WOMEN SAFETY

An Android Application

A Project

Presented to the faculty of

the Department of Computer Science

Baba Farid College of Engineering and Technology, Bathinda

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the requirements for the degree in

Computer Science

by

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ABSTRACT

The use of mobile devices such as, smart phones or tablets have increased significantly in the past decade. All these devices use applications that are created for them.

These applications can provide many different services including, social media, music streaming, video streaming, ride sharing, online shopping, and video games. Some of these apps need to be constantly connected to the internet to function properly, while others can work offline.

This framework is for ladies' security and beats existing frameworks. It comprises of a GPS Gadget, an Android Telephone. The app aspires to run efficiently, while having an intuitive a simple design that provides the user the necessary functionalities for all the safety purposes.

ACKNOWLEDGEMENT

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1. INTRODUCTION

Women's safety is a big concern which has been the most important topic till date. Women safety matters a lot whether at home, outside the home or working place. Few crimes against ladies particularly rape cases were terribly dread and fearful. Most of the women of various ages, till this day are being subjected to violence, domestic abuse, and rape. As ladies ought to travel late night generally, it's necessary to remain alert and safe. Although the government is taking necessary measures for their safety, still, there are free safety apps for women that can help them to stay safe. Most of the females these days carry their smartphone with them, so it is necessary to have at least one the personal safety apps installed. Such a security app for ladies will definitely facilitate in a way or the opposite.

This is user-friendly application that can be accessed by anyone who has installed it in their smart phones. Our intention is to provide you with fastest and simplest way to contact your nearest help. In this system user needs to feed the contact numbers of itself including family and friends, in case of emergency on pressing the emergency button, it will ring the alarm. Even on simply clicking that button the system sends SMS and calls on one of the numbers feeded into the system with the location and will call on 100. This features for both everyday safety and real emergencies, making it an ultimate tool for all.

2. FUNCTIONALITY

- User-friend interface.
- Easy integration and access.
- Internal communication.
- SMS communication and location information will be sent in case of an emergency.
- Emergency button which leads to alarm.

3. SOFTWARE REQUIREMENTS

The aim of the software requirement specification is to explain the mandatory tools to build this application.

This requirement includes:

- ✓ Android Studio Software
- ✓ Java Software
- ✓ Internet Connection
- ✓ Java Runtime Environment
- ✓ Android SDK Tools
- ✓ SQLite as backend

4. HARDWARE REQUIREMENTS

- ✓ Intel Pentium 4 or Faster 2 GHz Processor
- ✓ 4-8 GB RAM Minimum
- ✓ 3 GB of Hard Disk available space
- ✓ Monitor resolution Minimum 1280X800

5. METHODOLOGY

This project includes six modules and is listed below:

1. Authentication
2. Add Emergency Contacts
3. Add Personal Information
4. Deleting personal Information
5. Sending SMS and Location
6. Emergency Alarm

