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Sahaasi: The Women's Safety Application

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Abstract: *Over the past few years, every woman is worried about when they will be able to walk out of home freely on the streets even at odd hours without thinking about their security. To ensure that women are safe, our study aims to develop a mobile application called Women's Safety App. Because women should be provided with a helping hand to relieve them in risky situations. Nowadays the use of mobiles has increased rapidly making it possible to use smartphones efficiently for security or other protective purposes. This paper covers descriptive details about the design and implementation of the Women's safety app. This app is designed keeping in mind the concept of personal safety. The women's safety application provides real-time SMS notification, GPS tracking, and a direct emergency call to the registered contact numbers. The system helps prevent crimes before it happens to depend on the user response. In this application, the user must press the SMS button if the individual feels unsafe. After pressing the SMS button, a user has to shake the phone, and a siren alarm will start buzzing and automatic SMS will be sent to the registered contact numbers list including the police number on her mobile. GPS will be activated and the user's location will be sent to the contacts. The location information by text message will help to find the victim quickly and will be rescued. In addition to these features, the app provides defense techniques through the provided YouTube link. Thus, it is an Android application for women's safety and can be activated with just one click, whenever the need arises.*

***Keywords*: SMS Alert, Security for women, android application, location tracking, offline mode.**

I. INTRODUCTION

Swami Vivekananda stated that "The best thermometer to the progress of a nation is its treatment of its women." Violence against women is a significant public health problem, as well as a fundamental violation of women's human rights [1]. The world is developing day by day. The contribution of the hard work of people makes the world more reliable for us. Previously only men were contributing to the working sector but now women are also taking part in this glorious job. By doing this job, they're facing so many problems. Women's safety is a crucial issue that affects women worldwide. Women face a wide range of risks, from harassment and discrimination to physical and sexual violence [2]. In many cases, women are forced to alter their daily routines or avoid certain activities altogether to stay safe. At its core, women's safety is about creating a world where women can live their lives without fear. It's about creating safe spaces so that women can live up to their full potential.

One could easily say that there are a huge number of smartphones in India. If there arises an emergency of any sort, it's very likely that they have a smartphone with them or that there's a smartphone nearby at that point. No one leaves their phone lying around. In the unfortunate event of an accident, one does not have the time to search for emergency numbers online as it takes a lot of time. Also, the availability of the connection speed is a factor when it comes to browsing for them online [5]. The availability of these numbers in an offline state is an extremely useful benefit to have.

As women, we know that our safety is a top priority, and unfortunately, we also know that we can face a variety of risks and challenges daily. That's why we created this app - to help you feel more secure and empowered as you go about your day. This app provides a variety of features that can assist you in different situations. Increasing commercial use of the Global Positioning System will soon make it possible to locate anything, anywhere, anytime [6].

The main functionality of the app is when the user is in threat, she can open the app without registering/login. The application has features such as adding contacts to send text messages and a call number. To send the SMS, the user must shake the

phone and click stop. The SMS sends the user's live location when online and only sends text messages when offline [7]. There is also a voice recording function that can be used as evidence in the future [8]. But our application is not only about reacting to emergencies, it's also about empowering you to proactively control your safety. This is why we offer self-defense video links, which can help you stay safe in every situation.

II. RELATED WORK

The author has described Abhaya [9]. This application is for the safety of women and live tracking of the location of a victim with one of the registered contact's root devices. The merit of the third app is also when the root device is changing rapidly.

Another example of the application [10] has described as Street Smart the proposed works help the users to get articles and reviews about the place by holding the camera at the location. Augmented reality integrated using wiki SDK. Recommendation about the place is safe street unsafe street is also provided.

Here is another app named [11] I Go Safely this application sends a 30 seconds audio recording and video clip to the registered contacts along with the emergency message. The app is activated if the user shakes the phone or will drop the phone. Mistakenly it will start working which can make unnecessary problems. This application has some features like emergency contact numbers and GPS tracking. At the time of danger, the app pins the safe areas along with their security scores to go. It allows users to identify areas that are potentially unsafe to help others.

The app called WoSapp [12] has described that it provides women with a reliable way to place an emergency call to the police. Users can easily trigger the calling function by shaking their phone or by explicitly interacting with the user interface of the application via a simply pressed button on the screen. A message containing the geographical location of the user as well as the contact details of a preselected list of emergency contacts is sent to the police.

