTEM

The proposed system is a safety application for mobile devices that includes several features aimed at ensuring the safety of the user. The first feature is the Shake Detector, which activates the application when the user shakes the device in case of an emergency. The second feature is the Siren Sound, which alerts people in the vicinity that someone needs help. The third feature is the Call to Registered Mobile, which automatically calls a pre-registered mobile number in case of an emergency. The fourth feature is Shake Device to Send SOS to Registered Mobile and Play Siren, which is activated when the user shakes the device. This feature sends an SOS alert to the registered mobile and plays a loud siren sound to alert people in the area. The fifth feature is the Last Known Location, which sends the user's last known location to the registered mobile in case of an emergency. This feature is useful in situations where the user is unable to provide their current location. The final feature is the ability to add multiple contacts to send an SOS. This feature allows the user to add several contacts that can receive the SOS alert in case the first registered contact is unavailable. Overall, the proposed system is an effective safety application that provides several features that can assist the user in case of an emergency.

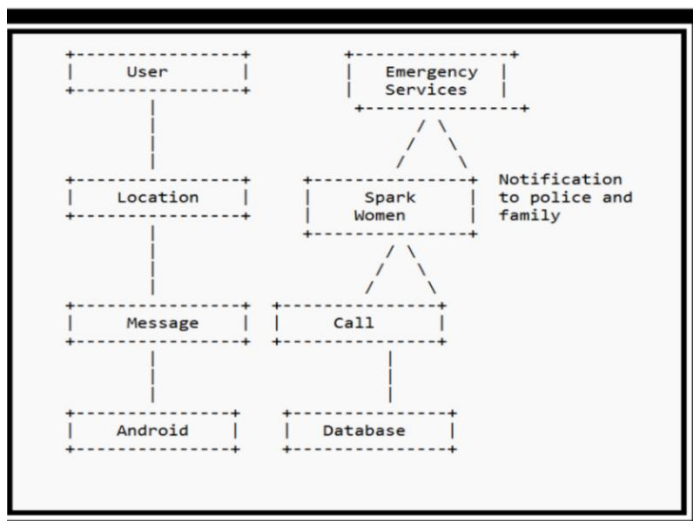


Fig -1: System Architecture

5. UML DIAGRAMS

5.1 Use Case Diagram

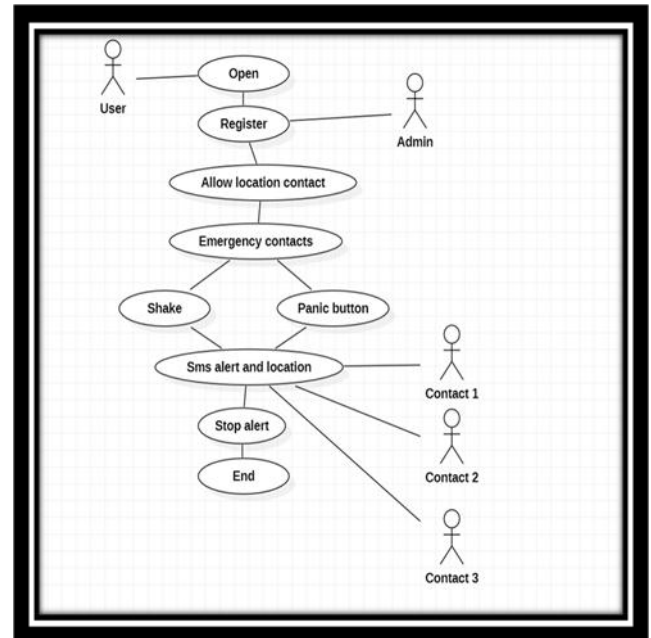


Fig -2: Use Case Diagram

5.2 Activity Diagram

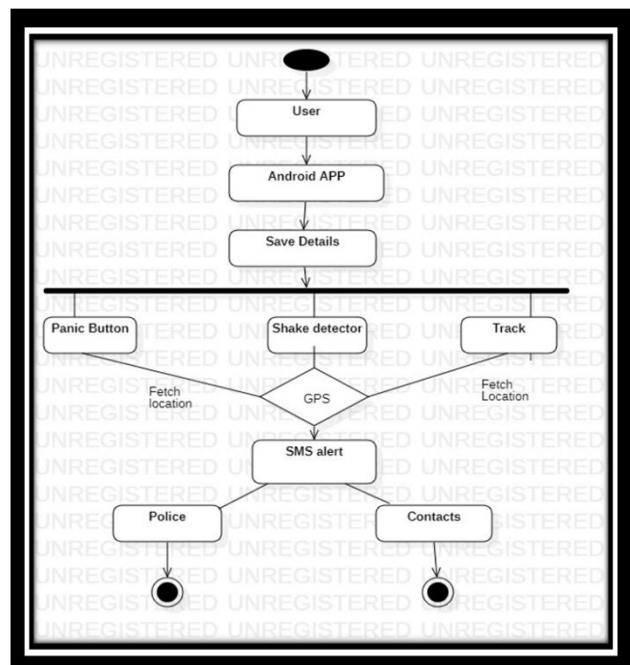


Fig -3: Activity Diagram

5.3 Sequence Diagram

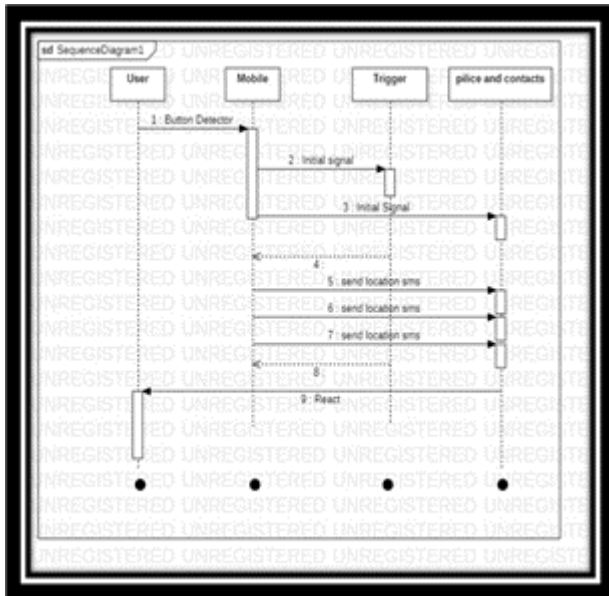


Fig -4: Sequence Diagram

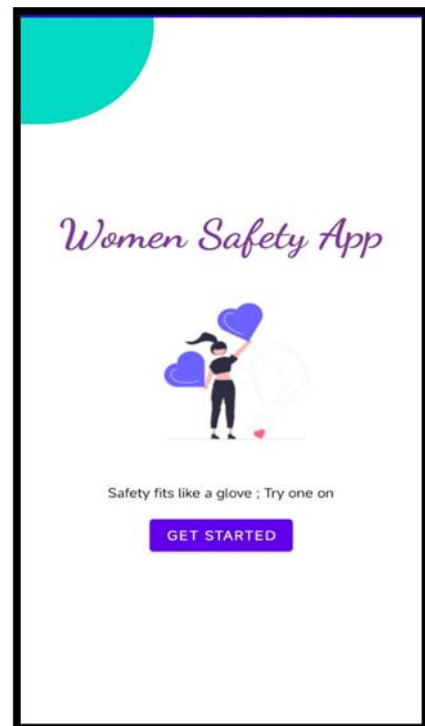


Fig -6: Interface 1

6. LANGUAGE/TECHNOLOGY USED

- Java
- Android studio for the app
- XML for the interface
- Android 11+ version smartphone

