WOMEN'S SAFETY APPLICATION

A MINI PROJECT REPORT

Submitted by

A. ARAVIND **420419205001**

R. LOGESH **420419205008**

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ANNA UNIVERSITY: CHENNAI 600025

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BONAFIDE CERTIFICATE

Certified that this report titled "**WOMEN'S SAFETY APPLICATION"**, is a Bonafedeworkof"**A. ARAVIND (420419205001),R. LOGESH (420419205008),** who carried out the work under my supervision.

HEAD OF THE DEPARTMENT

Dr. A. BHUVANESWARI,
ME. Ph.D.,

PROFESSOR,

Dept. of Information Technology,

Adhiparasakthi Engineering College,

Melmaruvathur-603 319.

SUPERVISOR

Mr. M. EZHILVENDAN,
B. Tech., ME.,

ASSISTANT PROFESSOR,

Dept. of Information Technology,

Adhiparasakthi Engineering College,

Melmaruvathur-603 319.

CERTIFICATION OF EVALUATION

College Code/Name **:**4204/ Adhiparasakthi Engineering College

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S. No	Name of the student and Register number	Title o fthe project	Name of the supervisor with designation
1 2..	ARAVIND A (420419205001) LOGESH R (420419205008)	WOMEN'S SAFETY APPLICATION	**Mr. M. EZHILVENDAN B. Tech., M.E.,** Assistant Professor, Department of IT, Adhiparasakthi Engineering College, Melmaruvathur.

Submitted for the project work and viva-voce held on ……

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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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 'START BUTTON' and SHAKE the mobile. 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.

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CHAPTER 1

INTRODUCTION

DOMAIN INTRODUCTION

1.1 ANDROID

1.1.1 What is Android?

Android is an open source and Linux-based Operating System for mobile devices such as smart phones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android. The first beta version of the Android Software Development Kit (SDK) was released by Google in 2007 where as the first commercial version, Android 1.0, was released in September 2008. On June 27, 2012, at the Google I/O conference, Google announced the next Android version, 4.1 Jelly Bean. Jelly Bean is an incremental update, with the primary aim of improving the user interface, both in terms of functionality and performance. The source code for Android is available under free and open source software licenses. Google publishes most of the code under the Apache License version 2.0 and the rest, Linux kernel changes, under the GNU General Public

1.1.2 History of Android

The history and versions of android are interesting to know. The code names of android ranges from A to J currently, such as **Aestro** , **Blender**, **Cupcake**, **Donut**, **Éclair** , **Froyo** ,**Gingerbread**, **Honeycomb**, **Ice Cream Sandwich** ,**Jelly Bean** and **Kit Kat**. Let's understand the android history pointy:

- Initially, **Andy Rubin** founded Android Incorporation in Palo Alto, California, United States in October, 2003.
- In 17th August 2005, Google acquired android Incorporation. Since then, it is in the subsidiary of Google Incorporation.

- The key employees of Android Incorporation are **Andy Rubin**, **Rich Miner**, **Chris White** and **Nick Sears**.
- Originally intended for camera but shifted to smart phones later because of low market for camera only.
- Android is the nick name of Andy Rubin given by coworkers because of his love to robots.
- In 2007, Google announces the development of android OS.
- In 2008, HTC launched the first android mobile.

1.1.3 Features of Android

Android is a powerful operating system competing with Apple 4GS and supports great features. Few of them are listed below.

1.1.4 Android Feature Description

Feature	**Description**
Beautiful UI	Android OS basic screen provides a beautiful and intuitive user interface.
Connectivity	GSM/EDGE, IDEN, CDMA, EV-DO, UMTS, Bluetooth, Wi-Fi, LTE, NFC and WiMAX.
Storage	SQLite, a lightweight relational database, is used for data storage purposes.
Media support	H.263, H.264, MPEG-4 SP, AMR, AMR-WB, AAC, HE-AAC, AAC 5.1, MP3, MIDI, Ogg Vorbis, WAV, JPEG, PNG, GIF, and BMP
Messaging	SMS and MMS
Web browser	Based on the open-source WebKit layout engine, coupled with Chrome's V8 JavaScript Engine supporting HTML5 and CSS3.
Multi-touch	Android has native support for multi-touch which was initially made

	available in handsets Such as the HTC Hero.
Multi-tasking	User can jump from one task to another and same time various application can run Simultaneously.
Resizable widgets	Widgets are resizable, so users can expand them to show more content or shrink them to save space
Multi-Language	Supports single direction and bi-directional text.
GCM	Google Cloud Messaging (GCM) is a service that lets developers send short message data to their users on Android devices, without needing a proprietary sync solution.
Wi-Fi Direct	A technology that lets apps discover and pair directly, over a high-bandwidth peer-to-peer Connection.
Android Beam	A popular NFC-based technology that lets users instantly share, just by touching two Unenabled Phones together.

Table 1.1Android Feature description

1.1.5 Android Applications

Android applications are usually developed in the Java language using the Android Software Development Kit. Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play or the Amazon Appstore. Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast.

Every day more than 1 million new Android devices are activated worldwide.

This tutorial has been written with an aim to teach you how to develop and package Android application. We will start from environment setup for Android application programming and then drill down to look into various aspects of Android applications.

Android Versions, Codename and API

Let's see the android versions codename and API provided by Google.

Version	Codename	API
1.5	Cupcake	3
1.6	Donut	4
2.1	Éclair	7
2.2	Froyo	8
2.3	Gingerbread	9 and 10
3.1 and 3.3	Honeycomb	12 and 13
4.0	Ice Cream Sandwich	15
4.1, 4.2 and 4.3	Jelly Bean	16, 17 and 18
4.4	Kit Kat	19
5.0	Lollipop	21
6.0	Marshmallow	23

Table 1.2.Android versions

1.1.6 Android Core Building Blocks

Fig.1.1 Android core building blocks

A **component** is simply a piece of code that has a well-defined life cycle e.g. Activity, Receiver, and Service etc. The **core building blocks** or **fundamental components** of android are activities, views, intents, services, content providers, fragments and AndroidManifest.xml.

Activity

An activity is a class that represents a single screen. It is like a Frame in AWT.

View

A view is the UI element such as button, label, text field etc. Anything that you see is a view.

Intent is used to invoke components. It is mainly used to:

- Start the service
- Launch an activity
- Display a web page
- Display a list of contacts
- Broadcast a message
- Dial a phone call etc.

Service

Service is a background process that can run for a long time. There are two types of services local and remote. Local service is accessed from within the application whereas remote service is accessed remotely from other applications running on the same device.

Content Provider

Content Providers are used to share data between the applications.

Fragment

Fragments are like parts of activity. An activity can display one or more fragments on the screen at the same time.

AndroidManifest.xml

It contains information's about activities, content providers, permissions etc. It is like the web.xml file in Java EE.

Android Virtual Device (AVD)

It is used to test the android application without the need for mobile or tablet etc. It can be created in different configurations to emulate different types of real devices.

