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Beware Women Safety Application

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Abstract— This paper proposes the development of an innovative safety-focused mobile application that integrates essential personal security features not commonly found in existing solutions. The application introduces a mandatory, non-skippable self-defense tutorial video during initial use, designed to educate users on basic yet effective self-defense techniques. This ensures that every user gains immediate awareness of how to respond to emergencies. Furthermore, the application includes a "Search Near-by Police Station" feature, which leverages real-time location services to automatically identify and display the nearest police stations with their respective contact details. A unique and intuitive feature enables users to initiate emergency communication by simply pressing the volume key, allowing for voice input. The captured voice message is then instantly sent to pre-configured emergency contacts or family members, ensuring quick response in distress situations. This combination of proactive education, real-time assistance, and rapid communication enhances user safety and sets the foundation for a powerful, user-centric safety application.

Keywords— Android applications can address challenges that women face regularly; it is vital to look into them for their safety and protection. By taking into account women's unique needs, the research findings help to influence the development of safer, more practical, and more trustworthy apps. Lawmakers and app developers can learn from successful ways by reviewing user experiences and specifying key features such as location tracking and emergency notifications.

I. INTRODUCTION

The increase in harassment and violence has sparked global concern about women's safety and security. As a result, technology has emerged as a valuable tool, particularly the creation of Android applications that improve women's safety. These apps, which are typically available on cell phones, offer features like real-time location monitoring, emergency notifications, and direct communication with authorities or trusted contacts. These applications make use of cutting-edge technology like GPS and AI to provide individualized safety solutions that allow women to navigate their environment more comfortably. The use of technology is part of a larger global effort to provide a safe and supportive environment for women. Research on women's security and safety when using Android applications is vital, especially with the current rise in harassment and violence against women in our culture. Understanding how technology may enhance safety measures is crucial to empowering women to feel safe in their daily lives. By evaluating the effectiveness of these applications, we can discover how they affect emergency response times and risk management. This study emphasizes the importance of readily available safety support and educates developers and policymakers on the characteristics that are most relevant to women's needs. The ultimate purpose of this effort is to help create a safer workplace for women by implementing cutting-edge technical solutions. Because Android applications can address challenges that women face regularly, it is vital to look into them for their safety and protection. By taking into account women's unique needs, the research findings help to influence the development of safer, more practical, and more trustworthy apps. Lawmakers and app developers can learn from successful ways by reviewing user experiences and specifying key features like location tracking and emergency notifications. This adaptability ensures that the solutions created are both innovative and practical, resulting in a safer environment for women and enhanced confidence in their ability to move around. This study on women's safety and security using Android applications aims to assess the effectiveness and utility of these technological tools in enhancing women's safety. The study looks at a range of apps in an effort to identify key components that improve a sense of security, such as real-time location sharing, emergency alerts, and user-friendly interfaces. Understanding user perspectives and experiences with these applications is another goal of the study. To sum up, this study intends to increase awareness of the role that technology plays in promoting women's safety and empowerment while guiding developers on how to create safer solutions.

II. IMPORTANCE OF TECHNOLOGY

Research on women's security and safety when using Android applications is vital, especially with the current rise in harassment and violence against women in our society. Understanding how technology may enhance safety measures is crucial to empowering women to feel safe in their daily lives. By evaluating the

effectiveness of these applications, we can discover how they affect emergency response times and risk management. This study emphasizes the importance of readily available safety support and educates developers and policymakers on the characteristics that are most relevant to women's needs. The ultimate purpose of this effort is to help create a safer workplace for women by implementing cutting-edge technical solutions. Because Android applications can address challenges that women face regularly, it is vital to look into them for their safety and protection. By taking into account women's unique needs, the research findings help to influence the development of safer, more practical, and more trustworthy apps. This adaptability ensures that the solutions created are both innovative and practical, resulting in a safer environment for women and enhanced confidence in their ability to move around.

III. LITERATURE REVIEW

Literature review from other published papers by different authors to understand and collect the measure points and to make my application more flexible and useful.

Paper Review
Paper Name: An Insight into Android Applications for the **Safety of Women**: Techniques and Applications.
Author: Deepti Aggarwal

Abstract: Unfortunately, this is the sad reality of our society that lives in constant fear. Women's safety is now a subject of global concern. The increasing crime rates in today's society have infuriated everyone and pushed us to develop a system that can provide security to women and anyone through their phones. In this paper, we have reviewed applications and devices made for women's safety using different technologies such as GPS and SOS buttons.

Paper Name: An Android App for the Safety of Women
Author: Ravi Sekhar Yarrabothu

Abstract: This paper presents Abhaya, an Android application for the safety of women. This app can be activated by a single click whenever the need arises. A single click on this app identifies the location of a place through GPS and sends a message comprising this location URL to the registered contacts and also calls on the first registered contact to help the one in dangerous situations. The unique feature of this application is to send the message to the registered contacts continuously for every five minutes until “The "stop" button in the application is clicked.

