NEW HORIZON
COLLEGE OF ENGINEERING
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

A PROJECT REPORT
for
Mobile Application Development
on

DISHA SOS

Submitted by

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USN: 1NH19ME102, Sem-Sec: 8-B

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

CERTIFICATE

This is to certify that the project work titled

DISHA SOS

Submitted in partial fulfillment of the degree of Bachelor of Engineering in Mechanical Engineering by

SHASHANK G

DURING
ODD SEMESTER 2022-2023
for
Course: Project in Mobile Application Development

Signature of Reviewer Signature of HOD

SEMESTER END EXAMINATION

Name of the Examiner *Signature with date*

1. ------------------------- ----------------------------

2. -------------------------- ----------------------------

ABSTRACT

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. In this we are going to send messages and location details to users need.

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.

***Keywords*:-** *Security,Smart Phones,User-Friendly*.

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SHASHANK G

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INTRODUCTION

➢ *About Android*

The Android working framework is a portable working framework that was created by Google (GOOGL) to be principally utilized for contact screen gadgets, phones, and tablets. Its configuration allows clients to control the cell phones naturally, with finger developments that reflect normal movements, for example, squeezing, swiping, and tapping. Google likewise utilizes Android programming in TVs, vehicles, and wristwatches—every one of which is fitted with an exceptional UI. The Android working framework is a versatile working framework that was created by Google (GOOGL) to be essentially utilized for contact screen gadgets, PDAs, and tablets. Its configuration allows clients to control the cell phones instinctively, with finger developments that reflect normal movements, for example, squeezing, swiping, and tapping. Google additionally utilizes Android programming in TVs, vehicles, and wristwatches—every one of which is fitted with a novel userinterface. The forms on android are as per the following:

- *Android 1.0: Android Alpha*
- *Android 1.1: Android Beta*
- *Android 1.5: Android Cupcake*
- *Android 1.6: Android Donut*
- *Android 2.0 - 2.1: Android Éclair*
- *Android 2.2 – 2.2.3: Android Froyo*
- *Android 2.3.3 – 2.3.7: Android Gingerbread*
- *Android 3.0 – 3.2.6: Android Honeycomb*
- *Android 4.0 – 4.0.4: Android Ice Cream Sandwich*
- *Android 4.1 – 4.3.1: Android Jelly bean*
- *Android 4.4 – 4.4.4: Android KitKat*
- *Android 5.0 – 5.1.1: Lollipop*
- *Android 6.0 – 6.0.1: Android Marshmallow*
- *Android 7.0 – 7.1.2: Android Nougat*
- *Android 8.0 – 8.1.0: Android Oreo*
- *Android 9.0: Android Pie*
- *Android 10*

➢ *Android Architecture*

Android is engineering as a product stack involving applications, an OS, run-time climate, middleware, administrations and libraries.

Each layer of the stack, and the comparing components inside each layer, are firmly coordinated and painstakingly tuned to give the ideal application improvement and execution climate formobile gadgets.

The Android programming stack is a Linux piece and an assortment of C/C++ libraries uncovered through an application system that offers types of assistance for, and the executives of, the run time and applications.