1.2 AIM OF PROJECT:

The basic aim of the system is to GPS and GSM based women Safety System. The main objective of the system is to track the current location of the person which has an android enabled mobile by extracting the longitude and latitude of that target person. And in offline service track SIM card location using IMEI number and sends SMS. User can change message according to their need. The user five emergency contacts is called mediator. They get the message with location. And any mediators have the application installed and the person is registered than siren will ringed on their phone.

1.2.1 PROJECT INTRODUCTION

In today's date, women face physical harassment in public places, schools and at workplaces or while traveling. Most cases of physical harassment take place when women are alone or while traveling. Women feel insecure to step outside their house.

There are many android applications for smartphones but for those who do use smartphones or those who can keep their mobile handy at their workplace, this proposed system will be helpful.

The system suggests a smart wearable device for security which contains different modules such as GSM, GPS, sensors. The proposed system helps women in emergency situation by activating the modules on clicking the switch and provide emergency self-defense.

1.3 RELATED WORK

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.

1.3.1 WOMEN'S SECURITY

This app is developed by App Soft India. 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.

1.3.2 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.

1.3.3 SCREAM ALARM

Scream Alarm, an android application developed by Go Pal App Maker 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 trouble. The generated 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. The applications mentioned above work on different platforms, some apps work on Android, Windows, IOS but some only 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 utilized 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.

In today's world, people using smart phones have increased rapidly and hence, a smart phone can be used efficiently for personal security or various other protection purposes.

The heinous incident that outraged the entire nation have waken us to go for the safety issues and so a host of new apps have been developed to provide security systems to women via their phones.

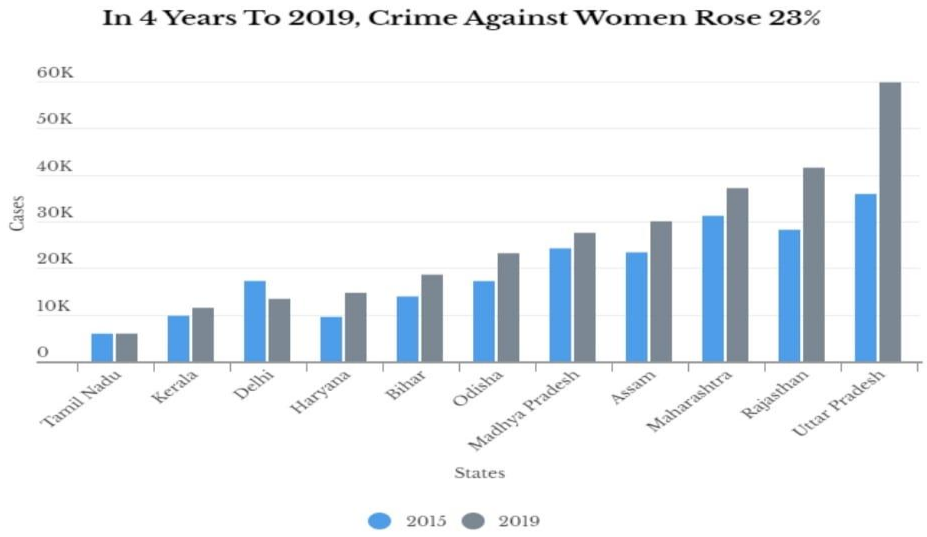

Fig.1.2.Statisticsofinternationalcrimerecords

This paper presents, an Android Application for the Safety of Women and this app can be activated this app by a single click, whenever need arises. A single click on this app identifies the location of place through GPS and sends a message comprising this location URL to the registered contacts and also call on the first registered contact to help the one in dangerous situations.

In figure 1 as per the horrifying statistics, every 16 minutes, a woman is raped somewhere in India, and every four minutes woman experiences cruelty at the hands of her in-laws. In 2018, the country had recorded88rapecaseseveryday.Ofthetotal32,033 reported rape cases in the year, 8% were from the Dalit community.

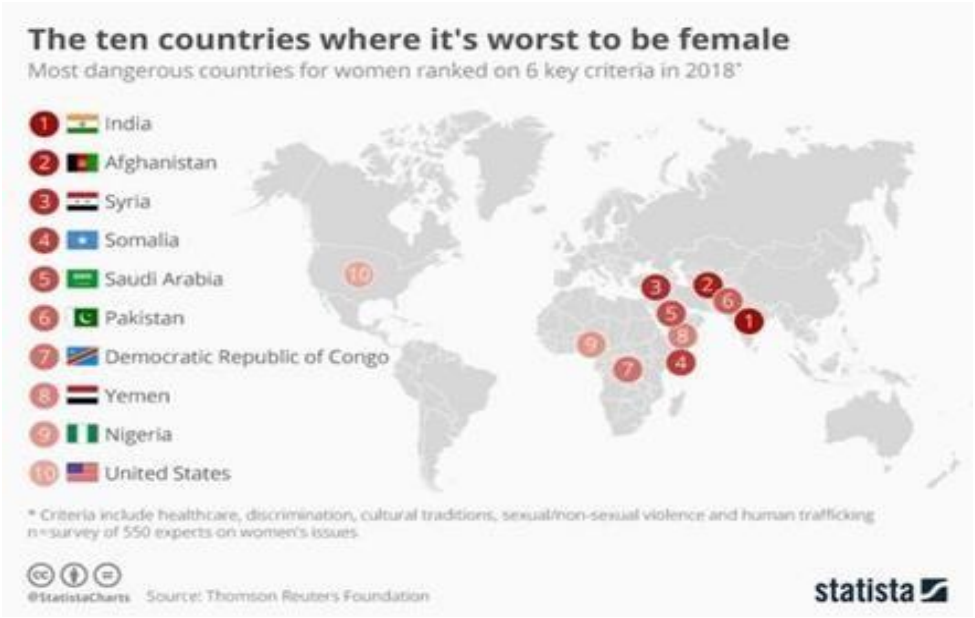

Fig.1.3.Surveyofcountriesforcrimeonwomen

In figure 2 the majority of cases under crime against women under IPC were registered under ‘Cruelty by Husband or His Relatives’ (30.9%) followed by ‘Assault on Women with Intent to Outrage her Modesty’ (21.8%), ‘Kidnapping & Abduction of Women’ (17.9%) and ‘Rape’ (7.9%) The crime rate registered per lakh women population is 62.4 in 2019 in comparison with 58.8 in 2018”, the data shared by NCRB showed.

CHAPTER 2

LITERATURE SURVEY

2.1 Literature Survey

The literature survey of some existing systems is done:

[1] Women safety device and application. In this paper an controlled and Android application are used in which both the device and the smartphone are synchronized using Bluetooth, hence both can be triggered independently. It can send for further investigation and can give an alert call and message to the pre-set contacts with the instant location and can be tracked live using the application. Mobile Shake detector is also a distinct feature used which ensures privacy.

[2] A mobile-based women safety application (I safe Apps). In this paper, mobile-based application (I safe apps) is developed with the Android support to know whether a woman is safe. It gives the location of the woman in danger by giving fake phone calls, location and message.

