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S-HER: Next-Gen Women Safety App

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Abstract— Woman safety is the most significant and serious issue of contemporary society and demands effective technological solutions to be invented. Safety and security for women are indispensable for guaranteeing gender equality, well-being for the individual, and social development. Women are facing various challenges and dangers in the shape of harassment, violence, discrimination, and unequal distribution of resources and opportunities. To address these issues, collective action is being taken to raise awareness, advocate for women's rights, and establish effective measures for women's safety. This includes education and awareness campaigns that aim to change attitudes and behaviors within society, foster respectful relationships, and combat gender stereotypes and prejudices.

Index Terms— Emergency Response, Gender Equality, Protection, Security, Women's Safety.

I. INTRODUCTION

Android application development has changed the way we interact with technology, and it made a wealth of functionality and service at our fingertips. Its intuitive interface, along with an equally vast selection of in-built templates and code responsive apps. Android Studio also provides robust debugging and testing capabilities to make applications developed stable and reliable. Moreover, its integration with the Android Software Development Kit (SDK) makes it easy to utilize advanced APIs and libraries, which help developers achieve the full potential of the Android platform.

Women's safety and security remain vital social concerns. Women experience all sorts of harassment, violence, and discrimination in public spaces as well as in private spheres. Snippets, enables programmers to design attractive and ensuring the safety of women is not merely an issue of personal well-being but also an integral part of gender equality. Ensuring the safety of women can be addressed with a multi-faceted approach that includes awareness campaigns, policy reform, education programs, and technology solution creation. Through creating a woman safety application, this project seeks to add to this continued endeavor.

The application will equip women with tools to better their personal safety, access emergency services, and experience a sense of empowerment in responding to their lives.

II. LITERATURE SURVEY

Safety for women is a global concern, and increasing reports of violence against women have necessitated more technology-driven solutions for individual security. Android applications designed especially for women's safety have been effective tools, utilizing features like GPS, panic alerts, and live communication to provide assistance in risky situations. This literature review examines the evolution, working, and effectiveness of different women safety Android applications.

[1]. ABHAYA: AN ANDROID APP FOR THE SAFETY OF WOMEN – The app targets improving women's safety by offering GPS tracking and emergency alerts. It provides a simple interface for rapid access to safety features. Disadvantages: It lacks full functionality apart from emergency alerts and is very much dependent on smartphones, thus possibly excluding individuals without access to smartphones.

[2]. S-ZONE: A WOMEN SAFETY & SECURITY SYSTEM – It combines a mobile application with hardware devices like panic buttons. Real-time location identification and notification of family members is part of the system. Limitations: It can be expensive because of the hardware and is based on the availability of a network for full functionality.

[3]. SHIELD: Personal Safety App – SHIELD is programmed to send urgent messages with GPS location and offers safety advice and information.

[4]. Women Safety Android App – This app is simple, providing emergency alert functions with voice command for accessibility. Disadvantages: It provides limited options beyond basic alerting and is subject to battery life and accessibility of the device, which is not ideal during emergencies.

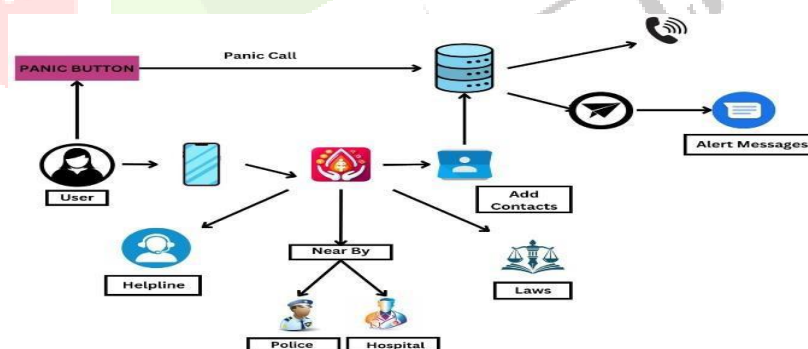
[5]. Women Safety Mobile App – The app provides safety alerts and emergency contact options, emphasizing user awareness and engagement through educational content. Drawbacks: It may have limited awareness campaigns, affecting its uptake, and it could lack offline functionality in areas with poor connectivity.

III. METHODOLOGY

S-HER women safety app is architected with a number of integrated modules to support all-around as well as convenience of use at the time of emergency safe guarding of women. The Main Activity Module is the home screen and entry point, which provides access to all major features, such as Contact Management, SMS Alerts, Women's Laws, Self-Defense Videos, and Panic Button. All modules are unique in function: the Contact Activity Module informs users about women's safety legislation in the form of a readable format, whereas the Laws Activity Module allows users to manage emergency contacts using persistent storage and a dynamic RecyclerView View.