6. RESULT

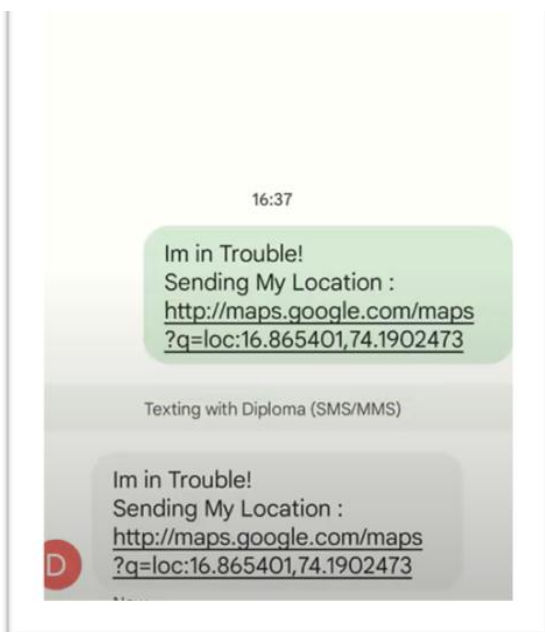


Fig -5: Result

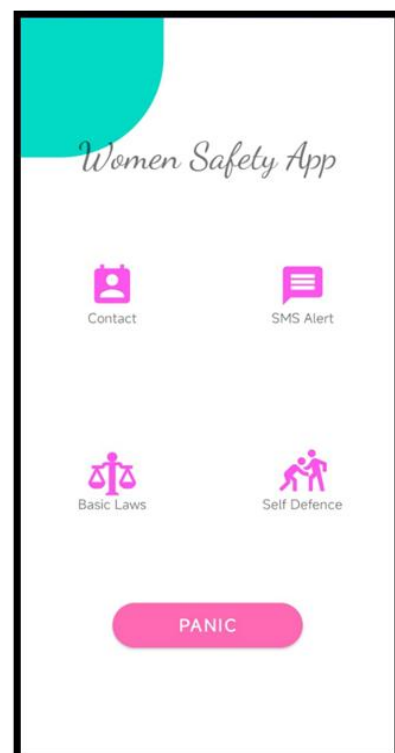


Fig -7: Interface 2

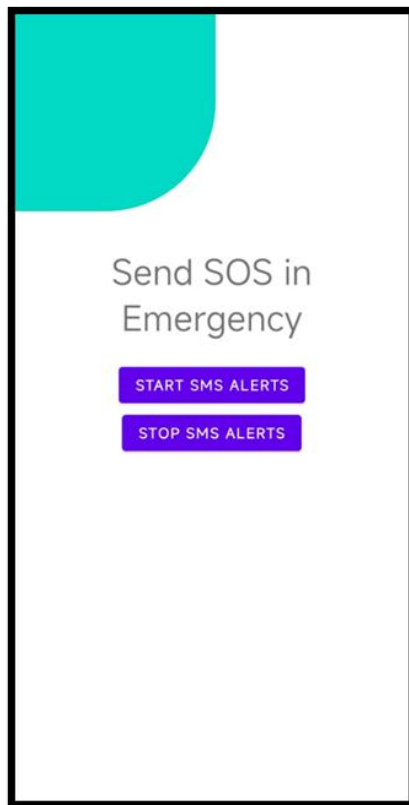


Fig -8: Interface3

7. FUTURE SCOPE

The Women application's future potential is highly great. Integration with the law enforcement database is one of the important elements that may be introduced to the program. This connection can contain all of the phone numbers of area officers, allowing them to get an alert in the event of an emergency. This function is especially beneficial when the victim is unable to reach her registered contacts or when the registered contacts are unable to reply promptly. Another potential use case for Women Safety Application is rescuing victims while the cell network is unavailable. This can be accomplished by employing alternate communication channels such as Wi-Fi or Bluetooth. The application can be designed to automatically switch to these communication channels in case of network unavailability, ensuring that the victim's location is still tracked, and emergency alerts are sent to the relevant contacts. In addition, the Women Safety application can be developed for other mobile platforms such as iOS and Windows Mobile. Overall, the Women safety application has the potential to help women in a big way from unsafe conditions. With the integration of law enforcement databases and the use of alternative communication channels, the application can be further enhanced to ensure the safety of women in even the most challenging situations

8. CONCLUSIONS

This Android application was created with the goal of safeguarding the protection of women. One of the application's primary features is real-time tracking of the victim's position through GPS technology. This function allows the user to track the victim's exact position in real-time. Furthermore, the program lets the user to register one or more contacts who will be contacted by the root device in the event of an emergency. This call informs the registered contact(s) that the user is in danger and needs immediate assistance. One of the application's main benefits is its ability to reliably monitor the victim's position, even when the location of the root device changes frequently. This implies that the registered contact(s) can immediately identify the victim and give aid, even if the victim is on the move. Overall, the Women Safety application is a good tool for safeguarding the safety of women in potentially dangerous circumstances, and its features can help to avoid occurrences of violence and abuse against women.

REFERENCES

- [1] B. Chougula, "Smart girls security system," 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.
- [2] WOMEN'S SECURITY", Android App developed by App Soft India, December 17,2013. <https://play.google.com/store/apps/details?id=com.Zayaninfotech.security&hl=en>
- [3] Android Developers, Location APIs. URL: <http://developer.android.com/google/play-services/location.html>
- [4] 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 (IJSRCSEIT), ISSN : 2456- 3307, Volume 7 Issue 3, pp. 378-386, May-June 2021.
- [5] [5] "Shake to Alert," [Online]. Available: <https://www.shake2alert.co.za/>. [Accessed 25 august 2019].
- [6] [6] "Raksha- women safety alert, "Bharatsweva.com, [Online].
- [7] [7].Dhruv Chand, Sunil Nayak, Karthik S. Bhat, Shivani Parikh, Yuvraj Singh, Amita Ajith Kamath, "A Mobile Application
- [8] for Women's Safety: WoSApp". National Institute of Technology Karnataka, Surathkal Karnataka, India, 2015.