[3] Advanced Security system for women. Woman safety, the system has been user friendly. GPS and GSM which will help to detect the location of the device and to send an alert message to guardians, relatives and police station.

CHAPTER 3
SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

In the Existing System, the message will be sent to only one contact and there is no option to call the respected person and the other person also requires the application usage.

DISADVANTAGE

- There is no service stop and stop facility.
- Accept only one contact cannot change.

3.2 PROPOSED SYSTEM

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 append pressing the START 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.

The proposed architecture depicted below shows the exact flow of control of the android application. Here the database acts as a storing media between the two mobile devices. The database information i.e., to which database the information has to be sent, the URL of the database is coded itself in the application. From the database, the location coordinates are sent continuously to the registered contacts of the user.

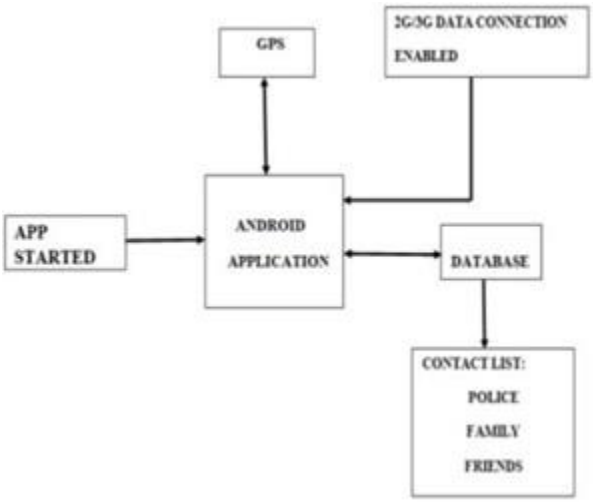

Fig.3.1.ProposedArchitectureonAndroidAppfor women safety

3.3 MODIFICATION PROCESS

In existing system, we can able to save a single contact detail and the message will be sent only to that single contact number, whereas in our proposed system, we increased the number of contact details so that we can able to send the SOS message and call to all the newly added contact numbers.

CHAPTER 4
PROJECT DESCRIPTION

4.1 PROBLEM STATEMENT

PROBLEM STATEMENT,With the help of ever-evolving internet technology, we can now stay connected with anyone and from almost any corner of the world. The same widely spread internet network can be utilized to help out people in need of emergency. This android-based safety application proposed here aims at raising alerts & send notifications if anyone is facing any emergency in the form of any threat from someone, health emergency, accidental emergency, etc. The user can add his important contacts in the system whom he wants to inform in case of emergency. The user can send alerts through this application use in emergency time can message and location details. The user can alert message from his contacts in case they require any help. The users can use emergency time

information around their areas. In this way, this android-based safety application can help a people stay connected & help each other in case of any emergency in the least time possible.

4.2 OVERVIEW OF THE PROJECT

4.2.1 PROJECT INTRODUCTION

In today's date, women face physical harassment in public places, schools and at workplaces or while traveling. Most cases of physical harassment take place when women are alone or while traveling. Women feel insecure to step outside their house.

There are many android applications for smartphones but for those who don't use smartphones or those who cannot keep their mobile handy at their workplace, this proposed system will be helpful.

The system suggests a smart wearable device for security which contains different modules such as GSM, GPS, sensors. The proposed system helps women in emergency situation by activating the modules on clicking the switch.

4.2.2 WORKING OF THE PROJECT

This Application adds safety to the users by providing them the emergency information of their areas through timely inform in their apps through an android application. Users of Safety app can send threat alerts to t the contacts added in the app. when send the threat then addressed the threat of the user which help of Safety app to alert its contacts.

4.2.3 PROJECT LIFE CYCLE

The waterfall model is a classical model used in system development life cycle to create a system with a linear and sequential approach. It is termed as waterfall because the model develops systematically from one phase to another in downward fashion. The waterfall approach does not define the process to go back to the previous phase to handle changes in requirement. The waterfall approach is the earliest approach that was used for software development.

CHAPTER 5

SYSTEM SPECIFICATIONS

5.1 SYSTEM REQUIREMENT

5.1.1Hardware Requirement

i. Laptop or PC

- I3 processor system or higher.
- 4 GB RAM or higher.
- 100 GB ROM or higher.

ii. Android Phone (6.0 and above)

5.1.2 Software Requirement

Laptop or PC

- Windows 7 or higher.
- Android Studio.

CHAPTER 6
MODULES

6.1 START BUTTON

Which is useful for the user when he is in some problem needs any help? When the user opens this application, he can see a HELP button. Then send SMS to Register contact nos.

6.2 CHANGE CONTACTS

Using this module changing many Emergency contacts numbers save it. Changing Contacts can be chosen under mobile Contacts.

6.3 MESSAGE

Store some message to your danger situation. It’s using for to send Emergency situation.

6.4 STOP BUTTON

Which is useful for the user when he is in some problem needs any help? When the user opens this application, he can see a STOP button. Then send SMS to Register contact nos.

CHAPTER7
IMPLEMENTATION

7.1 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 START 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 “START” 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).

Fig.7.1. Implementation Of Project

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.

CHAPTER 8

APPENDIX

8.1 SOURCE CODE

AndroidManifest:

<manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.vinayak09.wsafety">
<uses-feature android:name="android.hardware.sensor.accelerometer" android:required="true"/>
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
<uses-permission android:name="android.permission.FOREGROUND_SERVICE"/>
<uses-permission android:name="android.permission.SEND_SMS"/>
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<activity android:name=".RegisterNumberActivity"/>
<activity android:name=".SplashScreen">
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<action android:name="android.intent.action.MAIN"/>
<category android:name="android.intent.category.LAUNCHER"/>
</intent-filter>
</activity>

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<activity android:name=".MainActivity"/>
<service android:name=".ServiceMine" android:enabled="true"
android:foregroundServiceType="location"/>
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<path android:fillColor="#00000000" android:pathData="M39,19L39,89" android:strokeWidth="0.8" android:strokeColor="#33FFFFFF"/>
<path android:fillColor="#00000000" android:pathData="M49,19L49,89" android:strokeWidth="0.8" android:strokeColor="#33FFFFFF"/>
<path android:fillColor="#00000000" android:pathData="M59,19L59,89" android:strokeWidth="0.8" android:strokeColor="#33FFFFFF"/>
<path android:fillColor="#00000000" android:pathData="M69,19L69,89" android:strokeWidth="0.8" android:strokeColor="#33FFFFFF"/>
<path android:fillColor="#00000000" android:pathData="M79,19L79,89" android:strokeWidth="0.8" android:strokeColor="#33FFFFFF"/>
</vector>
<vector xmlns:android="http://schemas.android.com/apk/res/android" xmlns:aapt="http://schemas.android.com/aapt" android:width="108dp" android:height="108dp" android:viewportWidth="108" android:viewportHeight="108">
<path android:pathData="M31,63.928c0,0 6.4,-11 12.1,-13.1c7.2,-2.6 26,-1.4 26,-1.4l38.1,38.1L107,108.928l-32,-1L31,63.928z">