6. ANDROID DEVELOPMENT BASICS

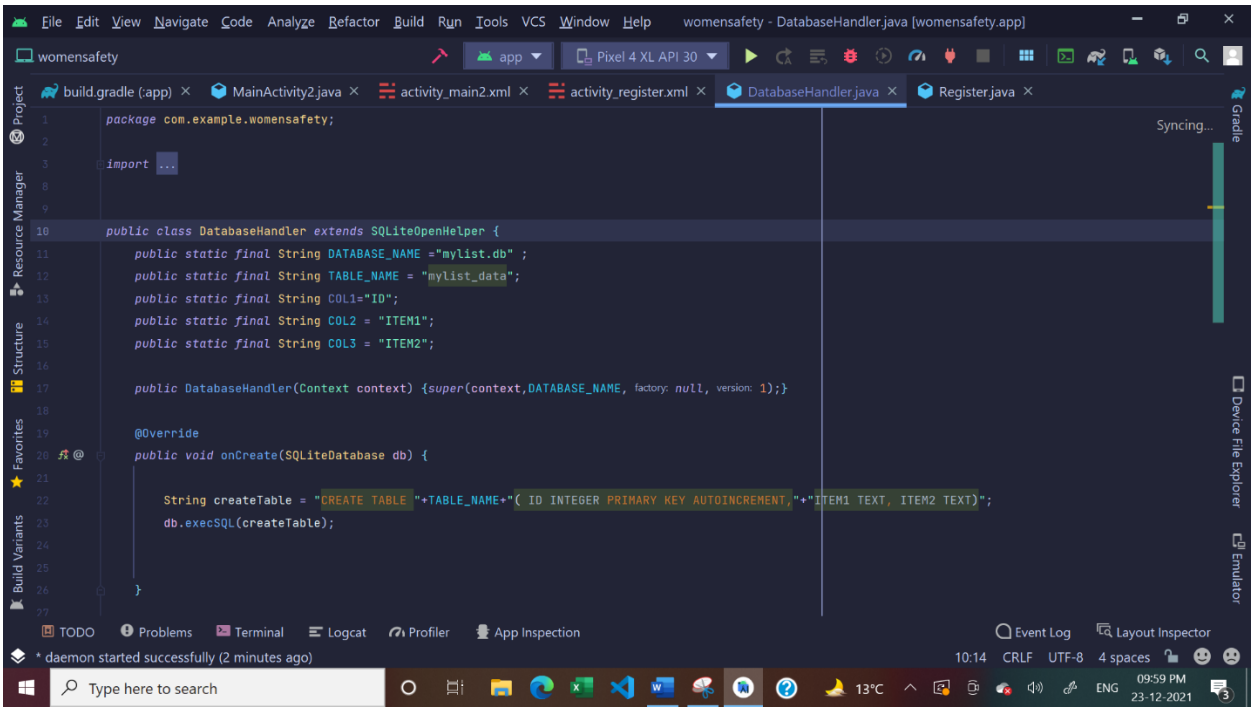
An Android app is a software application running on the Android platform. Because the Android platform is built for mobile devices, a typical Android app is designed for a smartphone or a tablet PC running on the Android OS.

Although an Android app can be made available by developers through their websites, most Android apps are uploaded and published on the Android Market, an online store dedicated to these applications. The Android Market features both free and priced apps.

Android apps are written in the Java programming language and use Java core libraries. They are first compiled to Dalvik executables to run on the Dalvik virtual machine, which is a virtual machine specially designed for mobile devices.

Developers may download the Android software development kit (SDK) from the Android website. The SDK includes tools, sample code and relevant documents for creating Android apps.

Novice developers who simply want to play around with Android programming can make use of the App Inventor. Using this online application, a user can construct an Android app as if putting together pieces of a puzzle.

