JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

# WOMEN SAFETY ANALYTICS : Protecting Women from safety threats

**DR. JYOTI KAUSHAL[1],MOHD HASAN RAZA[2], RUCHIKA JAIN[3], SAHIL MEWAFAROSH[4]**
Associate Professor Department of CSE, Geetanjali Institute of Technical studies Udaipur Rajasthan INDIA[1]
Students of Department of CSE, Geetanjali Institute of Technical studies Udaipur Rajasthan INDIA[234]

***Abstract*** : The usage of smart phones equipped with GPS navigation unit have increased rapidly from 3% to more than 20% in the past five years. Hence, a smart phone can be used efficiently for personal safety or various other protection purposes especially for women. This app can be activated by a single click when the user feels she is in danger. This application communiqués the user's location to the registered contacts for every few seconds in the form of message. Thus, it acts like a sentinel following behind the person till the user feels she is safe. This paper presents analysis a unique feature of this application to send the message to the registered contacts continuously till they are pressing 'HELP' button. Continuous location tracking information via SMS helps to find the location of the victim quickly and can be rescued safely. This application aims to ensure women safety. This is achieved by addressing the circumstances that compromise the safety of women in today's day and age. This app ensures women are not put into such situations through various features offered by our system.

***Index Terms*** - Smart Phone, Android, Registered Contacts, GPS location, database, URL

## I. 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. The National crime Records Bureau (NCRB) data shows that in 2021, India recorded 428,278 reported cases of crime against women, a significant 87% increase from the 228,650 cases reported in 2011. While reporting may have increased due to media attention and public protests, most cases of rape and sexual assault go unreported. 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.

### 1.1 Problem Statement

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. And the chances of them becoming victim of robbery ,sexual assault, kidnapping , murder and other criminal activities.

### 1.2 Objectives of the study

- Design an Application with GPS technology for a Sentinel for women
- Design an emergency caller system when in need to call emergency numbers
- The safety ranking system of the area is given which helps in more safety perspective

### 1.3 Scope and Limitation

Women safety apps have emerged as crucial digital tools aimed at enhancing the personal security of women in various environments, particularly in situations of threat, harassment, or emergencies. The scope of these apps includes:

1. **Emergency Support**
   Providing SOS alert features to instantly notify emergency contacts or local authorities with GPS location.
2. **Real-Time Location Tracking**
   Allowing trusted contacts to track the user's movement for preventive safety or during emergencies.
3. **Integration with Law Enforcement and Helplines**
   Some apps are connected to police systems (e.g., *Himmat*) or emergency response teams (e.g., *112 India*).

## II. Literature Reviewing

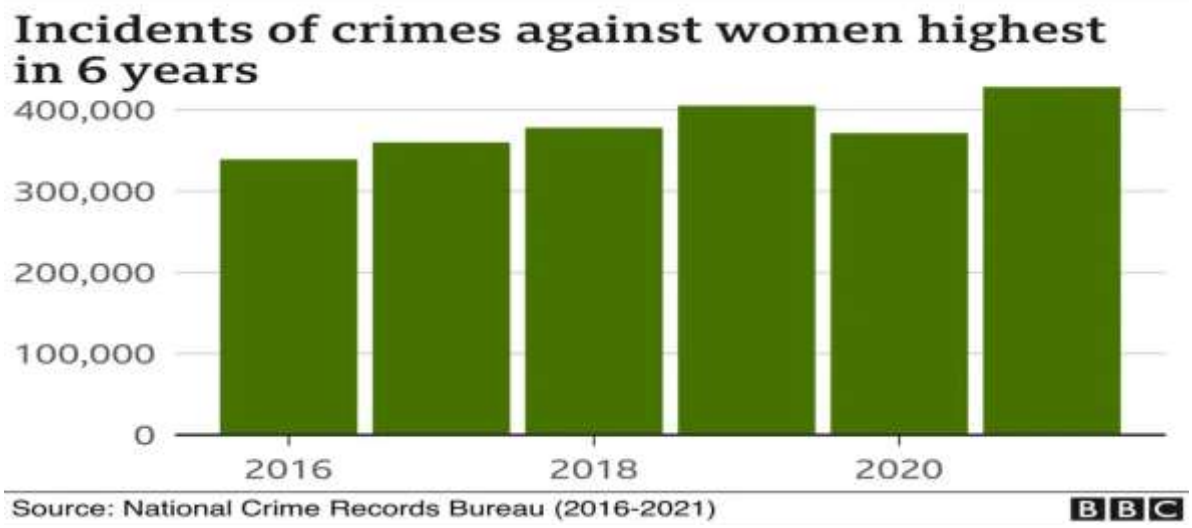
As a part of literature survey, we investigated some applications of women safety that already exist in market. The aim is to observe how these applications work and to see how they can be improved and how are they different. To date it is identified that the following Android Apps of women security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