Paper Name: Development of a Women's Safety Smartphone **Application**—SAKHI
Author: Aditya Vikram Agarwal

Abstract: This paper presents SAKHI, an Android smartphone application that assists women in sending an SOS alert by holding the volume button for five minutes to both their emergency contacts and the police. This application includes the woman's current location and a video recording of the incident, which would be saved on the victim's smartphone. The app records 10-second video clips, uploads them to the Firebase database, and concurrently sends the link to police and emergency contacts to access the video.

Paper Name: An Android-Based Application System for Women's Safety.
Author: Rabbina Ridan Khandoker.

Abstract: Women have ensured the stability, progress, and long-term development of the nations throughout history. If women are subjected to violence and harassment, they cannot be genuinely included in society. With increasingly heinous incidents involving women and children, an advanced system is needed to serve the purpose of getting help as soon as possible. At present, the use of smartphones has increased rapidly.

IV. RESEARCH METHEDOLOGY

A mixed-methods approach is used to study how Android apps affect women's safety and security. The first stage will include an extensive literature study to discover existing safety apps and their features. Surveys built specifically for female users will be used to collect quantitative data in order to analyze their experiences and degree of satisfaction with these apps. In addition, it will be undertaken to get detailed information about the demands and issues that users face. The selected apps' usability will also be examined to determine how well they perform in emergency scenarios. Finally, data will be evaluated to develop findings and make recommendations for increasing women's technological safety.

➢ Technique used Location monitoring, emergency alarm systems, and communication capabilities are the features employed in Android applications to improve women's safety and security. Position monitoring enables users to be tracked in potentially dangerous situations by sending their current position to trusted contacts. With emergency alert systems, users can rapidly notify contacts or authorities with a single tap. Services like safety check-ins and virtual escorts provide further reassurance. Furthermore, procedures are in place to collect user feedback and incrementally improve the app's functionality. Data encryption techniques secure private data, ensuring the security and privacy of women who use these applications.

➢ Data collection procedure The data collection method for Android applications that analyze women's safety and security involves several steps. To gather quantitative data on user experiences and app efficacy, questionnaires will first be made available online. There may also be observations about how the application is used in practical circumstances. Finally, data analysis will be conducted to identify patterns and make recommendations for improving safety features. Akhil Bharatiya Maratha Shikshan Parishad's Anantrao Pawar College of Engineering & Research Record No.: ACA/D/-- Revision: 00 DOI: 26/05/2024 Project Synopsis.

➢ Data analysis procedure The data analysis technique for women's safety and security with Android applications includes several critical steps. Initially, statistical approaches will be used to assess survey quantitative data in order to identify trends and relationships to gather key insights from the literature survey. The data will be compared to earlier studies to derive crucial conclusions and generate ideas for app development.

➢ Data collection instrument Structured survey questions are one way to collect quantitative data on app features and user experiences for the research of women's safety and security while using Android applications. Furthermore, during will be used to obtain qualitative data and facilitate in-depth conversations. To ensure complete data

collection from a variety of angles, observation can be used to evaluate app usage in real-time circumstances.

➢ Mention the name of the appropriate research design. A mixed-methods approach is the most effective way to analyze women's security and safety when using Android applications. This method combines quantitative tools, like surveys, to collect numerical data on app usage and efficacy with qualitative resources, such as learning more about user experiences. This technique allows for a complete understanding of the challenges and the formulation of specific recommendations for increasing safety features.