Unfortunately, as women, we face various risks and dangers in our daily lives. From walking home alone at night to experiencing workplace harassment, women are often left feeling vulnerable and unsafe [2]. However, as technology continues to grow, we have a unique opportunity to create a safer world for women. In this paper, we propose the development of a Women's Safety App that can help women feel more secure and empowered. The Women's Safety App has the potential to make a real difference in the lives of women. By providing women with a range of safety features and resources, we can help them feel more secure and empowered in their daily lives. We believe that this app has the potential to be a game-changer in the fight for women's safety.

III. PROPOSED SYSTEM

A. Tools used

Software – An Android Studio is the official integrated development environment (IDE) for Google's Android operating system. It is available for download on Windows, Mac OS, and Linux-based operating systems.We have used Android studied java jdk, XML to build our app "Sahaasi". To use all the features, the app does not require any external hardware.

Hardware – Android is an array of software intended for mobile devices that features an operating system, core applications, and middleware. An Android device may be a smartphone, tablet, or PC.

B. Model

Figure 3.1 represents the workflow of our application. This Android application is useful when the user is in trouble and needs help. When the application is installed on smartphones for the first time, the app will ask for permissions like message sending, location access, call setup, and voice recording. When the user opens this application, the first major step is to enter the contact details of their family or friends in addition to the contact button.The above contact details should be provided. The application will save the given information. The application also provides emergency contact which contains police and ambulance number. When we press the SMS alert button it will send the GPS information (GPS information is in URL form which leads to the location of the person) in SMS to registered and emergency contacts which are saved in the application.

When the internet is on, it will send the live location, and when the data is off, it will send a simple text message that "I AM IN TROUBLE". It provides an option for voice recording which can be used as evidence against the victim.