### 2.1 WOMEN'S SECURITY

This app is developed by Flutter. 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 can share location to the person's emergency contacts and the reviewing system of locations by other users.

### 2.2 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.

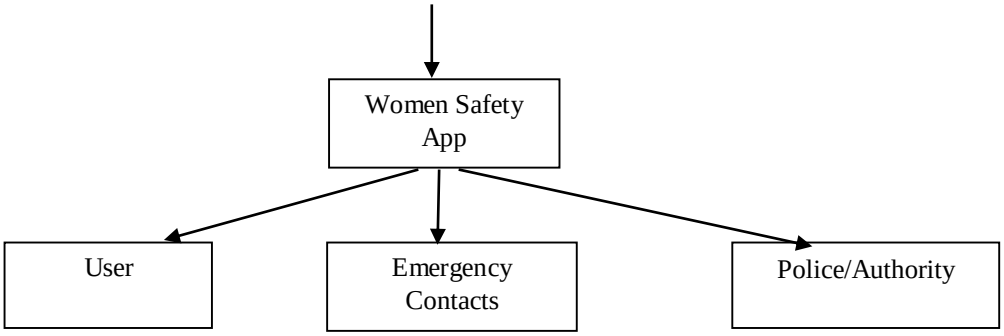



## III. System Architecture

### 3.1 Overview of the Proposed Framework

The proposed system includes 2 different modules [1] Real time location detection [2] Automated message generation

GPS System




This is the 0 level (DFD) Data flow diagram which shows the flow of data of the Application

### 3.2 Hardware and Software components

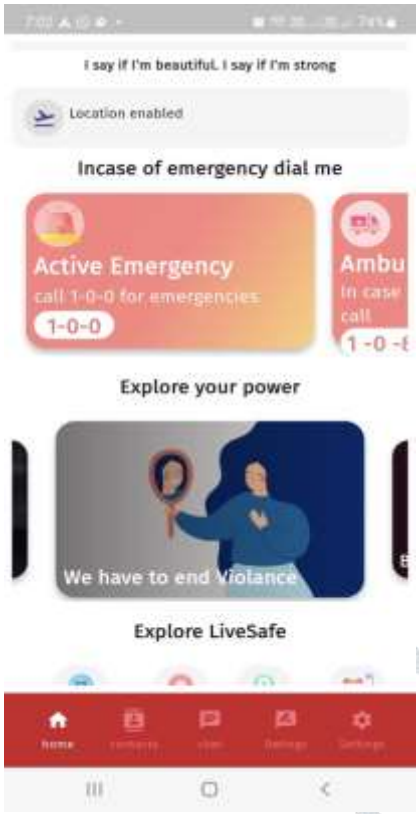
- **Android Device** for running the application easily
- **GPS** present on android device
- **Software Stack:** Flutter ,dart ,GPS