V. FLOWDIAGRAM OF PROPOSED WORK.

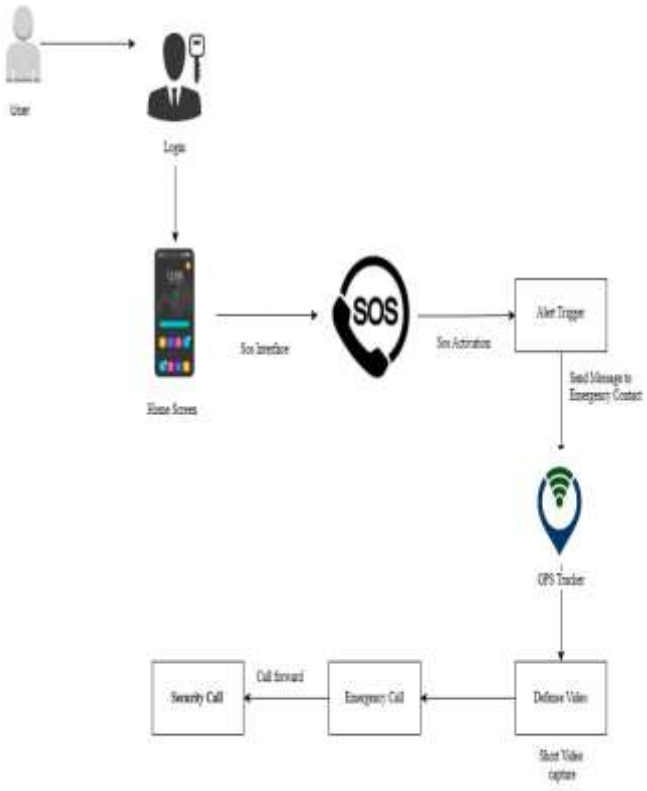
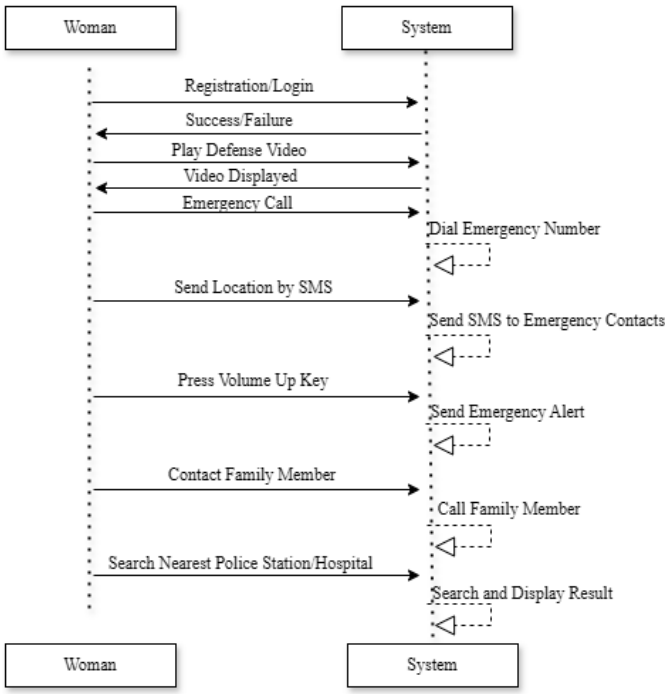


Fig 1. Flow diagram of proposed work.



VI. ADVANTAGE OF PROPOSED MODEL OVER EXISTING MODEL

The Android-based initiative aims to protect and secure women by encouraging preventative safety measures and providing quick aid. Real-time monitoring tools are supposed to promote safety by allowing women to notify close contacts of their current location in the case of an emergency. The app's SOS feature, which provides timely warnings with specific location information, allows for speedy reaction. Voice and video recording, emergency hotline connectivity, and automatic notifications for hazardous locations all improve security. The program is designed to progressively enhance women's confidence, shorten reaction times, and promote accountability by giving a dependable digital safety tool, all of which will contribute to a safer workplace.

VII. PROPOSED SYSTEM

The proposed system is a comprehensive, safety-oriented mobile application designed to enhance personal security through a combination of preventive education, real-time tracking, and emergency communication features. The application aims to fill critical gaps left by existing solutions by integrating the following key functionalities:

Mandatory Self-Defense Tutorial Video: Upon the first launch, the app plays a short, non-skippable self-defense video. This ensures that every user is introduced to fundamental self-defense techniques, promoting awareness and preparedness for emergencies.

Search Nearby Police Stations: Using real-time GPS technology, the app automatically detects and displays the nearest police stations, along with their contact information. This allows users to quickly locate and reach out to local law enforcement when needed.

Emergency Communication via Volume Key: In high-stress or unsafe situations, users can press the volume key to activate a voice input feature. The spoken message is then immediately sent to designated emergency contacts, enabling quick alerts without the need for complex interactions.

SOS Button: A dedicated SOS button within the app allows users to send an instant emergency alert message to selected contacts. This feature ensures rapid communication during critical moments when time is of the essence.

GPS Location Tracking: The app continuously tracks the user's location and includes this information in emergency messages. This allows contacts and authorities to quickly pinpoint the user's position in real time.

Multiple Emergency Contacts: Users can add multiple people to their emergency contact list. In the event of an alert, messages are sent simultaneously to all selected contacts, increasing the chances of a swift response.

This proposed system emphasizes simplicity, speed, and accessibility while addressing key safety concerns through modern mobile technology. By combining educational content, automated location tracking, and multi-channel emergency alerts, the application provides a robust solution for personal security in both urban and remote settings.

VIII. CONCLUSION

An Android-based initiative aims to protect and secure women by encouraging preventative safety measures and providing quick aid. Real-time monitoring tools are supposed to promote safety by allowing women to notify authorities or trusted contacts of their current location in the case of an emergency. The app's SOS feature, which provides timely warnings with specific location information, allows for speedy reaction. Voice and video recording, emergency hotline connectivity, and automatic notifications for hazardous locations all improve security. The program is designed to progressively enhance women's confidence, shorten reaction times, and promote accountability by giving a dependable digital safety tool, all of which will contribute to a safer workplace.

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