The Self-Defense Activity Module has a Web View for simple viewing of instructional videos. The Panic Button Activity Module and SMS Activity Module provide users with SMS-based SOS alerts accompanied by location tracking for instant assistance. Advanced features like the Shake Detection Module provide an easy safety feature by automatically triggering the panic button using gestures. Finally, the GPS Module ensures accurate location tracking, enabling fast response in emergency situations. All these modules together constitute an overall system for women's safety, integrating advanced technology with ease.

IV. ARCHITECTURE



V. RESULTS / OUTPUTS

The S-HER Women Safety Application is a full-fledged Android application that seeks to enhance women's security through an easy-to-use, user-friendly interface and advanced functionality. The application home screen serves as a home page and offers easy navigation access to the primary features of emergency contact management, SOS messages, self-defense tutorial videos, and laws related to women's safety. The emergency contacts are dynamically controlled by the users with the help of a RecyclerView, and data is permanently stored by Shared Preferences. A specific panic button and SOS messaging feature enable instant distress messages, including GPS coordinates, to be sent to registered contacts with one tap or shake action, leveraging Android's SMS Manager and location services.

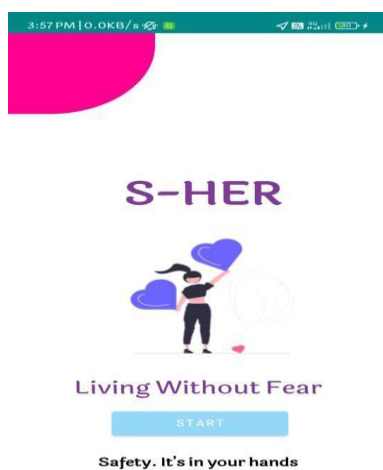


Fig-i: Start Page

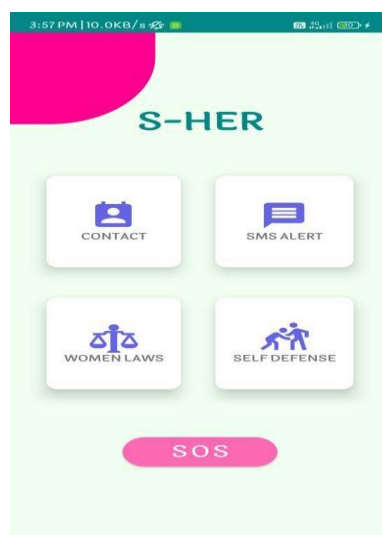


Fig-ii: Home Screen



Fig-iii: Alerts Toggle Screen

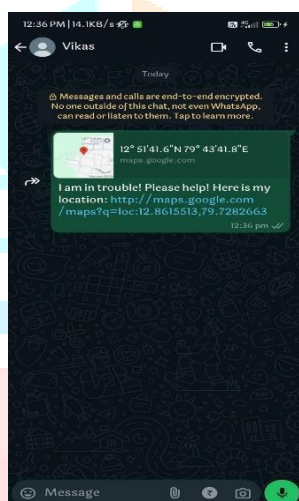


Fig-iv: Alert Message in WhatsApp

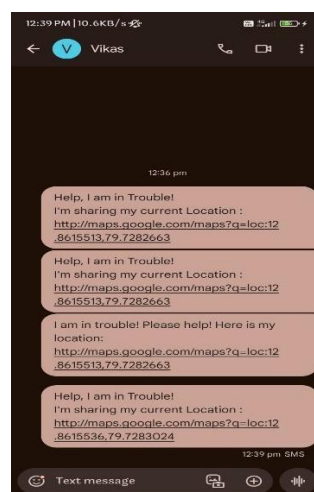


Fig-v: Alert in Text Message

VI. CONCLUSION

The creation of the S-HER application has met the urgent need for women's safety in contemporary society. By using sophisticated technologies like Android Studio, Java, and XML, S-HER provides an integrated solution to empower women and improve their personal safety and security. The app includes functions such as a shake sensor, panic button, SOS messages, and location tracking to provide instant help in times of need.

Furthermore, nearby police station integration and hospital integration, women's safety acts, self-defense instructional videos, and national helpline numbers offer valuable information and tools to the user. The user-friendly interface and intuitive functionalities ensure S-HER's accessibility and usability, complementing its efficacy further. The successful deployment of the project proves that technology has a role to play in empowering women's safety and establishing a more secure environment. S-HER is a substantial advancement towards securing women and their rights and wellbeing.

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