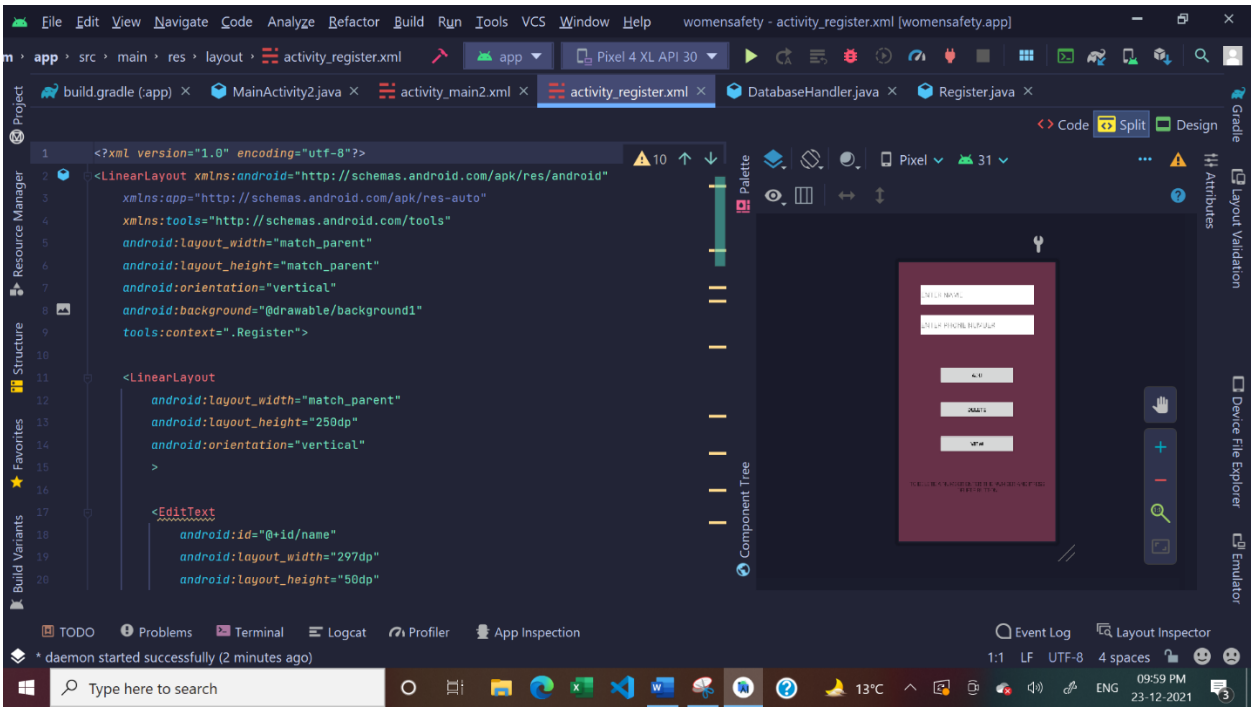


Database – SQLite

SQLite is an opensource SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.

SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC, ODBC e.t.c.

The main package is android.database.sqlite that contains the classes to manage your own databases.



Android XML Files

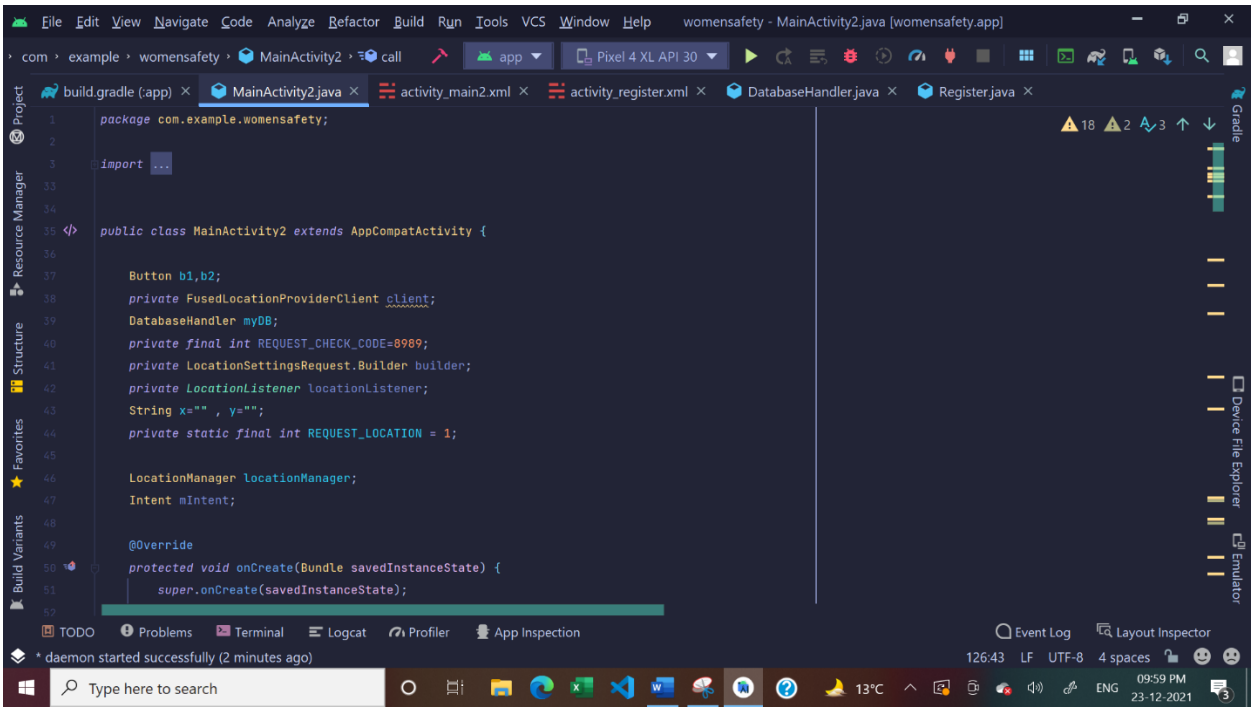
The Android platform uses XML files in projects for many purposes, from providing basic configuration of the application in the Manifest File, to using XML Layout Files to define the user interface.

