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Android App for Women Safety

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ABSTRACT

In recent years, women's safety has become a major concern globally. With the widespread availability of smartphones and internet connectivity, mobile applications have emerged as a powerful tool to enhance personal security. This research focuses on the design and development of a mobile application dedicated to women's safety. The app includes features such as real-time location tracking, emergency alerts, fake call system, and one-touch SOS functionality. The study evaluates the effectiveness of such apps and proposes future enhancements based on user feedback and technological trends.

This paper introduces a mobile application specifically designed to promote women's safety in emergency situations. The application is simple to use and can be activated with a single click when the user perceives a threat or feels unsafe. Upon activation, the app immediately begins transmitting the user's real-time location to a set of pre-registered emergency contacts through SMS. These messages are sent at regular intervals, ensuring continuous tracking of the user's movements.

One of the unique features of this application is its persistence: the system keeps sending location updates until the user manually cancels the alert by pressing a 'SAFE' or 'STOP' button. This ensures that the contacts remain informed of the user's location throughout the emergency, potentially enabling quicker response times by authorities or loved ones.

The application thus acts as a virtual guardian, silently accompanying the user during moments of potential danger. By leveraging modern mobile and GPS technology, it addresses pressing concerns about women's safety in public and private spaces. The ultimate goal of the system is not only to provide real-time assistance but also to serve as a deterrent to potential threats, empowering women with a sense of control and security in uncertain situations. Beyond the technical capabilities, this application also serves a broader social purpose. It symbolizes the growing role of technology in public safety and demonstrates how smart systems can be tailored to address gender-specific vulnerabilities.

The study not only details the development and functionality of the application but also explores the psychological and social impacts of such technologies. By providing women with an accessible and effective safety tool, it promotes confidence, mobility, and independence in their daily lives. The paper concludes with a discussion on future enhancements, potential for integration with law enforcement agencies, and the importance of spreading awareness about digital self-defence tools Through this paper, we aim to analyse the effectiveness, usability, and societal impact of this application while also highlighting the broader importance of integrating technology into public safety initiatives.

KEYWORDS: Women Safety, Mobile Application, GPS Tracking, SOS Alert, Emergency Response, Real-time Location Sharing, Personal Security, Android App, Safety Technology, Continuous SMS Alerts, Panic Button, Location-based Services, Self-defence Support, Smart Safety System, User-friendly Interface, Emergency contact, URL

INTRODUCTION

In today's world, it is not safe for a person to travel alone at night especially for women; it will be high

time to travel alone because a woman is not highly strong as men to protect herself from them. The good way to reduce chances in becoming a victim of violent crime (robbery, sexual assault, rape, domestic violence) is to identify and call on resources to help you out of unsafe situations.

Whether you are in instant trouble or got separated from friends during night and do not know to reach home, having these apps on your phone can diminish our risk and bring assistance when we require it. In this paper, we present Security Alert an application for smart phones working over android platform.

National Crime Records Bureau of India, reported incidents of crime against women increased 6.4% during 2012, and a crime against a woman is committed every three minutes. 65% of Indian men believe women should tolerate violence in order to keep the family together, and women sometimes deserve to be beaten.

In January 2011, the International Men and Gender Equality Survey (IMAGES) Questionnaire reported that 24% of Indian men had committed sexual violence at some point during their lives. Our motto in developing this app is to provide a safe environment to women through smart phone as today most of the people are carrying smart phones to wherever they go. Of course, the Delhi Nirbhaya case has made the Government to make the laws tougher, but even though the sexual crime rate in India have not decreased. So, it is better to take our own safety measures rather than becoming a victim of those crimes.

This report presents the design and development of a mobile application specifically tailored for women's safety. The app serves as a digital companion, allowing users to send real-time alerts and location updates to trusted contacts in moments of distress. With a single tap of the 'HELP' button, the app triggers an automated process that shares the user's live GPS location via SMS at regular intervals until the user confirms they are safe. This continuous tracking ensures that help can be dispatched promptly and that the user's location is known throughout the emergency.

The key objective of this application is to empower women with a simple yet effective tool that they can rely on during vulnerable situations. It is built with a focus on usability, speed, and accessibility—designed to function even in low-connectivity areas using SMS-based alerts. The app bridges the gap between danger detection and response by ensuring constant communication with selected emergency contacts.