<aapt:attr name="android:fillColor">
<gradient android:endX="85.84757" android:endY="92.4963" android:startX="42.9492" android:startY="49.59793" android:type="linear">
<item android:color="#44000000" android:offset="0.0"/>
<item android:color="#00000000" android:offset="1.0"/>
</gradient>
</aapt:attr>
</path>
<path android:fillColor="#FFFFFF" android:fillType="nonZero" android:pathData="M65.3,45.828l3.8,-6.6c0.2,-0.4 0.1,-0.9 -0.3,-1.1c-0.4,-0.2 -0.9,-0.1 -1.1,0.3l-3.9,6.7c-6.3,-2.8 -13.4,-2.8 -19.7,0l-3.9,-6.7c-0.2,-0.4 -0.7,-0.5 -1.1,-0.3C38.8,38.328 38.7,38.828 38.9,39.228l3.8,6.6C36.2,49.428 31.7,56.028 31,63.928h46C76.3,56.028 71.8,49.428 65.3,45.828zM43.4,57.328c-0.8,0 -1.5,-0.5 -1.8,-1.2c-0.3,-0.7 -0.1,-1.5 0.4,-2.1c0.5,-0.5 1.4,-0.7 2.1,-0.4c0.7,0.3 1.2,1 1.2,1.8C45.3,56.528 44.5,57.328 43.4,57.328L43.4,57.328zM64.6,57.328c-0.8,0 -1.5,-0.5 -1.8,-1.2s-0.1,-1.5 0.4,-2.1c0.5,-0.5 1.4,-0.7 2.1,-0.4c0.7,0.3 1.2,1 1.2,1.8C66.5,56.528 65.6,57.328 64.6,57.328L64.6,57.328z" android:strokeWidth="1" android:strokeColor="#00000000"/>
</vector>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android" xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent" android:layout_height="match_parent"
android:background="@drawable/background" tools:context=".MainActivity">
<View android:layout_width="40dp" android:layout_height="40dp" android:layout_alignParentEnd="true" android:onClick="PopupMenu" android:clickable="true" android:focusable="true" android:layout_margin="20dp" android:background="@drawable/ic_baseline_more_vert_24"/>
<RelativeLayout android:layout_width="wrap_content" android:layout_height="wrap_content" android:layout_centerInParent="true">
<TextView android:layout_width="wrap_content"

```
android:layout_height="wrap_content" android:textAlignment="center"
android:textSize="18sp" android:text="SOS Will Be Sent To\n"
android:layout_centerHorizontal="true" android:id="@+id/textNum"/>
<com.google.android.material.button.MaterialButton android:layout_width="200dp"
android:layout_below="@id/textNum" android:layout_height="60dp"
android:layout_marginTop="20dp" app:cornerRadius="10dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintEnd_toEndOf="parent" android:onClick="startServiceV"
app:layout_constraintStart_toStartOf="parent" android:backgroundTint="#ffffff"
android:layout_marginBottom="10dp" android:id="@+id/start"
android:textColor="@color/black" android:text="Start"/>
<com.google.android.material.button.MaterialButton android:layout_width="200dp"
android:layout_height="60dp" android:id="@+id/stop"
app:layout_constraintTop_toBottomOf="@id/start"
app:layout_constraintEnd_toEndOf="parent" android:textColor="@color/black"
app:layout_constraintStart_toStartOf="parent" android:layout_below="@id/start"
app:cornerRadius="10dp" android:backgroundTint="#ffffff"
android:onClick="stopService" android:text="stop"/>
</RelativeLayout>
</RelativeLayout>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:background="@drawable/background"
android:layout_height="match_parent" tools:context=".RegisterNumberActivity">
<RelativeLayout android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_centerInParent="true">
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_centerHorizontal="true"
```

```
android:text="Enter Number To\nSend SMS\nin\nEMERGENCY!"
android:textSize="19sp" android:fontFamily="@font/varela_round"
android:textColor="@color/black" android:id="@+id/text1"
android:textAlignment="center"/>
<com.google.android.material.textfield.TextInputLayout
android:layout_width="250dp" android:layout_height="wrap_content"
android:layout_centerHorizontal="true" android:layout_margin="10dp"
android:id="@+id/number" android:layout_below="@id/text1"
style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
<com.google.android.material.textfield.TextInputEditText
android:layout_width="match_parent" android:hint="Number"
android:inputType="numberDecimal" android:id="@+id/numberEdit"
android:maxLength="10" android:fontFamily="@font/varela_round"
android:textAlignment="center" android:layout_height="match_parent"/>
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.button.MaterialButton android:layout_width="200dp"
android:layout_height="60dp" android:layout_margin="10dp"
android:onClick="saveNumber" android:textColor="@color/black"
app:cornerRadius="10dp"
android:layout_below="@id/number" android:layout_centerHorizontal="true"
android:fontFamily="@font/varela_round" android:backgroundTint="#ffffff"
android:text="Finish"/>
</RelativeLayout>
</RelativeLayout>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent" android:layout_height="match_parent"
tools:context=".SplashScreen">
<ImageView android:id="@+id/girlVector" android:layout_width="130dp"
```

```
android:layout_height="200dp" android:layout_centerInParent="true"
android:src="@drawable/girl_vector" android:layout_marginBottom="20dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"/>
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="Feel Safe Everywhere"
android:fontFamily="@font/varela_round" android:textSize="28sp"
android:layout_below="@id/girlVector"
app:layout_constraintTop_toBottomOf="@id/girlVector"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:layout_centerHorizontal="true"/>
</androidx.constraintlayout.widget.ConstraintLayout>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item android:title="Change Number" android:id="@+id/changeNum"/>
</menu>
<adaptive-icon xmlns:android="http://schemas.android.com/apk/res/android">
<background android:drawable="@drawable/ic_launcher_background"/>
<foreground android:drawable="@drawable/ic_launcher_foreground"/>
</adaptive-icon>
<adaptive-icon xmlns:android="http://schemas.android.com/apk/res/android">
<background android:drawable="@drawable/ic_launcher_background"/>
<foreground android:drawable="@drawable/ic_launcher_foreground"/>
</adaptive-icon>
<resources>
<color name="purple_200">#FFBB86FC</color>
<color name="purple_500">#FF6200EE</color>
<color name="purple_700">#FF3700B3</color>
<color name="teal_200">#FF03DAC5</color>
```

```
<color name="teal_700">#FF018786</color>
<color name="black">#FF000000</color>
<color name="white">#FFFFFFFF</color>
</resources>
<resources>
<string name="app_name">wsafety</string>
</resources>
<resources xmlns:tools="http://schemas.android.com/tools">
<!-- Base application theme. -->
<style name="Theme.Wsafety"
parent="Theme.MaterialComponents.Light.NoActionBar">
<!-- Primary brand color. -->
<item name="colorPrimary">@color/purple_500</item>
<item name="colorPrimaryVariant">@color/purple_700</item>
<item name="colorOnPrimary">@color/white</item>
<!-- Secondary brand color. -->
<item name="colorSecondary">@color/teal_200</item>
<item name="colorSecondaryVariant">@color/teal_700</item>
<item name="colorOnSecondary">@color/black</item>
<!-- Status bar color. -->
<item name="android:statusBarColor"
tools:targetApi="l">?attr/colorPrimaryVariant</item>
<!-- Customize your theme here. -->
<item name="android:windowFullscreen">true</item>
</style>
</resources>
<resources xmlns:tools="http://schemas.android.com/tools">
<!-- Base application theme. -->
<style name="Theme.Wsafety"
parent="Theme.MaterialComponents.Light.NoActionBar">
<!-- Primary brand color. -->
```