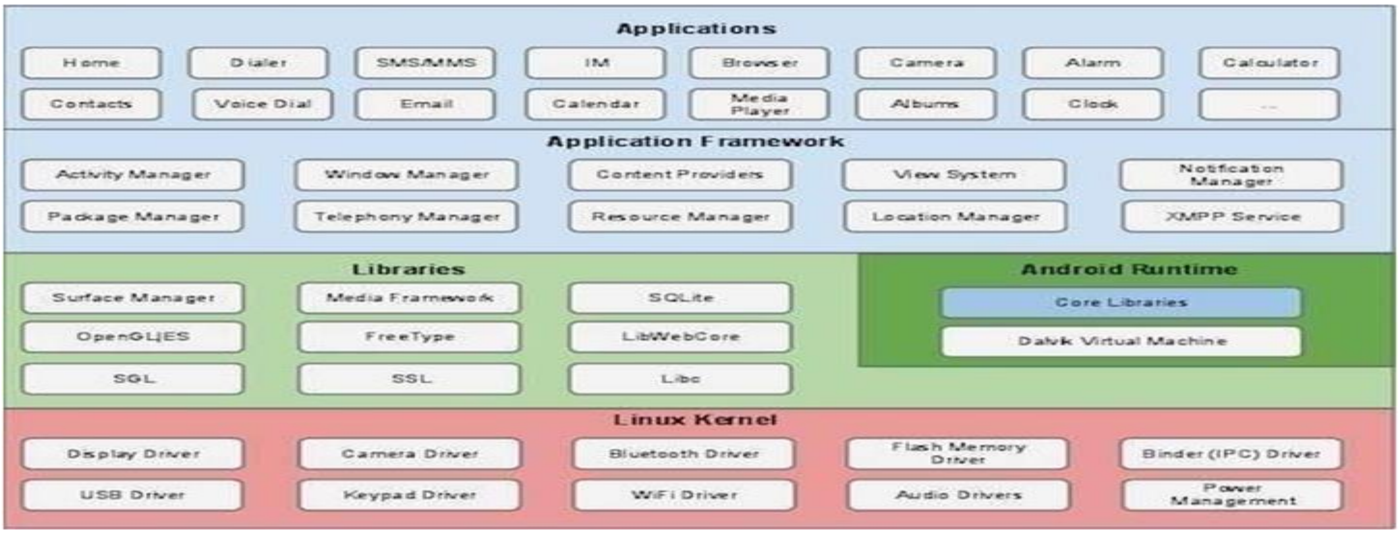


Fig 1 Android Architecture

➢ *The Android Programming Stack is Made Out of the Accompanying:-*

- Linux kernel
- Libraries
- Android run time
- Application framework
- Application layer

- *Linux kernel*

At the lower part of the layers is Linux - Linux 3.6 with roughly 115 patches. This gives a degree of deliberation between the gadget equipment and it contains all the fundamental equipment drivers like camera, keypad, show and so on Additionally, the bit handles every one of the things that Linux is great at, for example, organizing and a huge range of gadget drivers, which remove the aggravation from communicating to fringe equipment.

- *Libraries*

On top of Linux part there is a bunch of libraries including open-source Web program motor WebKit, notable library libc, SQLite information base which is a valuable archive for capacity and sharing of useful information, libraries to record sound and play the video, SSL libraries work for Internet security and so forth.

- *Android Libraries*

This classification envelops those Java-based libraries that are explicit to Android improvement. Instances of libraries in this classification remember the application system libraries for expansion to those that work with UI building, designs drawing and data set admittance

- *Android Runtime*

This is the third segment of the design and accessible on the second layer from the base. This part gives a key important part called DVM Dalvik Virtual Machine which is a sort of Java Virtual Machine mainly planned and upgraded for the Android.

The Dalvik VM utilizes Linux center elements like memory the board and multi - stringing, which is natural in the Java language. The Dalvik VM empowers each Android application to run in its own cycle, with its own example of the Dalvik vi rtual machine.

The Android runtime additionally gives a bunch of center libraries which empower Android application designers to compose Android applications utilizing standard Java programming language.

- *Application Framework*

The Application Framework layer gives numerous more elevated level administrations to applications as Java classes. Application framework engineers are given permission to utilize these administrations in their applications.

- *Applications*

The Android application is at the top layer.we will compose our application to be introduced on this layer as it were. Application parts are object structure square of the Android application.

This part are roughly combined by the application manifest document AndroidManifest.xml that depicts each and every area of the application and how they communicate.

➢ *About Mini Project*

DISHA SOS is an android application wHich is developed for women safety purposes while ay women are in trouble they can contact SOS or emergency sevices like 100 , 121,etc.Then the police will be able to know the victim location and can take necessary actions.This applications will be very helpful for women and it has user friendly usr interface.

Security for ladies has turned into a huge issue in the present time, as the quantity of wrongdoings over ladies and young ladies expanded throughout some stretch of time. Ladies' security matters significantly whether at home, outside the home or working spot. A huge part of the women of various ages, straight up until now are being presented to fierceness, assault, and so on To decide this issue, we know nowadays, individuals utilizing cell phones have extended rapidly and subsequently, and thus, a cell phone can be utilized productively for individual security or diverse other affirmation purposes. Here we present a simple to utilize application that can be gotten to by any individual who has introduced it in their cell phones. The rationale is to give you the speediest way to deal with contact the nearest help.

- *Objective of the Mini Project*

- *Initially, we need to enter the four contact quantities of police, relatives and companions in to the application say and snap on "save" button.*
- *While voyaging, run the application and at whatever point need emerges, click "start" button.*
- *As soon as "start" button squeezed, it firsts settle on a decision to the main saved enlisted contact number and furthermore sends the message containing area URL of the casualty to all the contact numbers.*
- *Unique element of this application is message with area URL is sent persistently to the enrolled contact numbers for at regular intervals until "stop" button is clicked. Along these lines, ceaseless area following of casualty is conceivable with this application.*

- *Advantages of the Mini Project*

- *Smart24x7 app is available FREE*
- *By just clicking the button smartphone SMS will be shared with location in case of emergency.*
- *This application sends the live location of the user*