Through this project, we aim to contribute to creating a safer environment for women by harnessing the potential of mobile technology. The report outlines the need for such a system, the features incorporated, the technology used in development, and the real-world implications of its usage. It also highlights how smart applications can play a crucial role in promoting safety and confidence among women in both public and private spaces.

A. 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.

B. KEY FEATURE:

The "Women's Security" app allows the user to send an SMS with their location to a pre-registered contact, while some advanced apps may even record background audio or take a snapshot and send it to authorities.

C. TECHNOLOGY STACK:

The app is developed for Android and uses GPS for location detection and a built in SMS service to send alerts, making it functional even in low-internet conditions.

D. PROBLEM STATEMENT:

With so many documented cases of physical attack, harassment, and violence against women, women's safety continues to be a problem. The current safety solutions frequently fall short in terms of offering useful and efficient support. Numerous safety apps and gadgets on the market have a small feature set and don't address the complicated safety issues that women face. Additionally, some of these remedies can be too expensive or difficult for women from underserved communities to access, widening the safety gap.The Women Safety Project App aims to offer a complete and customized solution that solves the many safety needs of women and is available to everyone in order to close these gaps.

E. LOCATION TRACKING MODULE:

The Location Tracker is a core part of the Women Safety Project app, which uses GPS technology to provide users with real-time location updates. This module allows women to share their current location with selected emergency contacts, ensuring their trusted contacts are aware of their whereas abouts. In the event of an emergency or potential emergency, Information about nearby safe places like police stations, hospitals and emergency services. By providing accurate location data, this module increases women's sense of security and enables them to make informed decisions in their daily activities.

F. EMERGENCY CONTACT:

The emergency contact module is a key aspect of the Women Safety Project app and allows users to customize their emergency contact list. Users can add trusted contacts such as family, friends, or local authorities to receive emergency notifications. When a panic button or security alarm is triggered, this module notifies specific contacts of your location quickly and in real-time. This instant notification ensures help is sent immediately, and provides a safety net for women facing potential threats. The ability to customize the emergency contact list gives users the ability to customize their support network according

to their personal preferences and security needs. The emergency contact module is a key aspect of the Women Safety Project app and allows users to customize their emergency contact list. Users can add trusted contacts such as family, friends, or local authorities to receive emergency notifications. When a panic button or security alarm is triggered, this module notifies specific contacts of your location quickly and in real-time. This instant notification ensures help is sent immediately, and provides a safety net for women facing potential threats. The ability to customize the emerge contact list gives users the ability to customize their support network according to their personal preferences and security needs.

G. PRESS PANIC BUTTON MODULE:

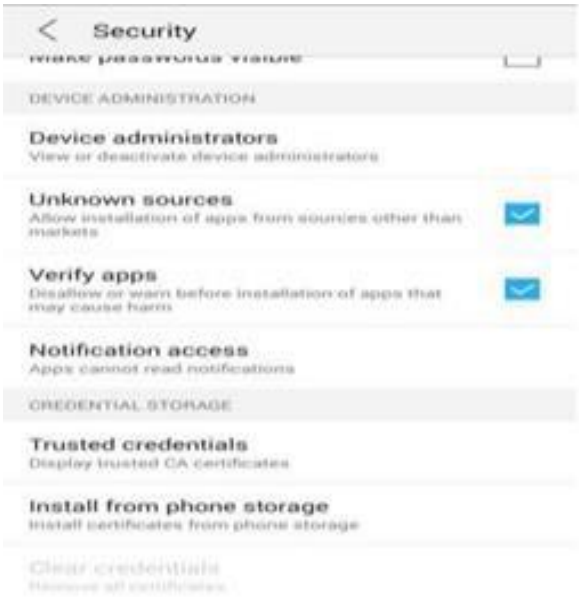
The Panic Button Module is an essential feature designed to provide immediate help and support to users in distress. In an emergency, users can activate the panic button with a single button press. Once activated, the app will immediately send distress signals to the emergency contacts of your choice, notifying them of a critical situation and sharing the user's real-time location. The panic button's quick response mechanism ensures help is at hand and provides women with a reliable and effective tool to call for help in emergency situations.