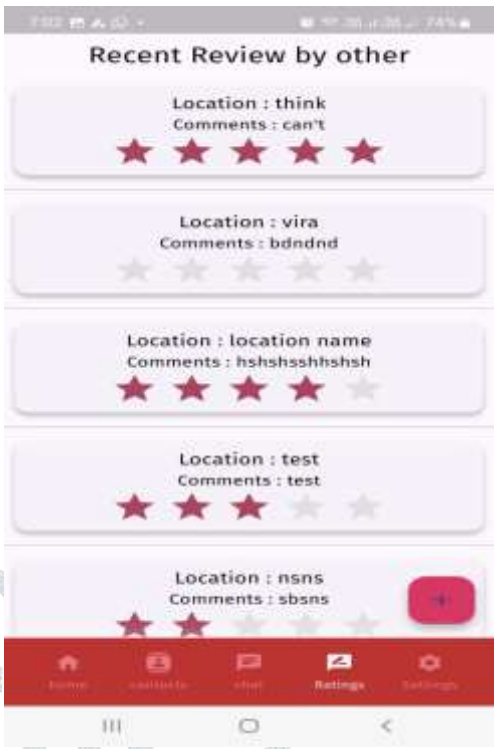
### 3.3 Data Collection

GPS location is stored in Real time this information is shared with Police or Friends and Emergency contact.

## IV. Implementation

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 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 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 continuously which is the primary aim of the proposed system and the person can be rescued.




## V. RESULTS AND ANALYSIS

### 5.1 Performance Metrices

- The safety is increased after implementation of th.e app
- Any android can run this app Optimally.

### 5.2 Scenarios simulation

The testing results of the mentioned three sections are provided with screen shots taken in various intervals of time from the root device and contact's device. Here, the root device means the device over which the rescue application is started. it means the user's device. The contact's device means the device to which the user's location information is sent continuously.

### 5.3 Analysis of key findings

Although many women know about safety apps, fewer actually use them, often due to concerns about Reliability.

Women in rural or less tech-savvy areas were less likely to use the apps due to internet issues or digital literacy

## VI. CONCLUSION AND FUTURE ENHANCEMENT

### 6.1 Summary of Contributions

Women safety applications have become an important tool in today's digital world, helping women feel more secure and connected in times of emergency. This research shows that while many women are aware of these apps, actual usage is still limited due to trust issues, lack of awareness, and technical challenges like internet or battery problems.

Key features such as **SOS alerts**, **real-time location sharing**, and **auto-notifications to emergency contacts** are the most valued by users.

Additionally, awareness campaigns, better integration with local authorities, and user education can increase the effectiveness and reach of these apps. With the right support, women safety apps can become a powerful step toward building a safer and more confident environment for women everywhere.

### 6.2 Future Enhancement and Research Direction

- In future enhancement the voice Command feature can also be added for better and faster use of this application
- The Buzzer sound or The Screaming Sound of the woman Plays when in emergency to panic the criminal.

## VII. References

[1]. Android Developers, Location APIs. URL: http://developer.android.com/google/playservice s/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]. " POLIE NEARBY", Android app developed by Big Systems in 2013. https:// play. google. com/ store/apps /details? id=com. smoketech. PoliceNearby& hl=en

[4]. " SCREAM ALARM", Android app developed by GoPalAppMaker in November,2013 https: //play. google.com/store/apps/details?id=gopal. appmaker. android. com&hl =en

[5]. Saranya, J.; Selvakumar, J., "Implementation of children tracking system on android mobile terminals," 2013 IEEE International Conference on Communications and Signal Processing (ICCSP), vol., no., pp.961,965, 3-5 April 2013.

[6]. Android Studio Development Essentials Book by Neil Smith

[7]. An Introduction to Database Systems Book by Christopher J. Date firebase.google.com developer.android.com for SDK

[8]. B. Chougula, "Smart girls security system," International Journal of Application or Innovation in Engineering & Management, Volume 3, Issue 4, April 2014.

[9]. PalvePramod, "GPS Based Advanced Soldier Tracking with Emergency Messages & Communication System," International Journal of Advance Research in Computer Science and Management Studies Research Article, Volume 2, Issue 6, June 2014.