CHAPTER TWO
REQUIREMENT SPECIFICATIONS

A. *Mobile Requirements*

- *Device : Android OS Device(API level 5 and above)*
- *Display:320 x 480 x 320 & 480*
- *OS Android OS 2.1 & above*

B. *Computer Requirements*

➢ *Software Requirements:*

- *Compiler: Android studio.*
- *Database:MySQL*

➢ *Front end,Back end: XML , DBMS Connection with JAVA. 2..Hardware Requirements:*

- *Processor: Intel core i5 generation.*
- *Ram: 8GB or more*

CHAPTER THREE
ANALYSIS AND DESIGN

A. Algorithm

- *STEP 1: Start.*
- *STEP 2: Once the app gets installed the user will behaving an option to login or register.*
- *STEP 3: Ifweclickregister,a registration form willbedisplayedwherewehaveto fill thedetails.*
- *STEP 4: User must login with registered username and password.*
- *STEP 5: Once logged in,user will be provided with options*

- *A button,in caseofemergencies.*
- *A safe button , to say we are safe.*
- *There will also be an option to call emergency contacts like police,hospital or fire department.*
- *An option of giving variousinformation about domestic violence like abuse ,rape etc.*
- *To view our contact list.*
- *Also an option of safety precautions.*

- *STEP 6: In case of emergency ,the user have to press button,it is going to sendour address along with our location saying "in danger" to the contact*
- *STEP 7: once we feel safe, safe buttonmust bepressed, whichsends a message* saying"I'msafenow"alongwith location.
- STEP 8: Stop

B. Flow Chart

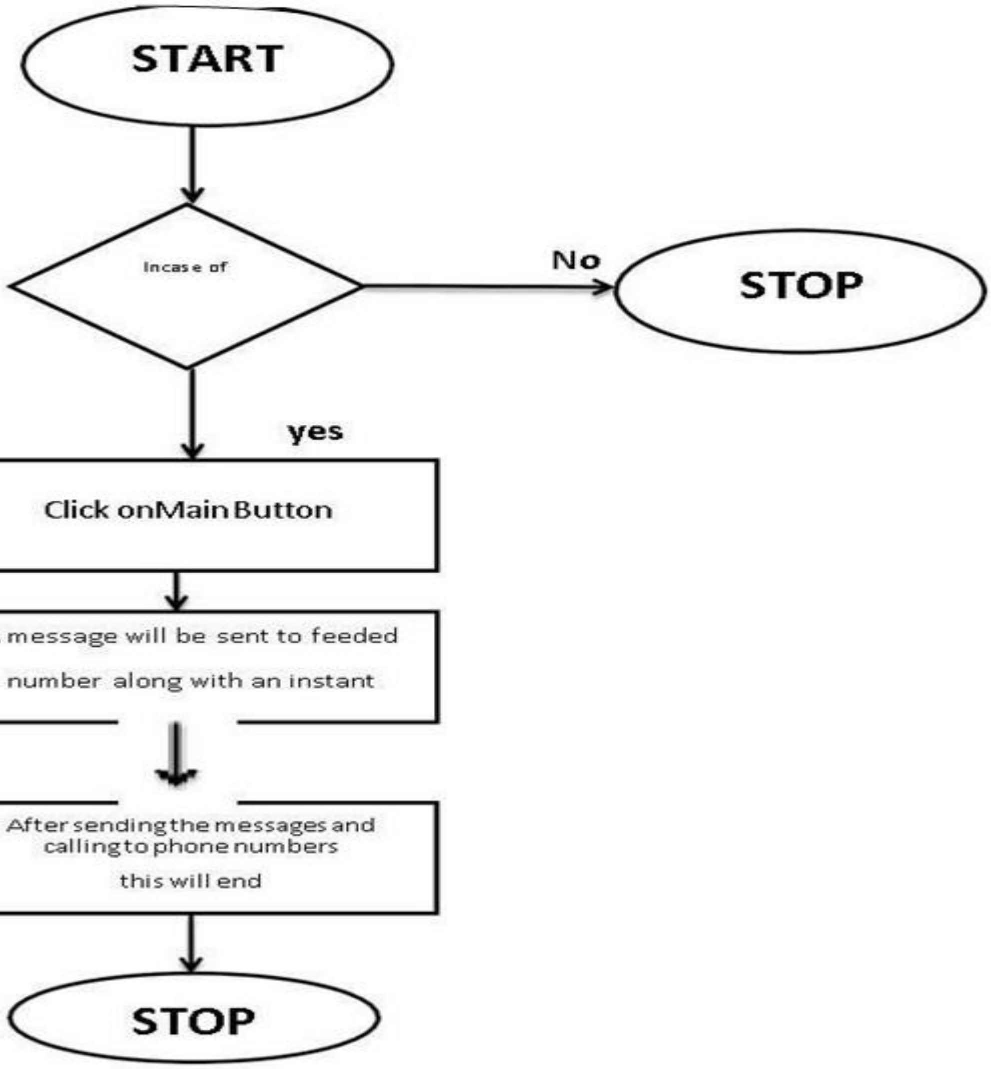

START
Incase of
No
STOP
yes
Click onMain Button
A message will be sent to feeded number along with an instant
After sendingthe messages and callingto phone numbers this will end
STOP