H. TRACKING:

The Safe Routes and Transportation Options Module is a practical tool that assists women in planning safer journeys. Users can select their preferred mode of transportation, such as walking, cycling, or public transportation. The module then provides route suggestions based on safety factors, including well-lit streets, high-traffic areas, and areas with reported incidents of violence or harassment. By offering secure route recommendations, this module empowers women to make informed decisions about their travel routes, avoiding potential danger zones and reducing their exposure to risks.

I. WOMEN'S SECURITY:

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 text message containing location coordinates of the user is sent to the recipient mobile number



LITRATURE REIEW

We looked at various market-ready applications for women's safety as part of our literature review. The goal is to examine how these apps function and determine how they might be enhanced and differentiated. The following Android apps for women's security have been shown to be effective and to provide a reasonably equivalent level of service. A. The user must store certain information, which is one of the app's main functions. These specifics include the user's email address and password, the recipient's email address and cell number,

and a text message. The app is then loaded as a "widget," so that it alerts the receiver when the user touches it. The app's ability to capture the audio of

the environment for around 45 seconds and sends the recipient's cell number a text message with the user's location information is another important function

The safety of women has become a growing concern worldwide due to the increasing number of crimes such as harassment, assault, and violence. With the rise in smartphone usage and advancements in mobile technology, several mobile applications have been developed to support women in emergency situations. These apps leverage features such as GPS tracking, SMS alerts, panic buttons, and real-time location sharing to offer immediate assistance during distress. Among the many applications available, "Police Nearby," developed by Big Systems in 2013, is noteworthy. It connects users to their nearest police stations city-wise with just one click, encouraging stronger communication between law enforcement and the community. However, while it is helpful in locating police stations, it lacks features such as direct alerts to emergency contacts or real-time location sharing, which are crucial for personal safety.

Another widely used app is "Women's Security," which allows users to save their own email address and password, along with the contact information of a trusted recipient. Once triggered via a widget, the app sends an SMS containing a custom alert message and the user's current GPS coordinates to the selected recipient. This ensures that help can be reached quickly, even if the user is unable to make a phone call. However, the app's dependence on manual setup and lack of features like audio recording or live tracking limits its effectiveness in certain situations. Most of these applications share a common technological

foundation, including GPS for location detection, SMS gateways or mobile data for sending alerts, and user-friendly interfaces for quick activation. Despite this, many of them still face critical limitations such as reliance on internet connectivity, lack of offline functionality, or inadequate integration with public emergency services.

Thus, there is considerable scope for improvement and innovation in the design of women's safety applications. A more effective app should offer enhanced offline capabilities, multilingual support, voice, integration with national emergency services, Such advancements could significantly reduce emergency response time and ensure that women feel safer and more empowered in their day-to-day lives. Overall, the literature highlights that while many solutions exist, a more holistic and inclusive approach is needed to develop truly reliable safety tools for women in today's world.

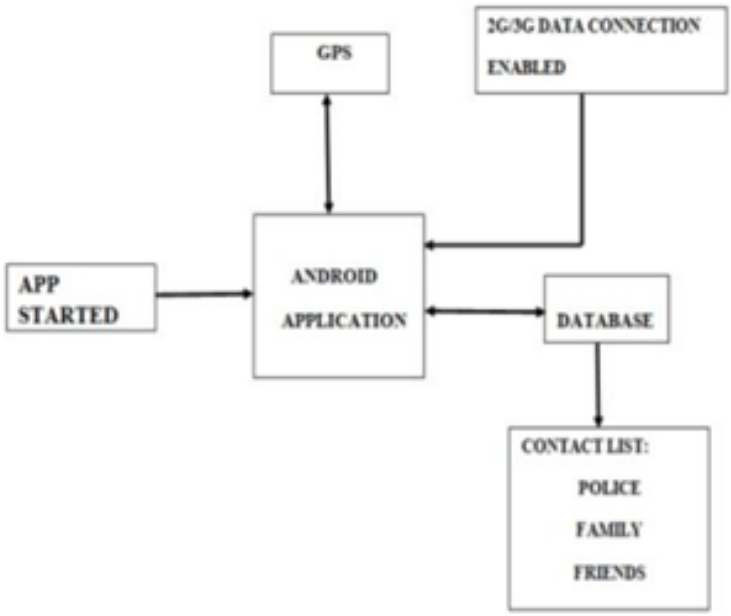
Various studies have been conducted on women's safety, and several apps have been developed to address this issue. The study also highlighted that most women prefer apps that have features such as GPS tracking, emergency alerts, and direct communication with the police.

