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MOBILE APPLICATION ON WOMEN SAFETY

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Abstract: "Vulnerable spaces" is a powerful term that captures the precarious and often perilous environments in which women live and work, where the threat of violence and harm is pervasive. It acknowledges the gendered nature of violence against women and the structural inequalities that contribute to their vulnerability. By recognizing these spaces as distinct and requiring special attention, we can begin to address the root causes of violence against women and work towards creating safer, more equitable societies. Women's security is a critical issue that demands action from us all. It is our responsibility to safeguard women and create a world where they can live free from fear and harm. Smartphone canbe a game-changer in promoting women's safety and security. Keeping this in mind, it is imperative that we prioritize women's safety and take concrete steps towards ensuring their protection, a dedicated Android app has been developed to provide instant relief to those in distress. This innovative solution leverages the ubiquity and accessibility of smartphone to empower women and promote a safer, more secure society. With just three clicks of the power button, this feature sends an instant alert to the user's pre-selected contacts, even if the phone is locked. The application is equipped with a range of features designed to enhance women's safety and security, including the ability to share the user's present and last known location with registered contacts. In addition, the app includes features such as "Alarming" to draw attention to the user in emergency situations, "AutoDialling" to quickly connect with emergency services and etc.

The app creates a community for women to connect and support each other through the moto “Women Support Other Women" feature, fostering a sense of solidarity, empowerment and creating a space for them to share their thoughts and experiences and support each other in meaningful ways. The app, developed using Java Development Kit in Android Studio. In essence, the app serves as a virtual sentinel, accompanying the user until they feel secure and out of harm's way.

Keywords: Structural inequalities, Solidarity, Empowerment, Violence against women, Gendered nature.

I. INTRODUCTION

Women's safety is a concern that has garnered extensively of attention in recent years. It is an umbrella phrase that refers to the safety and protection of women from many sorts of violence and harassment, including physical, sexual, emotional, and psychological abuse. Domestic violence, sexual assault, rape, stalking, trafficking, and different kinds of gender-based violenceare all hazards to women's safety. Women's safety must be addressed in order to create a more equal and just society in which women may enjoy their fundamental human rights.

II . LITERATURE SURVEY

As a part of literature survey, we investigated some applications of women safety that already exist in market. The aim is to observe how these applications work and to see how they can be improved and how are they different. To date it is identified that the following Android Apps of women security are good and are offering relatively similar service.

A. WOMEN’S SECURITY: This app is developed by AppSoftIndia. The key features of the app are: the user has to save some details. These details include: Email address and password of the user, Email address and mobile number of the recipient and a text message. Then, app is loaded as a “widget”, so that when the user touches the app, it alerts the recipient. Another key feature of app is that it records the voice of surroundings for about 45 seconds and this recorded voice, text message containing location coordinates of the user is sent to the recipient mobile number. [4]

B. POLICE NEARBY: This app is developed by Big Systems in 2013.The police nearby scanner android app is built with the aim to connect citizens & students to their nearest police stations city wise at one click and will permit the community to become more involved right from your Android Smart phones. Any local, state, or school, College police department as well as other law enforcement agencies can use Police scanner Android App to provide you with enhanced service and get better communication. Police nearby app is free to download without signup. [5]

C. SCREAM ALARM: Scream Alarm, an android application developed by Go Pal AppMaker in November 2013. By clicking this app, it generates a very high-volume scream in times of distress when the lungs of a person fail in screaming in

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trouble. Thegenerated scream is in a woman's voice is severely helpful in discouraging the potential strong trouble makers. The only work done by this application is whenever the person pushes or touches the application, the phone screams loudly with a woman's voice. [6] The applications mentioned above work on different platforms, some apps work on Android, Windows, IOS but someonly in android or windows. But this application Security Alert is designed only for android platform but in future it can be extended to work over Windows and IOS platforms. Android platform is open source and was built using open Linux Kernel in order to enable the developers in creating fascinating mobile applications that will take full advantage of the handset offers. A Virtual Machine is designed and utilised by Android in order to optimize the memory and hardware resources of mobile environment. Android can be enlarged adequately to merge new cutting-edge technologies as they emerge. Hence, android platform will always continue to be evolved as a developer community in order to build innovative applications for mobile environment.