Fig 2 Flow Chart

- *Use Case Diagram*

It is the least difficult method of represenTIng regarding how the clients connect with the framework. It shows the relaTIonship between various use cases and client, in which they are involved. Either ovals or circles are utilized to address the utilization cases. It is really a plan for the framework/process. The standard structure is defifined by the unified displaying language.

- *The different employments of the utilization case outline are as per the following*:

✓ The substance of the framework can be specified.
✓ The prerequisites of the framework are caught.
✓ Framework engineering can be approved.
✓ Experiments are produced.

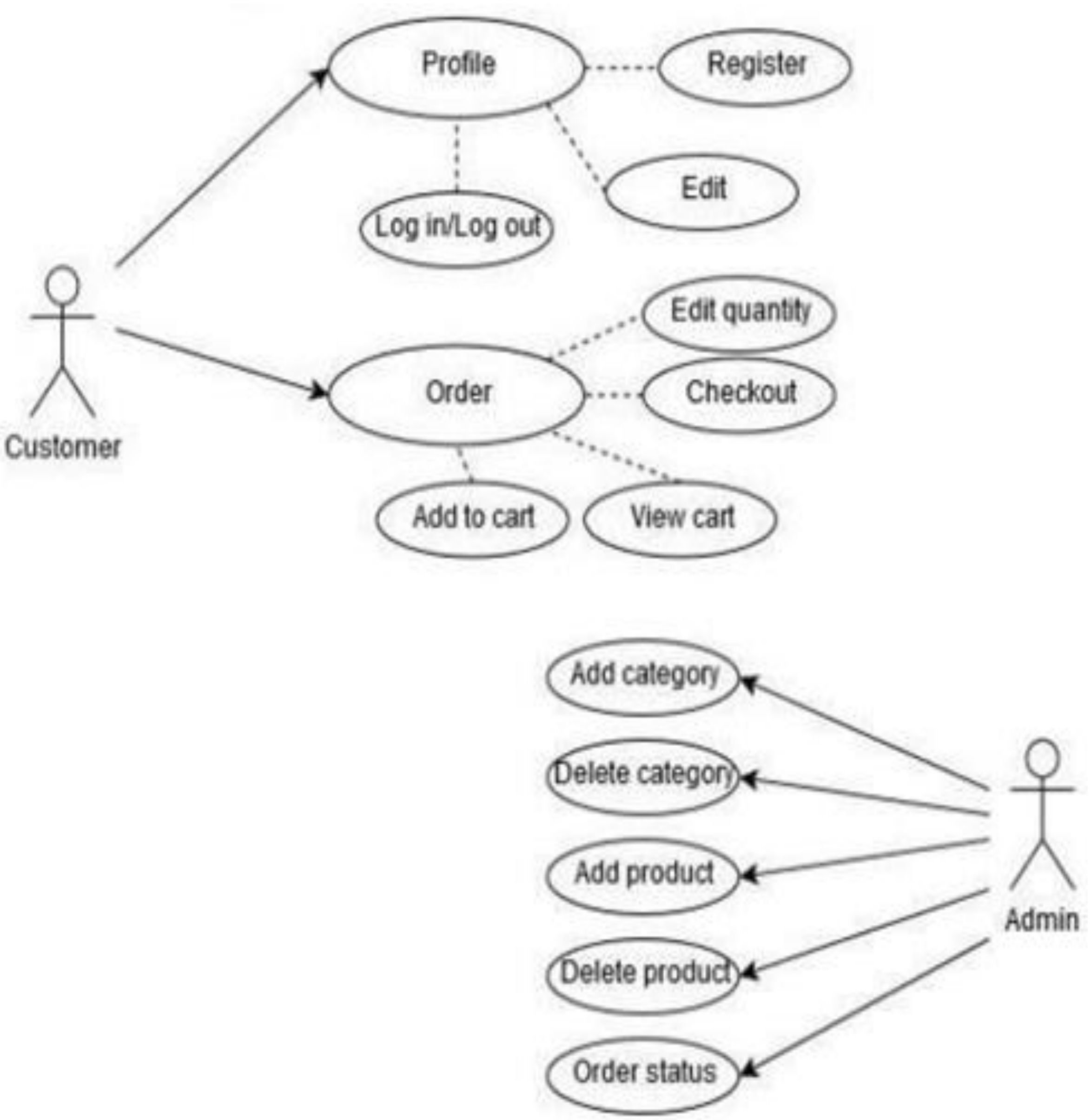


Fig: 3.2 Test cases generated

CHAPTER FOUR
IMPLEMENTATION

A. *Android Concepts Used*

The components are the building blocks of an android. The components are coupled with Manifest.xml fifile. The various components of Android are as follows:

➢ *Ativites:*

An activity is a single screen, which provides user interface. It does the actions on the screen. If the app has multiple activities, then one of the activities should be made as main activity to be invoked when the app runs. The MainActivity is a subclass of activity.

- *Syntax:* Public class MainActivity extends Activity

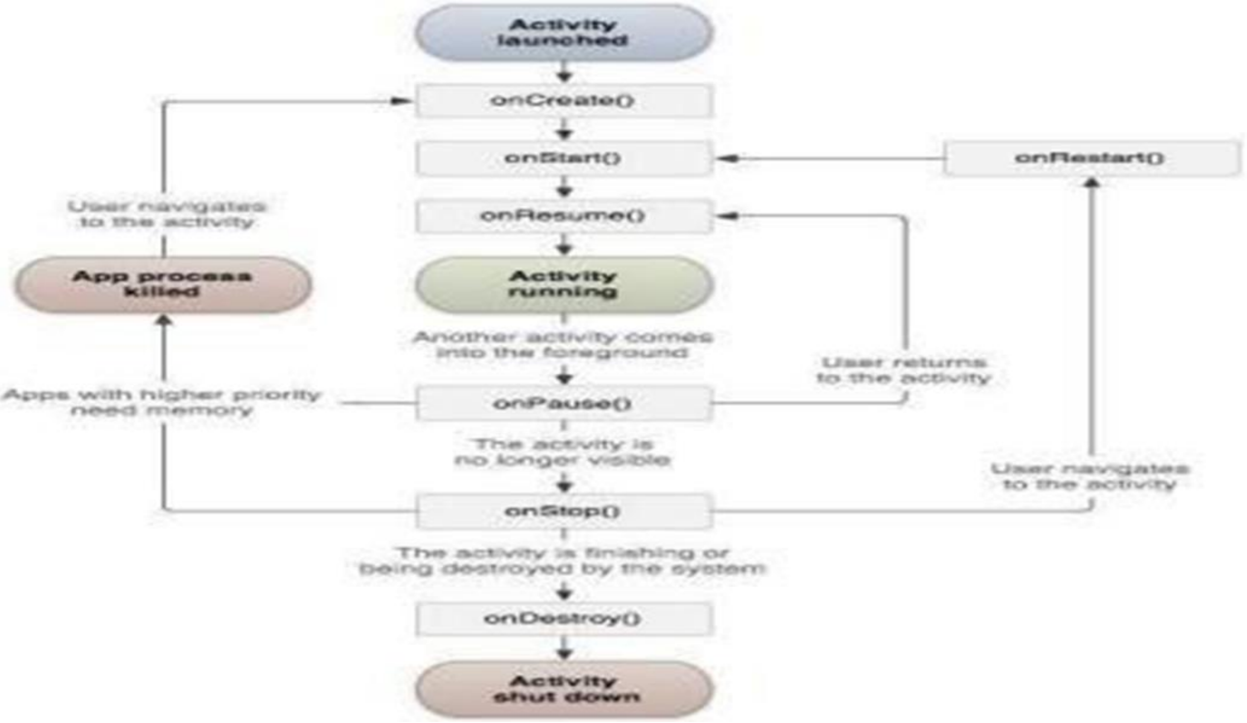

Activity launched
onCreate()
onStart()
onRestart()
onResume()
User navigates to the activity
App process killed
Activity running
Another activity comes into the foreground
User returns to the activity
Apps with higher priority need memory
onPause()
The activity is no longer visible
User navigates to the activity
onStop()
The activity is finishing or being destroyed by the system
onDestroy()
Activity shut down

Fig 3 Activity Life Cycle

In Android, an action is alluded to as one screen in an application. It is basically the same as a solitary window of any work area application.

An Android application comprises of at least one screens or exercises.

Every action goes through different stages or a lifecycle and is overseen by movement stacks. So when another movement begins, the past one generally stays beneath it. There are four phases of an action.

Assuming a movement is in the closer view of the screen i.e at the highest point of the stack, then, at that point, it is supposed to be dynamic or running. This is generally the movement that the client is right now cooperating with.