ADVANTAGES

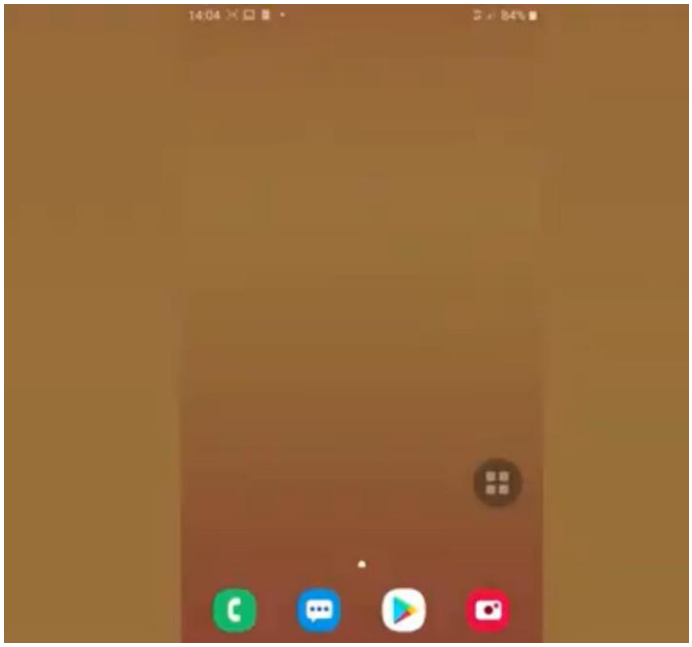
1. Your loved ones and close friends can automatically receive text message.
2. Exact time of the alert triggered. Your location (with map link).
3. The battery level of your phone.
4. It monitors the frequent no of shakes in a particular locality or area and marks that particular location as DANGERZONE.
5. Automatic prompt for activating location.
6. Emergency alerts: A feature that allows users to quickly call for help in an emergency situation.
7. Real-time location tracking: This feature enables users to share their location with family, friends, or the police in real-time.

PROPOSED WORK

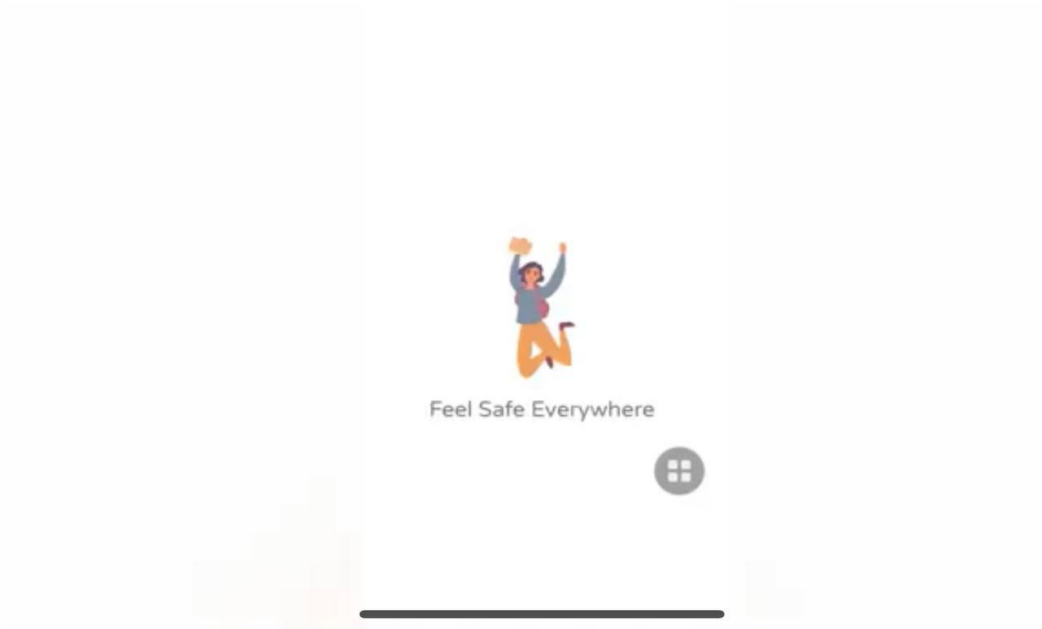
In this proposed system, the user writes the message content and also selects the contacts to which the message has to be sent and save it. So, when he is in some danger by just opening the app and pressing the HELP button, the message stored will be sent to those numbers he has added in this application. So that he can receive the help in correct time. This android application is useful when the user is in some problem or needs any help. When the user opens this application, can see a HELP button. Also, they can store a message and 3 contact numbers. When the user is in some difficulty or needs any help, they simply need to open the app and click on the "HELP" button. This application sends the message to those contact numbers which he has stored