III. PROBLEM STATEMENT

To design and develop a Women safety app that automatically senses the danger to a mobile user and triggers an SOS alert with location details based on multimodal data from a mobile device such as audio, video, image, motion detection etc., given a situation that the user is not able to operate the mobile

IV. OBJECTIVE

- To design and develop a women safety app which automatically senses the danger to the user.
- The application utilizes multimodal data such as audio, video, image, and motion detection to sense the user'senvironment
- Automatically trigger an SOS alert with precise location details.
- The application has a user-friendly interface that allows the user to configure settings such as sensitivity levels and emergency contacts.
- The application has the potential to reduce the risk of harm and provide timely assistance during unforeseen events.
- Ultimately promoting women's safety and security.

V. METHODOLOGY

Our research presents a system designed to transform the user experience by providing a seamless interface, top-notch security, and lightning-fast connectivity. Using the Model-View-Controller (MVC) architecture, we developed a platform that delivers seamless data handling, clear information delivery to users, and efficient database data flow control. The platform is divided into two sections: one for users and another for guardians. Users can selectively share their personal information, including last and live location and daily updates, with specific contacts. In contrast, guardians can access closed personal information, such as live and last location, travel plans, and other updates, and receive notifications of their safe arrival at their destination. Access to the guardian section is granted only to registered and verified users. The platform includes essential components such as a login/registration module, verification module, and order module. Our system sets a new standard of digital excellence and innovation, transforming how people interact with technology.

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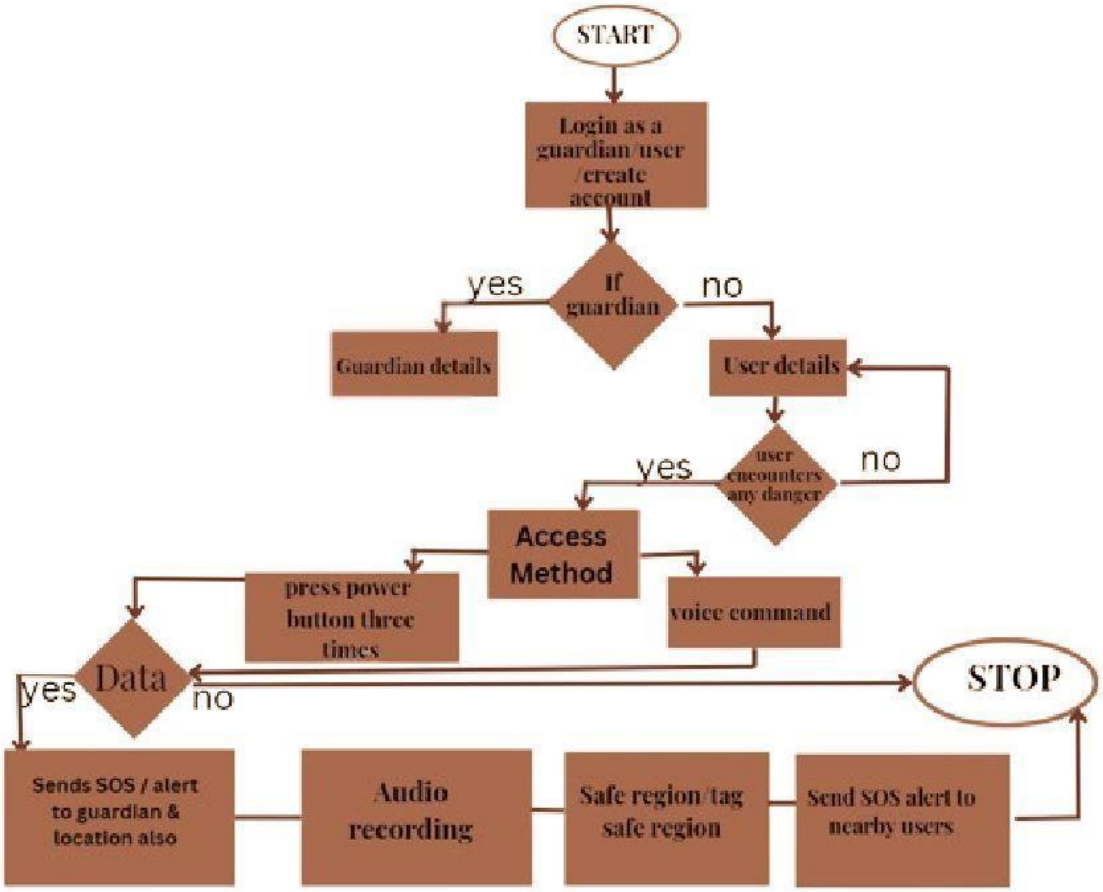