<item name="colorPrimary">@color/purple_500</item>

<item name="colorPrimaryVariant">@color/purple_700</item>

<item name="colorOnPrimary">@color/white</item>

<!-- Secondary brand color. -->

<item name="colorSecondary">@color/teal_200</item>

<item name="colorSecondaryVariant">@color/teal_700</item>

<item name="colorOnSecondary">@color/black</item>

<!-- Status bar color. -->

<item name="android:statusBarColor"

tools:targetApi="l">?attr/colorPrimaryVariant</item>

<!-- Customize your theme here. -->

<item name="android:windowFullscreen">true</item>

</style>

</resources>

Main Activity. Java:

package com. logesharavind.wsafety;

import androidx.activity.result.ActivityResultCallback;
import androidx.activity.result.ActivityResultLauncher;
import androidx.activity.result.contract.ActivityResultContracts;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.PopupMenu;
import androidx.core.content.ContextCompat;

import android.Manifest;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Bundle;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import com.google.android.material.snackbar.Snackbar;

```
import java.util.Map;
import java.util.function.BiConsumer;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onResume() {
super.onResume();
SharedPreferencessharedPreferences =
getSharedPreferences("MySharedPref",MODE_PRIVATE);
       String ENUM = sharedPreferences.getString("ENUM","NONE");
if(ENUM.equalsIgnoreCase("NONE")){
startActivity(new Intent(this,RegisterNumberActivity.class));
       }
else {
TextViewtextView=  findViewById(R.id.textNum);
textView.setText("SOS Will Be Sent To\n"+ENUM);
       }
   }
   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
       if (Build.VERSION.SDK_INT>= Build.VERSION_CODES.O) {
          if (android.os.Build.VERSION.SDK_INT>=
android.os.Build.VERSION_CODES.O) {
NotificationChannel channel = new NotificationChannel("MYID",
"CHANNELFOREGROUND", NotificationManager.IMPORTANCE_DEFAULT);

NotificationManager m = (NotificationManager)
getSystemService(Context.NOTIFICATION_SERVICE);
m.createNotificationChannel(channel);
          }
       }    }

  private ActivityResultLauncher<String[]>multiplePermissions =
registerForActivityResult(new ActivityResultContracts.RequestMultiplePermissions(),
new ActivityResultCallback<Map<String, Boolean>>() {
       @Override
       public void onActivityResult(Map<String, Boolean> result) {

          for (Map.Entry<String,Boolean> entry : result.entrySet())
             if(!entry.getValue()){
Snackbarsnackbar = Snackbar.make(findViewById(android.R.id.content),"Permission
Must Be Granted!", Snackbar.LENGTH_INDEFINITE);
snackbar.setAction("Grant Permission", new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
```

```
multiplePermissions.launch(new String[]{entry.getKey()});
snackbar.dismiss();
                    }
                });
snackbar.show();
            }
        }

    });
    public void stopService(View view) {
        Intent notificationIntent = new Intent(this,ServiceMine.class);
notificationIntent.setAction("stop");
        if (Build.VERSION.SDK_INT>= Build.VERSION_CODES.O) {
            getApplicationContext().startForegroundService(notificationIntent);
Snackbar.make(findViewById(android.R.id.content),"Service Stopped!",
Snackbar.LENGTH_LONG).show();
        }
    }
    public void startServiceV(View view) {
        if (ContextCompat.checkSelfPermission(this, Manifest.permission.SEND_SMS)
==
PackageManager.PERMISSION_GRANTED&&ContextCompat.checkSelfPermission
(this, Manifest.permission.ACCESS_COARSE_LOCATION) ==
PackageManager.PERMISSION_GRANTED&&ContextCompat.checkSelfPermission
(this, Manifest.permission.ACCESS_FINE_LOCATION) ==
PackageManager.PERMISSION_GRANTED  ) {
            Intent notificationIntent = new Intent(this,ServiceMine.class);
notificationIntent.setAction("Start");
if (Build.VERSION.SDK_INT>= Build.VERSION_CODES.O) {
                getApplicationContext().startForegroundService(notificationIntent);
Snackbar.make(findViewById(android.R.id.content),"Service Started!",
Snackbar.LENGTH_LONG).show();
            }
}else{
multiplePermissions.launch(new
String[]{Manifest.permission.SEND_SMS,Manifest.permission.ACCESS_COARSE_
LOCATION,Manifest.permission.ACCESS_FINE_LOCATION});
        }

    }

    public void PopupMenu(View view) {
PopupMenupopupMenu = new PopupMenu(MainActivity.this,view);
        popupMenu.getMenuInflater().inflate(R.menu.popup,popupMenu.getMenu());
popupMenu.setOnMenuItemClickListener(new
PopupMenu.OnMenuItemClickListener() {
```

```
        @Override
        public booleanonMenuItemClick(MenuItem item) {
            if(item.getItemId() == R.id.changeNum){
startActivity(new Intent(MainActivity.this,RegisterNumberActivity.class));
            }
            return true;
        }
    });
popupMenu.show();
  }
}
package com.logesharavind.wsafety;
    import androidx.appcompat.app.AppCompatActivity;
    import android.content.SharedPreferences;
    import android.os.Bundle;
    import android.view.View;
    import android.widget.Toast;
    import com.google.android.material.textfield.TextInputEditText;
public class RegisterNumberActivity extends AppCompatActivity {
TextInputEditText number;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_register_number);
    number = findViewById(R.id.numberEdit);
  }

  public void saveNumber(View view) {
    String numberString = number.getText().toString();
if(numberString.length()==10){
SharedPreferencessharedPreferences =
getSharedPreferences("MySharedPref",MODE_PRIVATE);
SharedPreferences.EditormyEdit = sharedPreferences.edit();
myEdit.putString("ENUM", numberString);
myEdit.apply();
RegisterNumberActivity.this.finish();
}else {
Toast.makeText(this, "Enter Valid Number!", Toast.LENGTH_SHORT).show();
    }
  }
}

package com.logesharavind.wsafety;
    import android.Manifest;
    import android.app.Notification;
    import android.app.NotificationChannel;
```

```
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.app.Service;
import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.content.pm.PackageManager;
import android.location.Location;
import android.os.IBinder;
import android.telephony.SmsManager;
import androidx.annotation.Nullable;
import androidx.core.app.ActivityCompat;

import com.github.tbouron.shakedetector.library.ShakeDetector;
import com.google.android.gms.location.FusedLocationProviderClient;
import com.google.android.gms.location.LocationServices;
import com.google.android.gms.tasks.OnSuccessListener;
public class ServiceMine extends Service {
booleanisRunning = false;
FusedLocationProviderClientfusedLocationClient;
   @Nullable
   @Override
   public IBinderonBind(Intent intent) {
      return null;
   }
SmsManager manager = SmsManager.getDefault();
   String myLocation;
   @Override
   public void onCreate() {
super.onCreate();
fusedLocationClient = LocationServices.getFusedLocationProviderClient(this);
      if (ActivityCompat.checkSelfPermission(this,
Manifest.permission.ACCESS_FINE_LOCATION) !=
PackageManager.PERMISSION_GRANTED&&ActivityCompat.checkSelfPermission
(this, Manifest.permission.ACCESS_COARSE_LOCATION) !=
PackageManager.PERMISSION_GRANTED) {