Screenshots of research project



Android interface


Feel Safe Everywhere


Enter Number To
Send SMS
in
EMERGENCY!
FINISH

Enter contact number

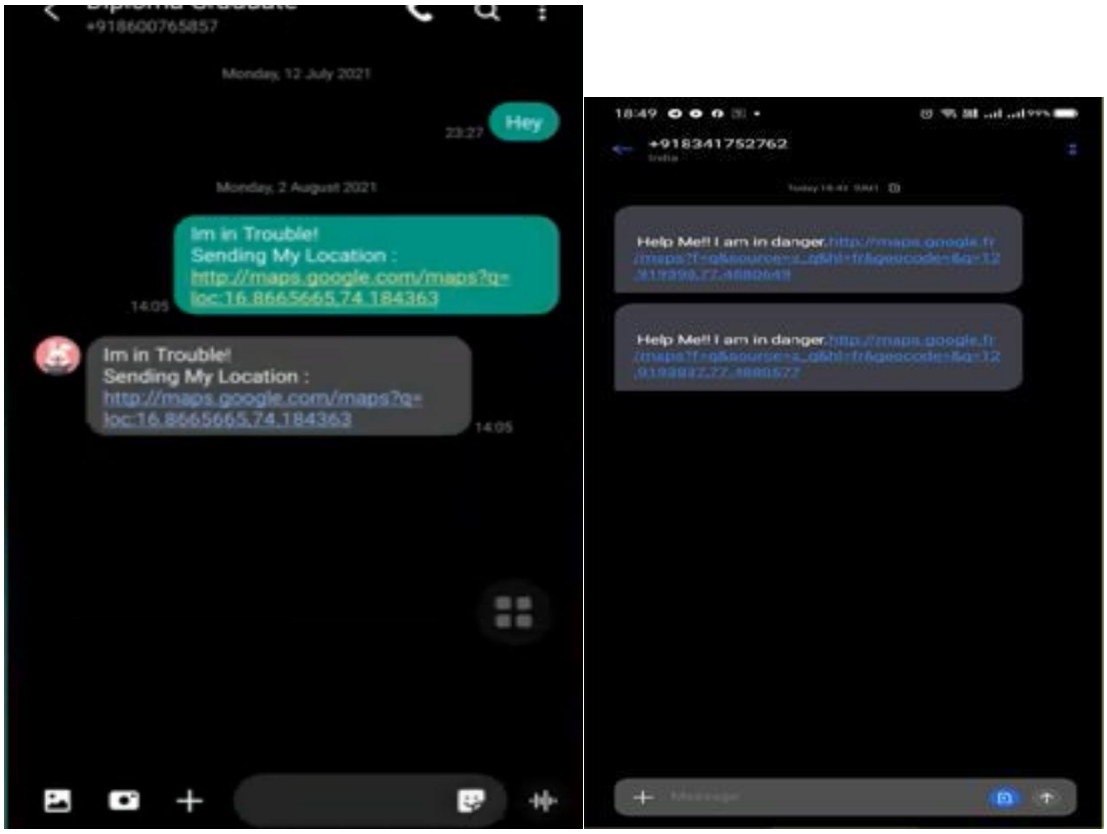
Settings of the device

Layout of the second page for details.

Layout of the app immediately after installation

Details entered in the application.

Depicts the message received by the second contact device immediately after pressing the Help button in the application.



Message received by another contact device immediately after pressing the Help button in the application.

Message received by one of the contacts after five minutes span of time.