Assuming a movement has lost concentration and a non-regular or straightforward action has zeroed in on top of your action. In such a case either one more movement has a higher situation in multi-window mode or the actual action isn't focusable in the current window mode. Such movement is totally alive.

On the off chance that a movement is totally concealed by another action, it is halted or stowed away. It actually holds all the data, and as its window is covered up accordingly it will frequently be dispensed with by the framework when memory is required somewhere else.

The framework can annihilate the movement from memory by either requesting that it finish or essentially killing its cycle. At the point when it is shown again to the client, it should be totally restarted and reestablished to its past state.

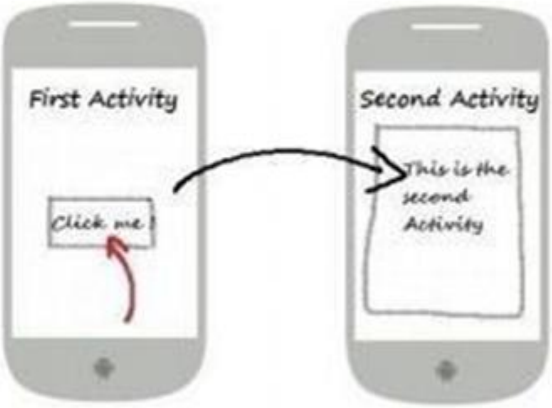


Fig 4 Second Activity

Fig 5 Empty Activity

➢ *Administrations:*

An assistance runs behind the scenes. It for the most part performs long running assignments. Ex: music player running in foundation, while the client can utilize different applications. A class must be made which expands the Service class.

- *Grammar*: Public class MyService broadens Service

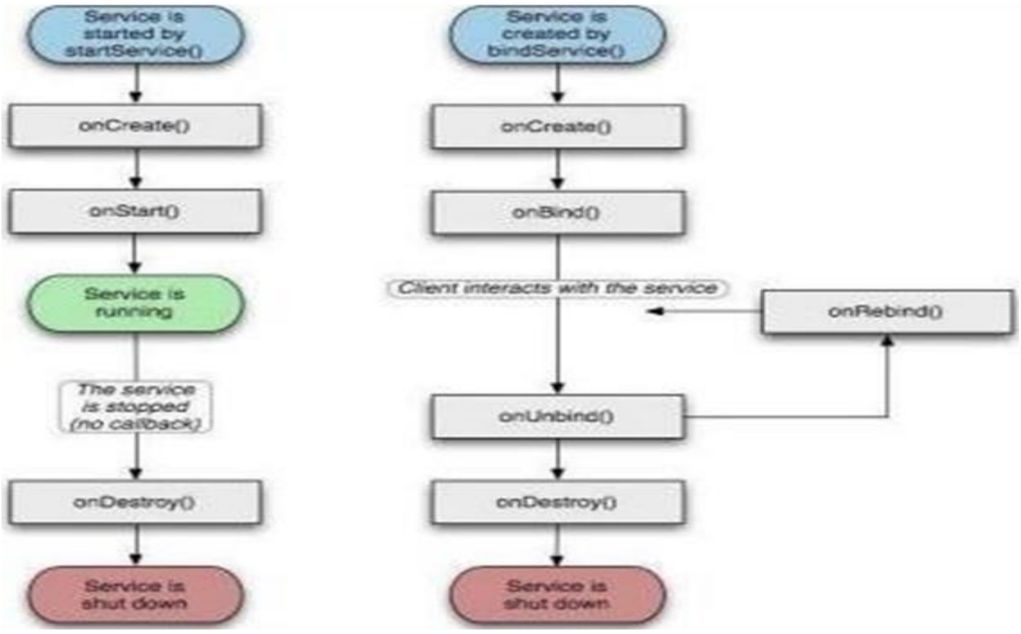

Service is started by startService()
onCreate()
onStart()
Service is running
The service is stopped (no callback)
onDestroy()
Service is shut down
Service is created by bindService()
onCreate()
onBind()
Client interacts with the service
onRebind()
onUnbind()
onDestroy()
Service is shut down

Fig 6 Service

➢ *Broadcast Receivers:*

The transmission beneficiary reacts to messages from the framework or from different applications. A transmission beneficiary is a subclass of Broadcast Receiver and the onReceive strategy ought to be utilized. The message is typically communicated as a goal object.