Elements uses these standard files in the same way they are used when working with the Java language, so Elements developers have access to the same controls and UI capabilities as all other Android developers, fully natively.

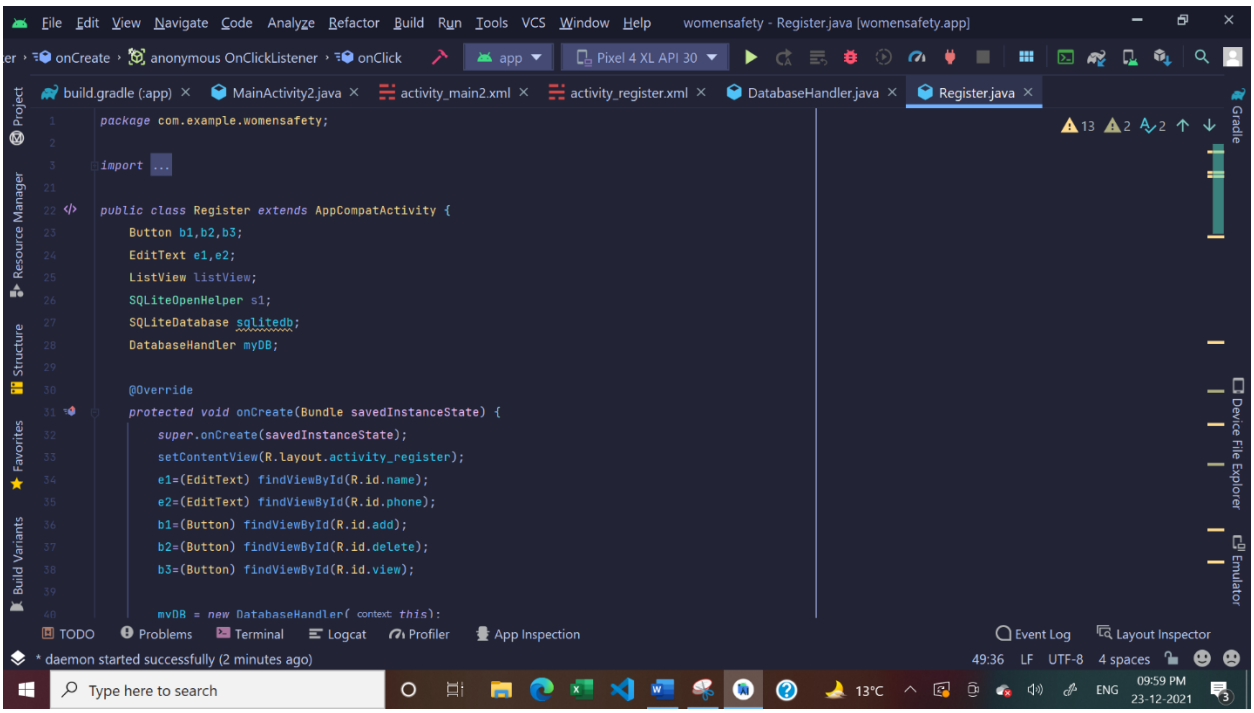
There are two ways for working with XML Layout files in your Android projects:

- You can edit the files in XML format using the regular code editor in Fire and Visual Studio. This option is favored by many Android developers, and gives you full control about your UI design down to the most minute detail.
- You can ask Fire or Visual Studio to launch Android Studio to design these files using Google's official visual designer, by right-clicking the project node in the Solution tree and choosing "Edit User Interface Files in Android Studio" (Fire) or "Open in Android Studio" (Visual Studio).