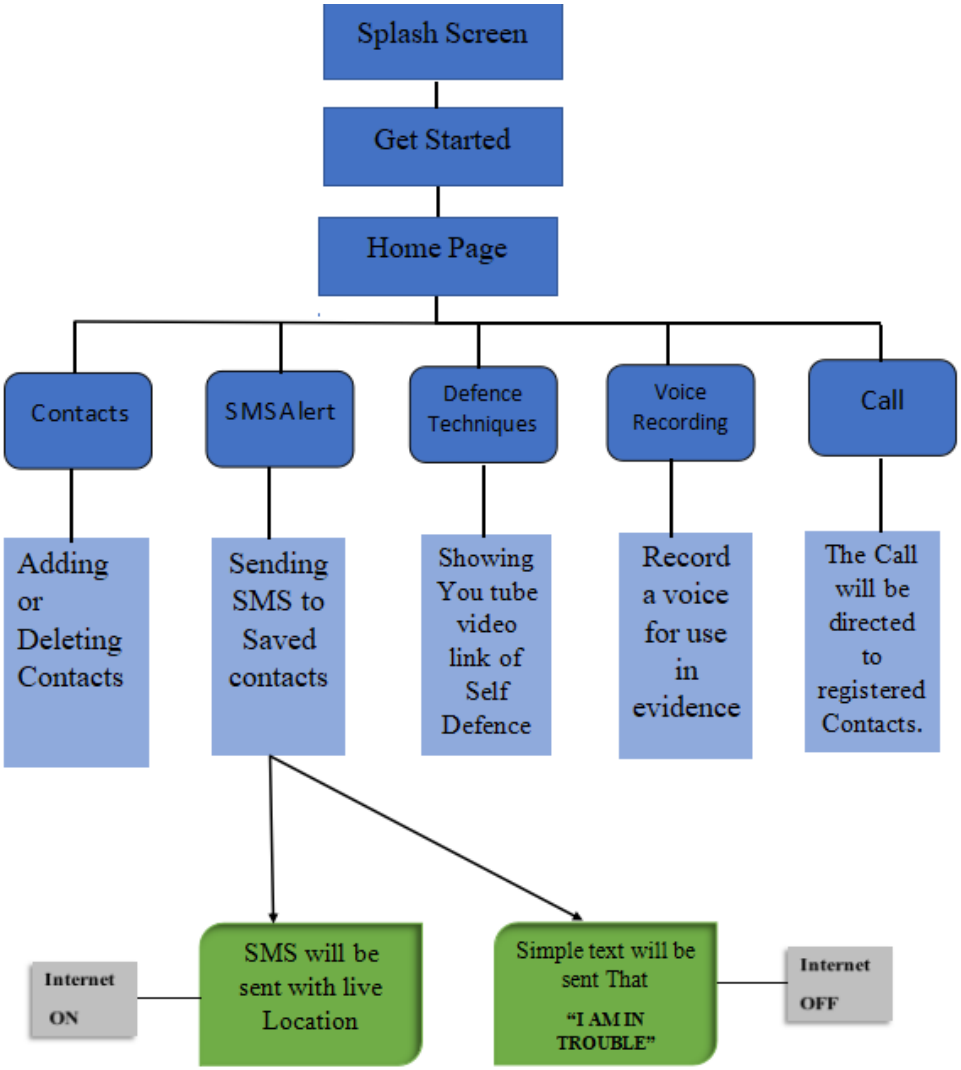

Fig 3.1: A safety process model

Every time the user uses this application, she needs to start the app by pressing the get started button. Then the app will start working until the user turns it off. A call can be also sent by using saved contacts. Users can add multiple contacts to the item list. The location will be sent to the contacts so that if the person changes her place, they can know about it and reaches out for help.

Also, there is a feature of live streaming. When the user travels from one to another, the registered contacts can watch her locations.

IV.RESULTS AND DISCUSSIONS

Many Android applications are having similar functions to our application. But in our application, we have some features which make it different from other existing systems. Other Android applications do not have all features in the one application. This application consists of the following features in one application such as YouTube link, SMS, contacts, voice recording, and calling. Below are the outputs of our Android application.

Fig 4.1: Splash Screen

Figure4.1 represents the Splash screen when we openthe application on any Android mobile.

Fig 4.2: **Features included in the app**

Figure 4.2 represents the screenshot of the features which are available for user interfaces.
The available features are contacts, SMS alerts, Record Voice, Defense techniques, and calling.

Fig 4.3: Add Contacts

Figure 4.3 represents the add contact feature. Using this button, we can add the contact number of family, friends, etc., and save these contact numbers. There is no limit to the contact number to be saved. Once the contacts are registered they will get automatically saved in the contact list. We have also provided emergency helpline contacts of police and ambulance on the contact page.

Fig 4.4: Alert message

Figure 4.4 represents the alert message feature, click start SMS alerts an alarm will play and the user can send live location to the saved contacts, by just shaking the phone. User can also stop sending SMS by clicking the stop button if she feels safe later. If the user's mobile data is on then SMS will have the user'slive location and if the mobile data is off then a simple text message is sent to registered contacts. This message is continuously sent till the user does not stop the SMS.

Fig 4.5: Live GPS tracked through SMS

Fig 4.6: Record voice

Figure 4.6 represents the user can also do voice recording by just clicking on the start and stop recording button if something unmiserable happens to her and that recording will be saved in the internal storage of mobile, user can send that recorded file using WhatsApp or telegram-like application.

V.CONCLUSION AND FUTURE SCOPE

The implementation of the proposed Android application for emergency helpline services would be an extremely helpful tool for the general public as they don't have to search for any helpline service's phone number in any unfortunate event. They could easily and quickly reach out to the concerned emergency services in an unfortunate event happened. To be prepared for the worst is the best thing one can do and if being prepared is just having an application installed on a device that the user carries everywhere, then one should do that. Having this application in times of an emergency could be very substantial for the user's safety. As college students, we strongly feel that it is our moral responsibility to give back to society in the best way we can, and that desire shines strongly through the application we have created.

The main motive is to reach as many women as possible via these abuse-prevention services, in the hopes of truly making a difference.Sahaasi is a user-friendly method for a woman to place an emergency call when in a crisis. All the user must do is shake the phone repeatedly and an emergency message containing her GPS coordinates immediately is automatically sent to the registered contacts and emergency numbers. The Location of a user is plotted on the Google Maps interface on their mobile phones. This clear-cut sequence of events ensures that help can be provided to women in the unfortunate event asquickly as possible.

In future we will work on making it more secure so that we can decrease the crimes at the lowest level possible. We are planning to implement two unique features in this application which are new in safety app. First is by using iOS, we intend to increase platform support for Sahaasi. Secondly, to make this application more user friendly we can add multi language feature.

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