Fig.1 Flow of the application

VI. PROPOSED SOLUTION

This proposed system will meet all the new features required for women safety app. It will meet all the existing features of the app like GPS tracking etc. A person can login as a user and as a guardian(parent). Logging in as guardian will allow him to track the location of the user. Additionally, when user is creating an account, she needs to add name of her five guardian.

When user is in emergency the app will work in following manner:

1. It sends SOS alert (message) to her registered guardian's by pressing power button three times.
2. Along with the message the live location will also be send.
3. SOS alert will also be shared with user's which are nearby the user's location so that they can reach first and help the victim.
4. Voice recording will be done when user is not in the operating condition by detecting the word "HELP".And the recording will be shared with nearby police station.

Women can use any of the features according to the judgement of the situation faced by her.Additional features of the app:

1. This app will divide areas into three zones- red(danger) , orange and green. And will show the different zones on the map.
2. Every day in the morning notification regarding women safety tips will be shared.

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3. A chatting platform where women can share their past experiences.Advantages of proposed system:
1. Exact time of the alert will be triggered.
2. Even when there is no network connection available message will be send to family members and guardians.
3. It supports multiple connections at the same time.

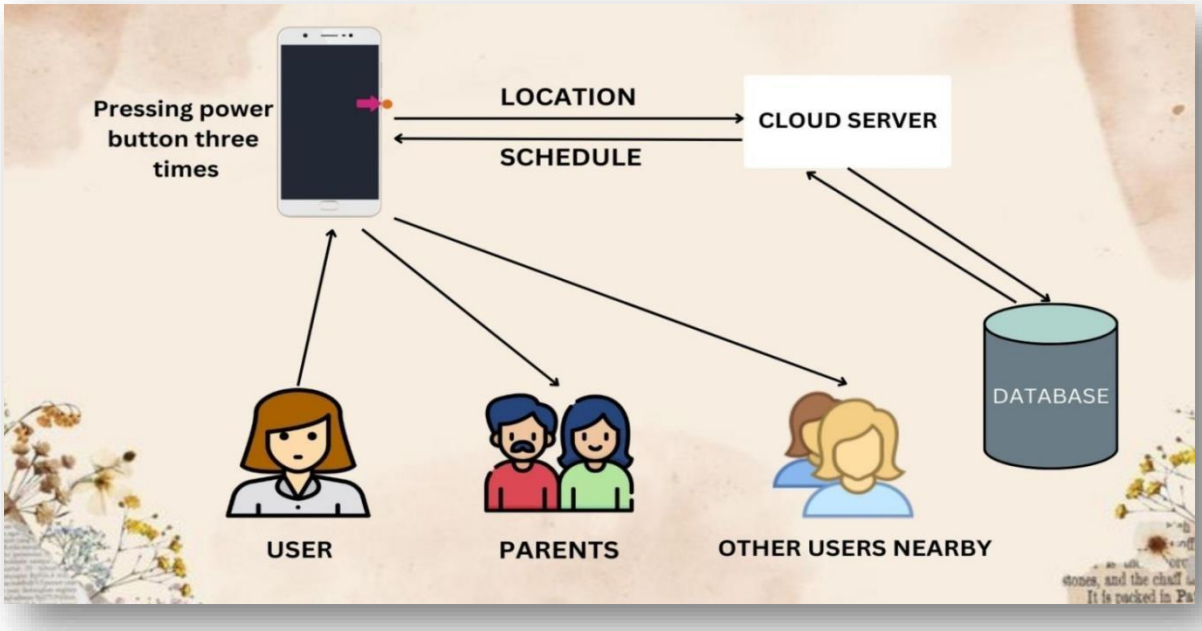

Fig.2 Working of application

VII. SOFTWARE IMPLEMENTATION

This android application is useful when user is in some problem or needs any help. When the user is in some difficulty or needs any help,they simply need to open app and press power button three times. This application sends message to those contacts which she has stored.

The first major step is to enter the contact details in the application created. Those contacts can be our relatives, friends and chief cop of the particular city the person we live in. When the application is installed in the smart phone for the first time the above contact details should be provided.