Any changes you make to your XML Layouts in Android Studio will automatically sync back into your project, and elements defined in your layouts and the other XML files will be available via the static R class in your project's default namespace.



By default, it includes an *MainActivity.java* source file having an activity class that runs when your app is launched using the app icon.



Emulator

Web Testing and App Testing has always been an important part of the overall development process. Testing involves finding and solving bugs – be it identifying glitches in navigation, issues with signup forms, breaks in payment processing or just a simple difference in font size. However, testing can ensure that every change does not break the user experience across different devices.

A key part of having a robust testing process is the devices on which the test is being run. A thorough testing procedure can also generate a variance in its results when performed on different devices. Thus, the significance of the testing device is paramount. The significance is even greater for testing on mobile devices, given the variety of devices, with different operating systems, browsers and hardware configuration.

As the technology has evolved with time, testing too saw its share of advancements in the form of various mobile testing device solutions that emerged. These mobile testing solutions were built in order to support cross browser testing of websites and mobile app testing on different mobile phones by analyzing the application's behavior, function and UI aspects.

The prime reason for this kind of testing is to ensure consistent behavior of the website and app on different mobile devices. Since these devices differ by hardware configuration, operating system and screen resolution, what might work in a certain way on one of the devices could vary for the other.

There are mainly two types of devices on which mobile testing is conducted:

- Real Devices
- Virtual Devices

What is a Real Device?
Real testing devices are the various models of mobile handsets that are used to run the website or app in order to test its functioning and behavioral patterns. These are actual handsets that the end user would use.
Generally, testing teams buy a couple of mobile handsets each with iOS, Blackberry, Android phones, tablets and iPads to test their software applications.

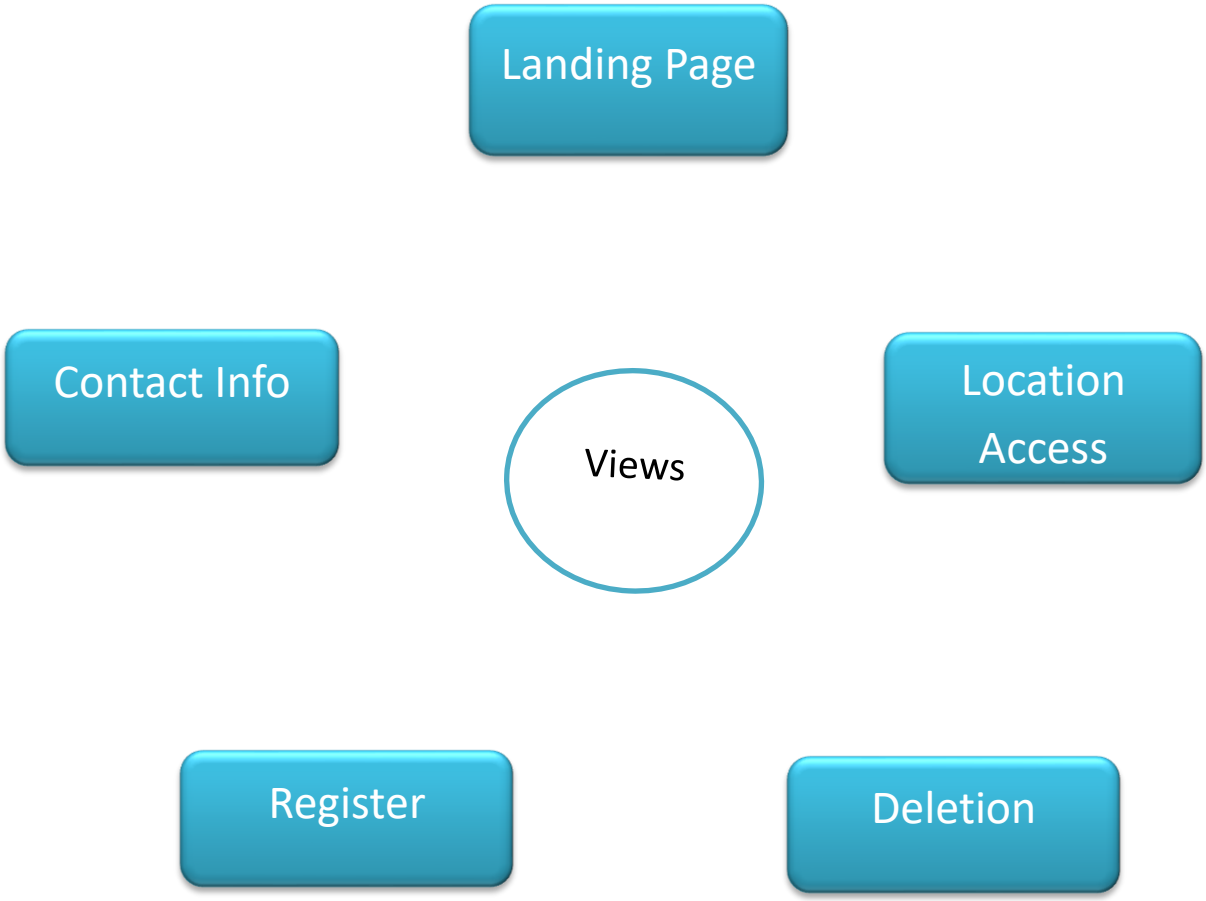
What is a Virtual Testing Device?
A Virtual Testing Device is a software program on the computer, unlike a real device, that provides simulation for most of the important features of an actual smartphone device. It mimics the nature of the smartphone, which helps the testers to run the software application on it to get an idea about how it would run on the designated real device. Although virtual testing devices happen to mimic the devices and are cost-efficient, it cannot replace real devices due to accuracy and reliability factors.
There are two types of virtual testing devices:

- Emulators
- Simulators

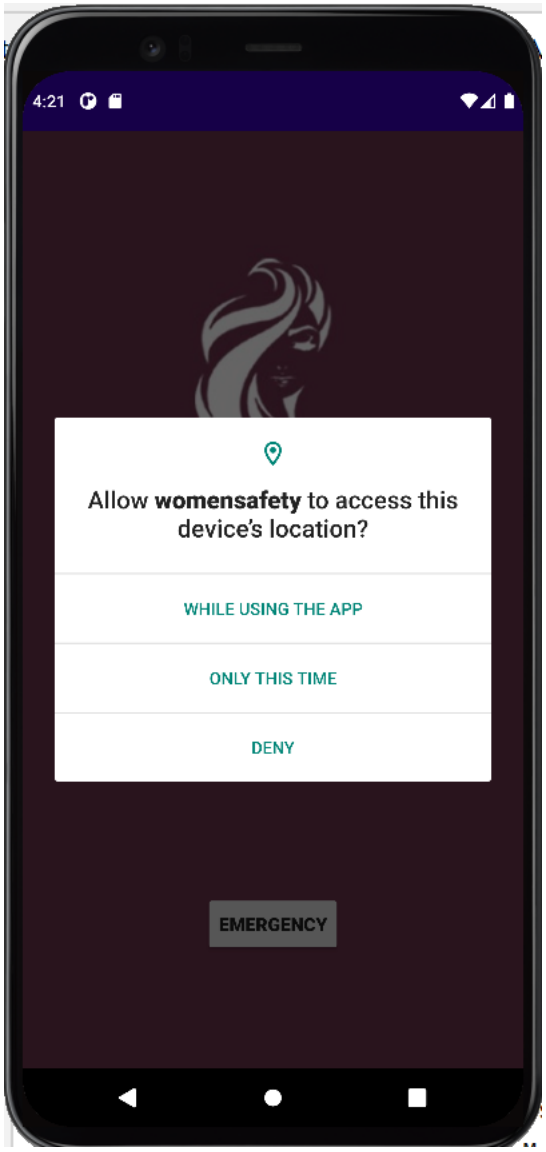
What are Emulators?