Screen shown after clicking URL in the message received by the contact device

FINDINGS AND CONCLUSION

Findings

The development and review of existing women safety applications reveal several critical insights. Firstly, while a wide range of safety apps are available, most depend heavily on internet connectivity, making them less effective in low-network zones. Secondly, many existing applications offer only one-time alert features without continuous tracking, which may hinder effective assistance during prolonged danger. Furthermore, apps with complex user interfaces or manual setup processes are often underutilized, especially by women who are not technologically adept or live in rural areas.

User feedback and analysis also show that the most valued features in a safety app include simplicity, quick activation (ideally one-click), offline functionality, and real-time location tracking. Many users also prefer SMS-based alerts over internet-based notifications due to better reliability in emergencies. These insights directly support the design choices made in our Women Safety App, which features a **one-touch HELP button**, **continuous SMS-based location updates**, and **an interface that is both simple and responsive**.

User expectations prioritize speed, simplicity, and reliability—especially in low-network areas. Our Women Safety App addresses these needs through a **one-click "HELP" button**, **SMS-based continuous location updates**, and an **offline-compatible system** that stays active until the user deactivates it. This ensures ongoing support and real-time tracking without relying on internet access. Additionally, by requiring only essential permissions, the app increases trust and user adoption. This android application is useful when the user is in some problem or needs any help. When the user opens this application, can see a HELP button. Also, they can store a message and 3 contact numbers. When the user is in some difficulty or needs any help, they simply need to open the app and click on the "HELP" button. This application sends the message to those contact numbers which he has stored.The total evaluation can be done in three

major steps which are described individually. Evaluation describes the whole implementation of the application in three major steps.

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 Co-ordinates or the URL which leads to the location of the person any stock map application in the likes of third-party application like Google.) to the registered contacts at danger times or when the person is needed to be rescued. This step is followed only when the rescue button is pressed in application. 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 third 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 5 minutes, so for every five minutes of time-lapse, SMS is sent to the registered contacts. Therefore, the exact location of the person can be tracked by the application.

Conclusion

This paper describes the application, Security Alert that is designed in android platform for safety of women with the aid of recent improvements in mobile technology. In this project to use which is useful for the user when he is in some problem or needs any help. When the user opens this application, he can see a HELP button. Also, he can store a message and 3 contact numbers. When the user is in some difficulty or needs any help button. So, when the user opens this application can see a HELP button. Click that button to send SMS to register user. For future development, this application can be integrated with the law enforcement database.

In conclusion, the need for an effective, accessible, and reliable women safety application is more relevant than ever. While several apps attempt to address this issue, they often fall short in real-world emergencies due to their technical limitations. The Women Safety App presented in this research offers a practical solution by combining essential safety features—such as offline SMS alerts, live location sharing, and continuous tracking—with a user-friendly interface

Women safety apps are an essential tool for addressing the issue of violence against women. The literature review has revealed that existing apps offer several useful features, but there is room for improvement. The recommended features of women safety apps include emergency alerts, real-time location tracking, battery conservation, and offline functionality. Future research should focus on developing apps that integrate these features and evaluating their effectiveness in reducing violence against women.

The Women Safety App developed in this project fills crucial gaps left by existing solutions. With features like **real-time tracking**, **continuous SMS alerts**, and **easy usability**, it offers a more dependable and inclusive tool for emergency response. The app empowers women to act quickly and discreetly in danger, while keeping their trusted contacts constantly informed.

In the grand conclusion of this project, we stand with our heads held high, knowing that we are building a brighter, safer world for women. The Women's Safety Application is not just an application; it's a movement, a revolution, and a promise. And in the years ahead, it will shine ever brighter, guiding the way towards a future where every woman can walk with confidence, knowing that she is never truly alone

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.

BIBLIOGRAPHY AND REFERENCE

WEBSITES:

1. Android Developers, Location APIs. URL: http://developer.android.com/google/playservices/location.html
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. https://www.developerfeed.com/Android/
4. https://www.tutorialspoint.com/android/android_studio.html
5. https://en.wikipedia.org/wiki/android_(operating_system)
6. https://www.parallelcodes.com/android-game-tutorial/
7. https://android-devepers.blogspot.com/2016/09/android-studio-2-2.html
8. https://developer.android.com/studio/index.html