         // TODO: Consider calling
         //    ActivityCompat#requestPermissions
         // here to request the missing permissions, and then overriding
         //   public void onRequestPermissionsResult(int requestCode, String[]
permissions,
         //                                          int[] grantResults)
         // to handle the case where the user grants the permission. See the
documentation
         // for ActivityCompat#requestPermissions for more details.
         return;
```

```
        }
fusedLocationClient.getLastLocation()
.addOnSuccessListener(new OnSuccessListener<Location>() {
                @Override
                public void onSuccess(Location location) {
                   if (location != null) {

 // Logic to handle location objec
location.getAltitude();
location.getLongitude();
myLocation =
"http://maps.google.com/maps?q=loc:"+location.getLatitude()+","+location.getLongitu
de();
}else {
myLocation = "Unable to Find Location :(";
                   }
                }
             });
ShakeDetector.create(this, () -> {
          //if you want to play siren sound you can do it here
          //just create music player and play here
          //before playing sound please set volume to max

SharedPreferencessharedPreferences =
getSharedPreferences("MySharedPref",MODE_PRIVATE);
          String ENUM = sharedPreferences.getString("ENUM","NONE");
          if(!ENUM.equalsIgnoreCase("NONE")){
manager.sendTextMessage(ENUM,null,"Im in Trouble!\nSending My Location
:\n"+myLocation,null,null);
          }
       });
   }

   @Override
   public int onStartCommand(Intent intent, int flags, int startId) {
      if (intent.getAction().equalsIgnoreCase("STOP")) {
         if(isRunning) {
this.stopForeground(true);
this.stopSelf();

 }
       } else {
          Intent notificationIntent = new Intent(this, MainActivity.class);
PendingIntentpendingIntent = PendingIntent.getActivity(this, 0,

notificationIntent, 0);
```

```
            if (android.os.Build.VERSION.SDK_INT>=
android.os.Build.VERSION_CODES.O) {
NotificationChannel channel = new NotificationChannel("MYID",
"CHANNELFOREGROUND", NotificationManager.IMPORTANCE_DEFAULT);
NotificationManager m = (NotificationManager)
getSystemService(Context.NOTIFICATION_SERVICE);
m.createNotificationChannel(channel);
                Notification notification = new Notification.Builder(this, "MYID")
.setContentTitle("Women Safety")
.setContentText("Shake Device to Send SOS")
.setSmallIcon(R.drawable.girl_vector)
.setContentIntent(pendingIntent)
.build();
this.startForeground(115, notification);
isRunning = true;
                return START_NOT_STICKY;
            }
        }
        return super.onStartCommand(intent,flags,startId);
    }

    @Override
    public void onDestroy() {
super.onDestroy();
    }
}
package com.logesharavind.wsafety;

        import android.Manifest;
        import android.app.Notification;
import android.app.NotificationChannel;
        import android.app.NotificationManager;
        import android.app.PendingIntent;
        import android.app.Service;
        import android.content.Context;
        import android.content.Intent;
        import android.content.SharedPreferences;
        import android.content.pm.PackageManager;
        import android.location.Location;
        import android.os.IBinder;
        import android.telephony.SmsManager;
        import androidx.annotation.Nullable;
        import androidx.core.app.ActivityCompat;

        import com.github.tbouron.shakedetector.library.ShakeDetector;
        import com.google.android.gms.location.FusedLocationProviderClient;
```

```
      import com.google.android.gms.location.LocationServices;
      import com.google.android.gms.tasks.OnSuccessListener;
public class ServiceMine extends Service {

booleanisRunning = false;
FusedLocationProviderClientfusedLocationClient;
   @Nullable
   @Override
   public IBinderonBind(Intent intent) {
      return null;
   }
SmsManager manager = SmsManager.getDefault();
   String myLocation;
   @Override
   public void onCreate() {
super.onCreate();
fusedLocationClient = LocationServices.getFusedLocationProviderClient(this);
      if (ActivityCompat.checkSelfPermission(this,
Manifest.permission.ACCESS_FINE_LOCATION) !=
PackageManager.PERMISSION_GRANTED&&ActivityCompat.checkSelfPermission
(this, Manifest.permission.ACCESS_COARSE_LOCATION) !=
PackageManager.PERMISSION_GRANTED) {
// TODO: Consider calling
         //    ActivityCompat#requestPermissions
         // here to request the missing permissions, and then overriding
         //   public void onRequestPermissionsResult(int requestCode, String[]
permissions,
         //                                          int[] grantResults)
         // to handle the case where the user grants the permission. See the
documentation
         // for ActivityCompat#requestPermissions for more details.
         return;
      }
fusedLocationClient.getLastLocation()
.addOnSuccessListener(new OnSuccessListener<Location>() {
               @Override
               public void onSuccess(Location location) {
                  if (location != null) {
                     // Logic to handle location object
location.getAltitude();
location.getLongitude();
myLocation =
"http://maps.google.com/maps?q=loc:"+location.getLatitude()+","+location.getLongitu
de();
}else {
myLocation = "Unable to Find Location :(";
```

```
                }
            }
        });
ShakeDetector.create(this, () -> {
        //if you want to play siren sound you can do it here
        //just create music player and play here
        //before playing sound please set volume to max
SharedPreferencessharedPreferences =
getSharedPreferences("MySharedPref",MODE_PRIVATE);
        String ENUM = sharedPreferences.getString("ENUM","NONE");
        if(!ENUM.equalsIgnoreCase("NONE")){
manager.sendTextMessage(ENUM,null,"Im in Trouble!\nSending My Location
:\n"+myLocation,null,null);
        }});
    }



    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        if (intent.getAction().equalsIgnoreCase("STOP")) {
            if(isRunning) {
this.stopForeground(true);
this.stopSelf();
            }
        } else {

            Intent notificationIntent = new Intent(this, MainActivity.class);
PendingIntentpendingIntent = PendingIntent.getActivity(this, 0, notificationIntent, 0);
            if (android.os.Build.VERSION.SDK_INT>=
android.os.Build.VERSION_CODES.O) {
NotificationChannel channel = new NotificationChannel("MYID",
"CHANNELFOREGROUND", NotificationManager.IMPORTANCE_DEFAULT);

NotificationManager m = (NotificationManager)
getSystemService(Context.NOTIFICATION_SERVICE);
m.createNotificationChannel(channel);

                Notification notification = new Notification.Builder(this, "MYID")
.setContentTitle("Women Safety")
.setContentText("Shake Device to Send SOS")
.setSmallIcon(R.drawable.girl_vector)
.setContentIntent(pendingIntent)
.build();
this.startForeground(115, notification);
isRunning = true;
```

```
            return START_NOT_STICKY;
        }
    }

        return super.onStartCommand(intent,flags,startId);
    }

    @Override
    public void onDestroy() {
super.onDestroy();
    }
}
```