- *Syntax:* Public class MyReceiver extends BroadcastReceiver{ Public void onReceive(content, intent)

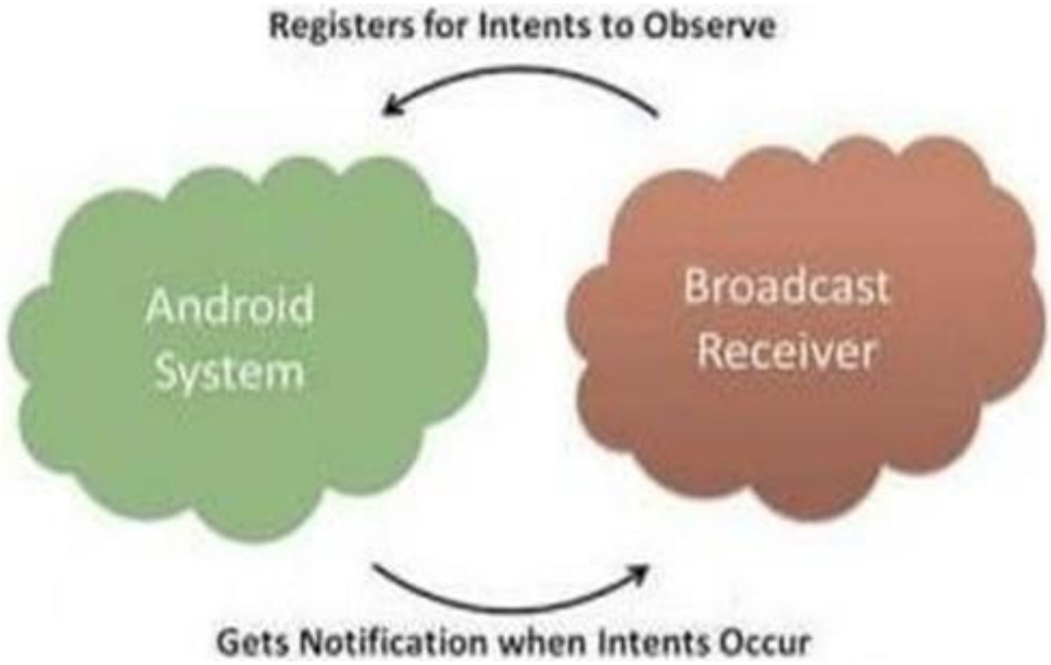

Registers for Intents to Observe
Android System
Broadcast Receiver
Gets Notification when Intents Occur

Fig 7 Broadcast Reciver

➢ *Content Providers:*

It supplies information from one applica<on to others dependent on demand. The solicitations are dealt with by ContentResolver class. It is executed as subclass of ContentProvider class and onCreate strategy is summoned.

- *Syntax :* Public class My Content Provid erextends Content Provider { Public void on Create}

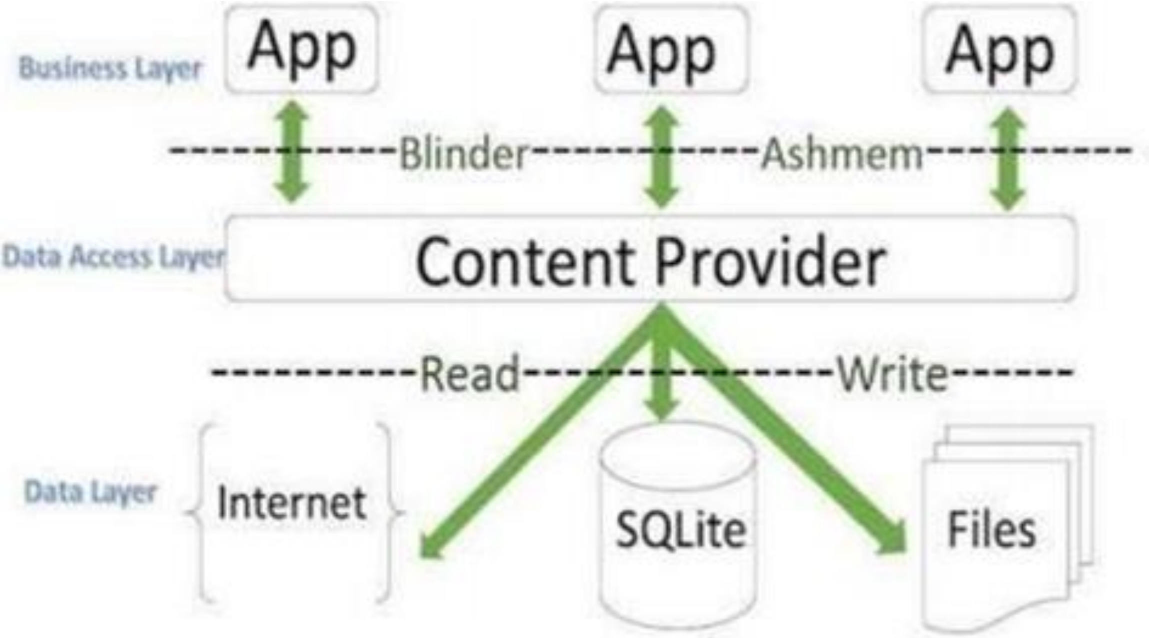
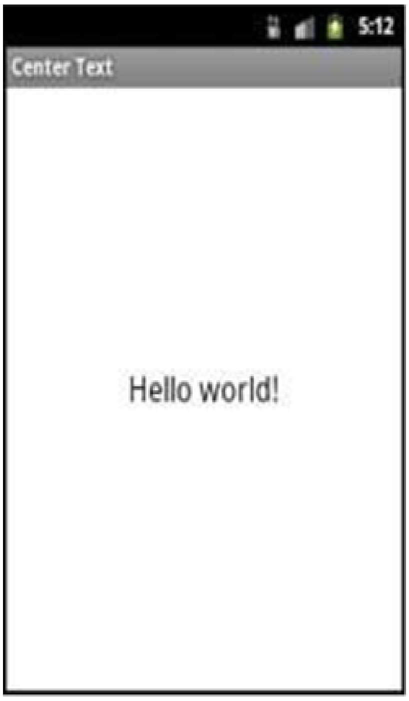