An emulator is a software that mimics the hardware and software of the target device on your computer. They do this by translating the ISA (Instruction Set Architecture) of the target device to the one used by the computer you are using to conduct testing using binary translation. ISA is the set of instructions that are written in Machine Language by each of the processor families, which they use to build their own device configuration depicting the functionality and behavior of the device. By translating the ISA of the target mobile device into your computer, you can mimic the way your target device works, forming a virtual environment for testing.

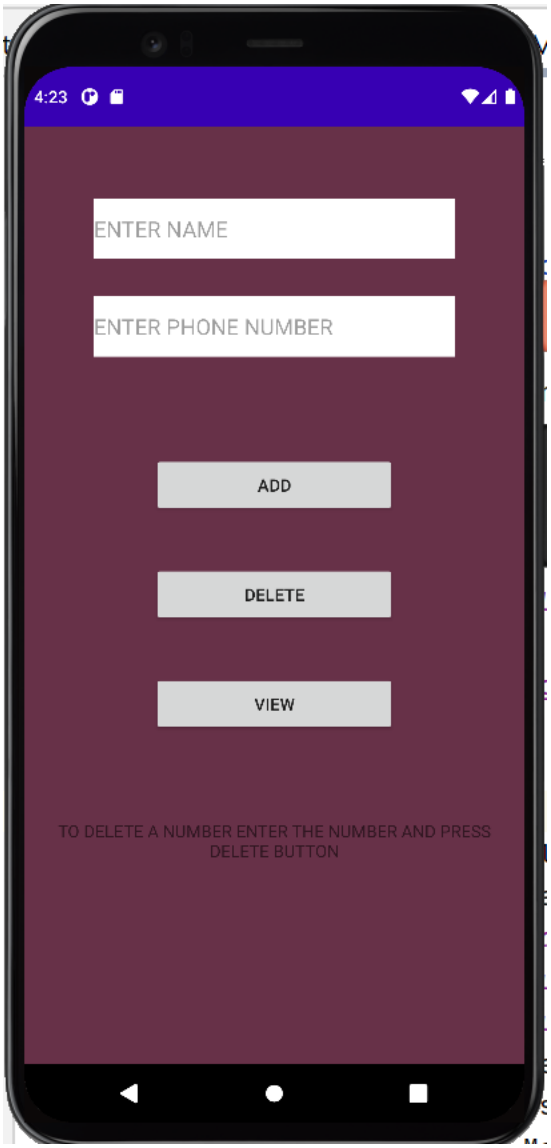
7. APP VIEW

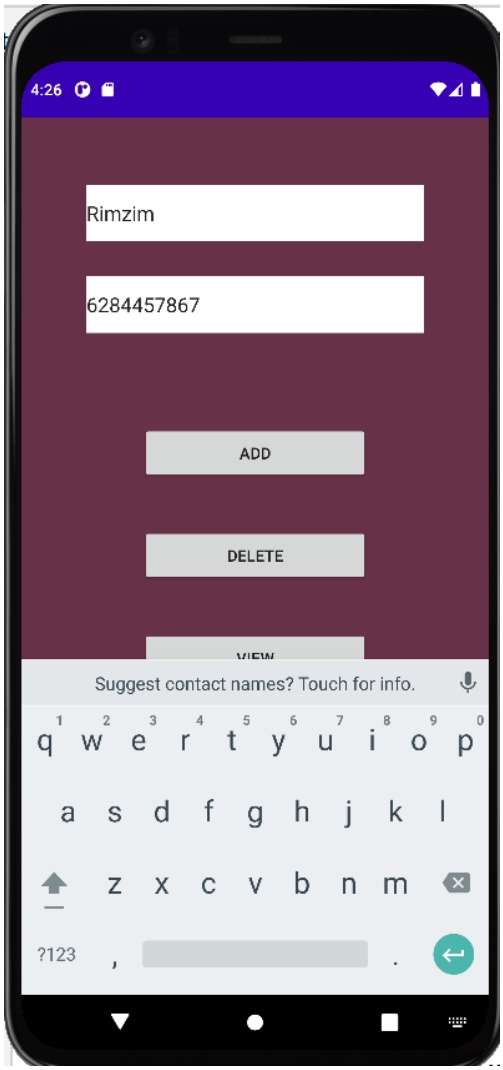

Landing Page
Contact Info
Views
Location Access
Register
Deletion

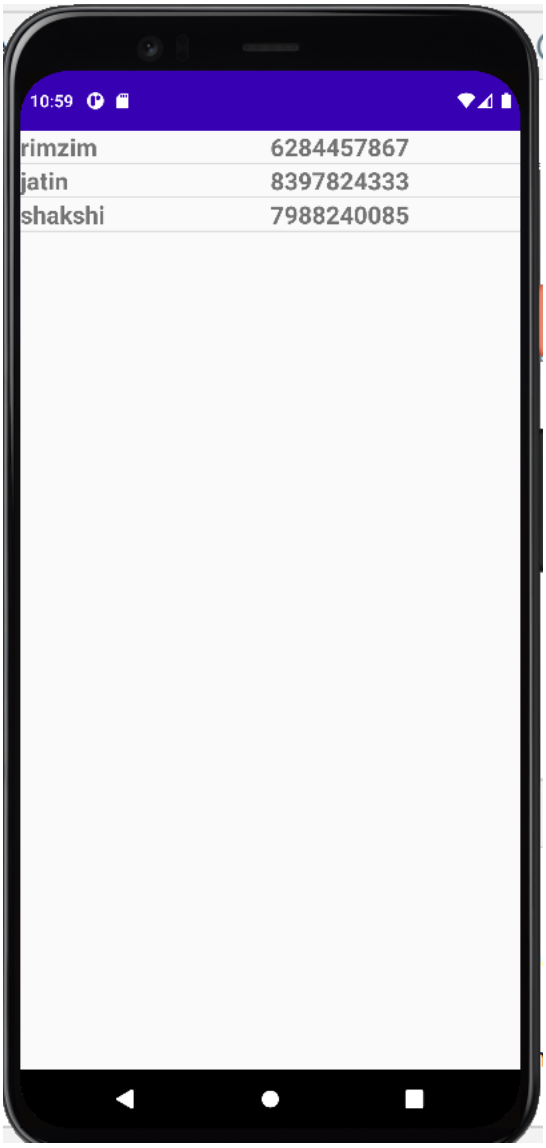

4:19
WOMAN SAFETY APP


4:21
Allow womensafety to access this device's location?
WHILE USING THE APP
ONLY THIS TIME
DENY
EMERGENCY


4:22
ADD CONTACTS
EMERGENCY


4:23
ENTER NAME
ENTER PHONE NUMBER
ADD
DELETE
VIEW
TO DELETE A NUMBER ENTER THE NUMBER AND PRESS DELETE BUTTON


4:26
Rimzim
6284457867
ADD
DELETE
Suggest contact names? Touch for info.
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
?123


10:59
rimzim
6284457867
jatin
8397824333
shakshi
7988240085

8. FEASIBILITY STUDY

As we know the rate of crimes has readily increased in today's world. With the increasing crime rate the women of our society have taken to certain ways, one of the ways to deal with this is to have a safety application in their smartphone [18] [19]. This safety application ensures that there is always an eye on her of her mentioned emergency contact numbers.
The emergency contact number always receives an updated location and the vehicle number she is traveling in. It reduces the risk factor.

9. CONCLUSION

Our primary goal of this project is to ensure every woman in our society to feel safe and secured. According to the survey in India 53% of working women are not feeling safe - Women is working in night shift (Bangalore-56%, Chennai-28%, Hyderabad-35%, Mumbai-26%). In Overall 86% of working women in India, women facing hurdles are high in Delhi, Mumbai, Hyderabad, Kolkata and Pune comparatively to other places.

Our application can play a major role by providing a safe and secure app for women's safety. It can provide a safe environment for women. The major advantage is that we all have smartphones now so it is quite easy to access this application with such an easy and simple interface. The system is highly scalable and user friendly. The software executes successfully by fulfilling the objectives of the project. Further extensions to this system can be made required with minor modifications.

THANK YOU!