The application will save the given information. The second major step is to send the GPS information (GPS information can be in the form of the Coordinates or the URL which leads to the location of the person any stock map application in the likes of third-party application like Google, Nokia etc.) to the registered contacts at danger times or when the person is needed to be rescued.

This step is followed only when the power button is pressed three times. The whole process of this step is done only when the device is connected to the proper mobile network and location service in the device is switched on (GPS).

The next major step comprises of work done in sending the message containing location URL continuously to the registered contacts. Here, we have set the time interval as 2 minutes, so for every two minutes of time-lapse, SMS is sent to the registered contacts. Therefore, the exact location of the person can be tracked by the application.

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Fig.3 Login Page

Fig. 4 Guardian List

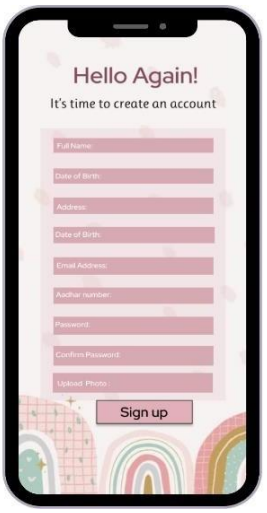

Fig.5 Create Account

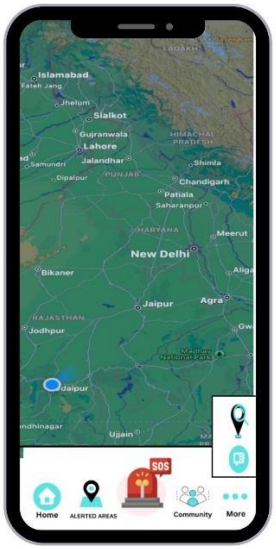

Fig.6 Main menu

Fig.7 Areas divided inthree zones

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Fig.8 Community platform

Fig.9 Three times presspower button

VIII. CONCLUSION AND FUTURE SCOPE

This paper describes the application, "she alerts" which provides a safe and secure environment to the women in the society and allows them to work till late nights. It is designed for both iOS and android platform for the safety of women with the aid of recent improvements in mobile technology. Our app is uncomplicated, has a straight forward system for a woman to place an emergency call when in strait. The user can also press the power button thrice in the phone, the app will coordinate and send an emergency message to their close ones. the pre-selected emergency contacts will receive emergency call or text. This app will work like a weapon for women that will ensure the safety and security to them. The pre-selected emergency contacts can also keep a track on the location. It also provides a platform for all the users to share their problems 24/7.

Women's safety apps can be enhanced with advanced safety features such as facial recognition technology and customized alert messages and safe zones. These apps can also educate and raise awareness about potential risks and provide access to safety resources. Further development and research are needed to create more effective and user-friendly apps to address the issue of women's safety in our society.

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