8.2 SCREEN SHOTS

8.2.1 Start Page

Fig 8.1 Start Page

8.2.2 Settings View

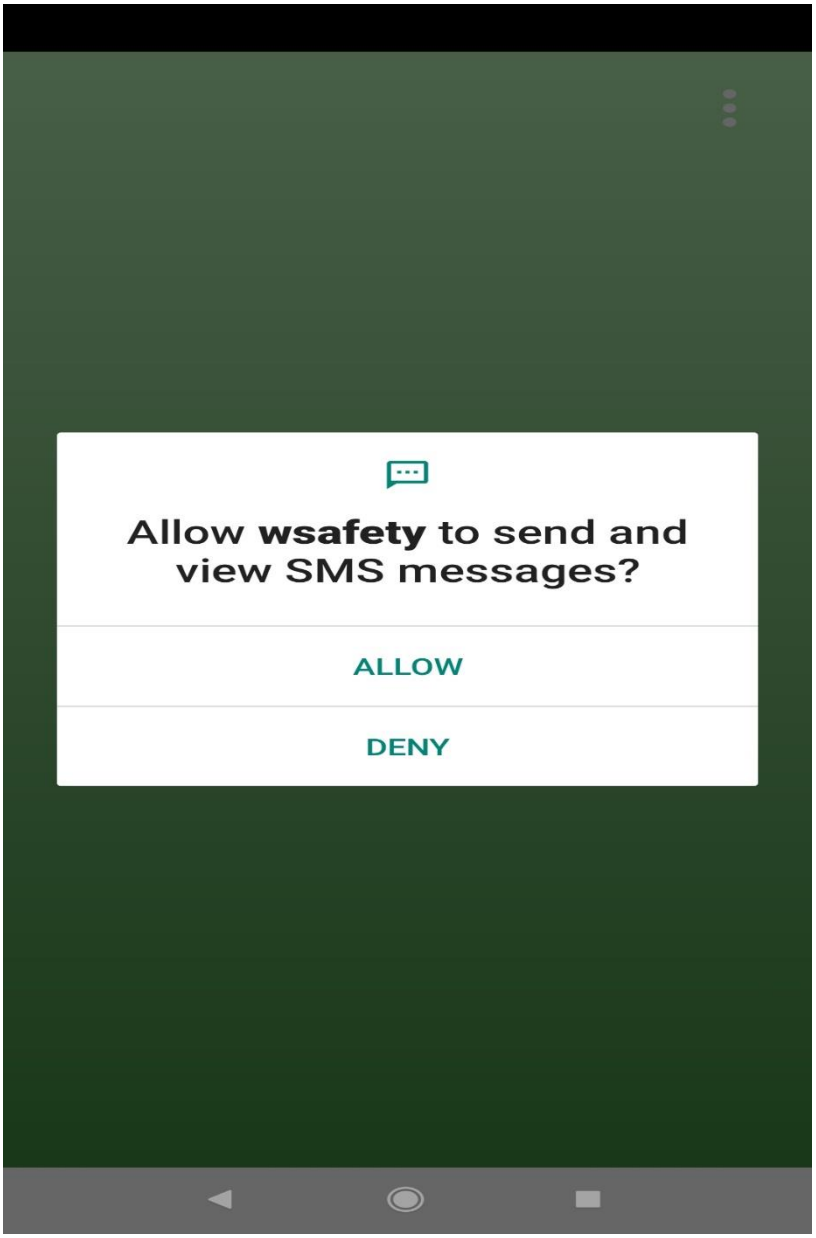

Fig 8.2 Settings

8.2.3 Working

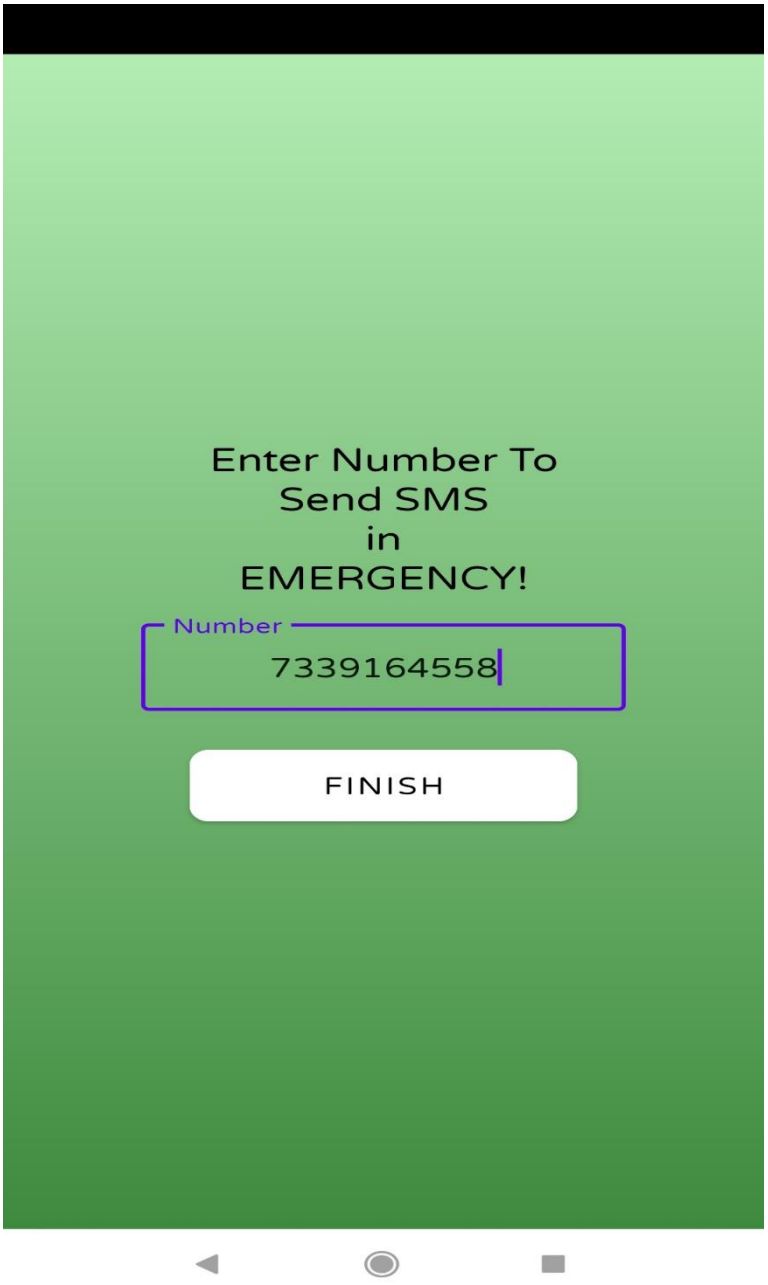

Fig 8.3 Working

8.2.4 User Interface

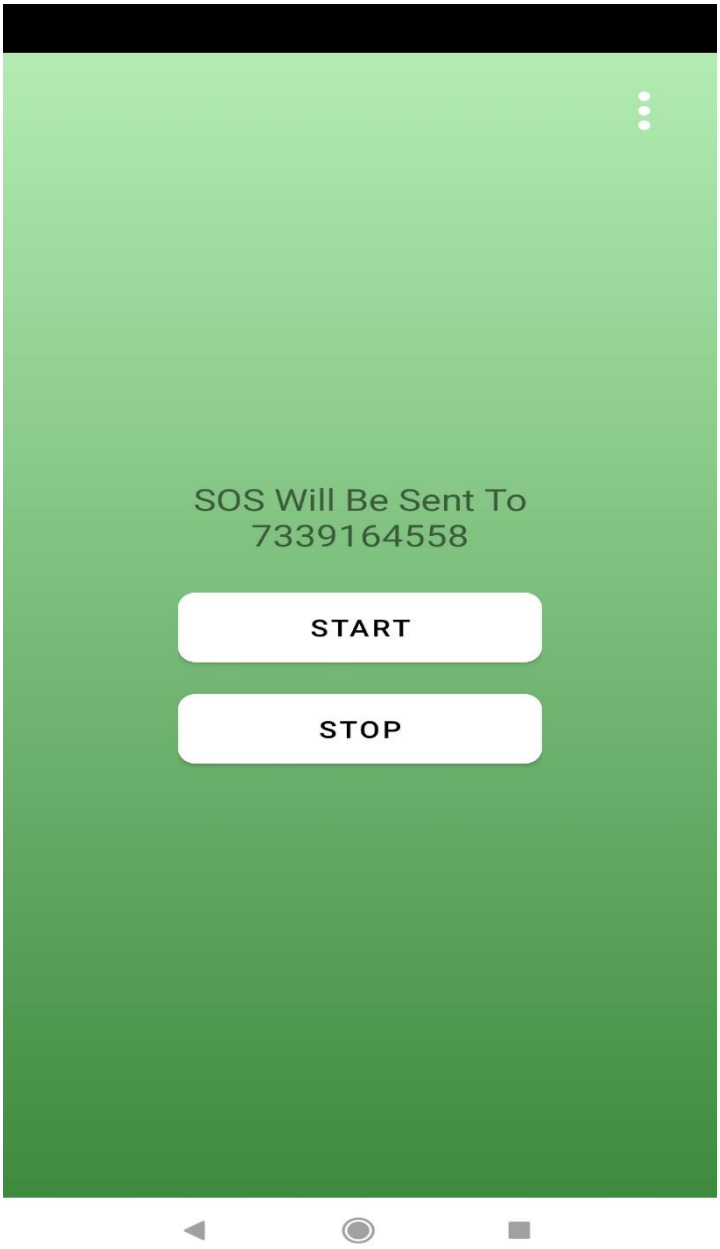

Fig 8.4 User Interface

8.2.5 Output

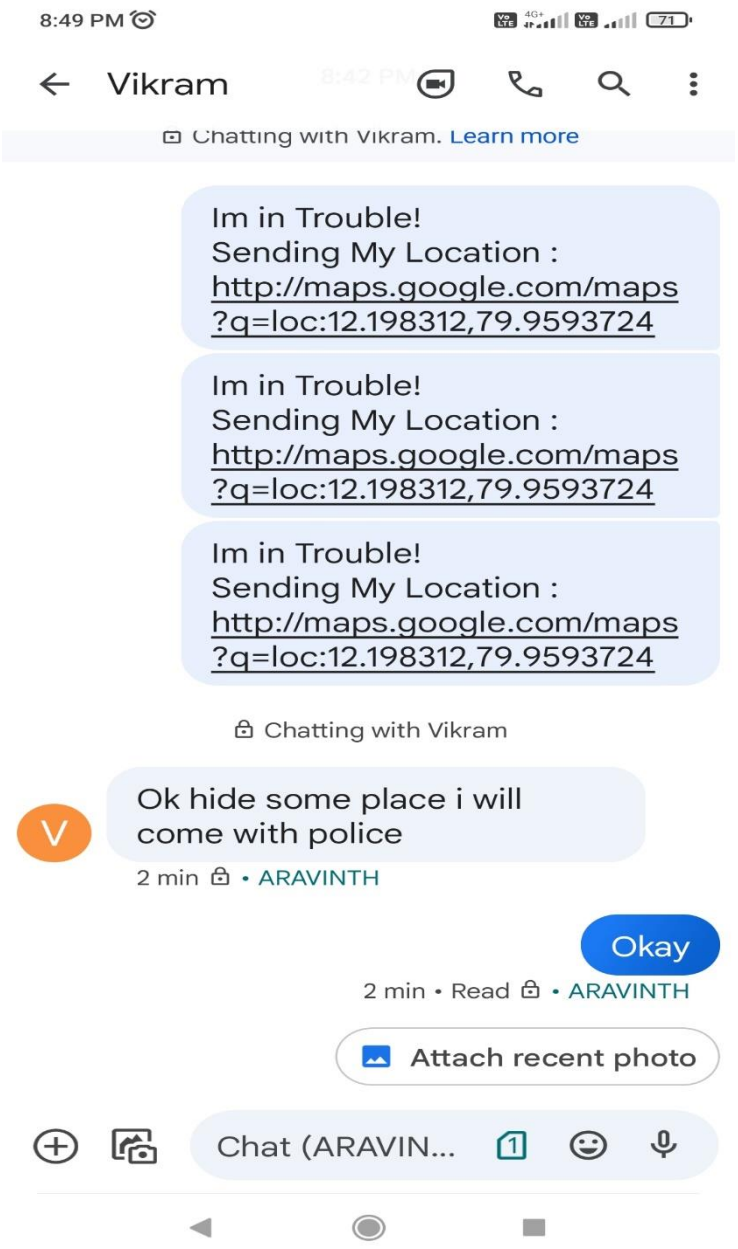

Fig 8.5 Output

CHAPTER 9
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 theuser opens thisapplication, he can see a START button. Also, he can store a message and 3 contact numbers. When the user is in some difficulty or needs any help button. So, whentheuseropensthisapplicationcan see STARTbutton. Click that button to send SMS to register user. For future development, this application can be integrated with the law enforcement database (e.g.,city police control room) instead of experimental database used here in the project. Also, some further upgrade can be done when the mobile networkisnotavailablefortherootdeviceandalsoif the root device is switched off. Thus, this app canhelp in a big way to rescue the women or men from unsafe conditions.

CHAPTER 10
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