Fig 8 Content providers

- *Widgets Text View*

  The Text View displays corresponding text to the user and also can be edited.



Center Text

Hello world!

Fig 9 Text View

- *Text View Code in XML:*

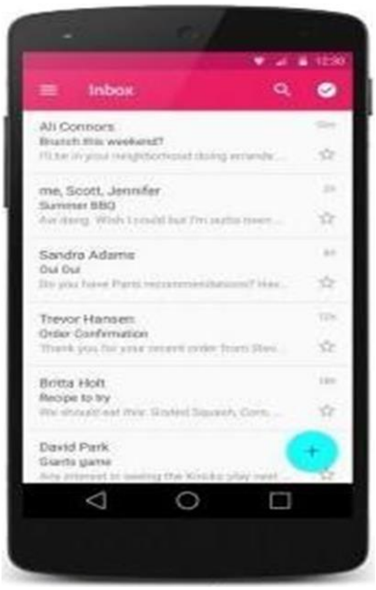
  <TextViewandroid:id=”@+id/simpleTextView” android:layout_width=”wrap_content” android:layout_height=”wrap_content”

- *Text View Code in Java:*

  Text View tv = (TextView)fifindViewById(R.id.tv); tv.setText(“Android”);

- *Recyclerview*

  If a scrolling list of elements is required in the app, this widget is used.



Inbox

Ali Connors
Brunch this weekend?

me, Scott, Jennifer
Summer BBQ

Sandra Adams
Oui Oui

Trevor Hansen
Order Confirmation

Britta Holt
Recipe to try

David Park
Giants game

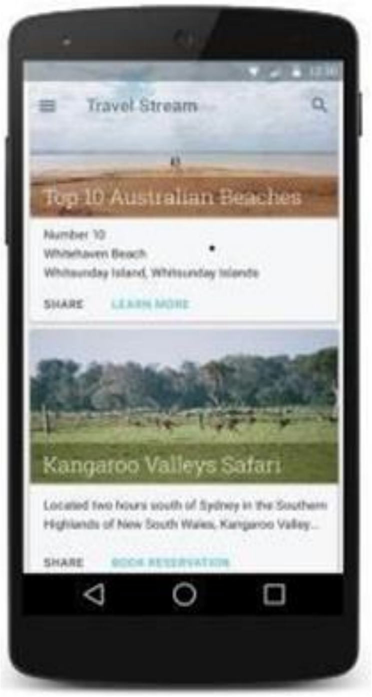
Fig 10 Recycle View

- *Code for Recycler View in XML:*

  <android.support.v7.widget.RecyclerView android:id=”@+id/my_recycler_view” an droid:scrollbars=”vertical” android:lay out_width=”match_parent” android:lay out_height=”match_parent”/>

➢ *Card View*

Card View can represent information in a card type design with a drop shadow which represents elevation.



Number 10
Whitehaven Beach
Whitsunday Island, Whitsunday Islands

Located two hours south of Sydney in the Southern Highlands of New South Wales, Kangaroo Valley...

Fig 11 Card View

- *Code for Card View in XML:*

<android.support.v7.widget.Card View xmlns: card_view=http://schemas.android.com/apk/resauto android:id="@+id/card _view"android:layout_gravity="center"android lay out_ width="250dp" android:layout_height="250dp" card_view:card Corner Radius="4dp">

➢ *Image View*

Image View is used to display an image which must be present in the draw able folder.

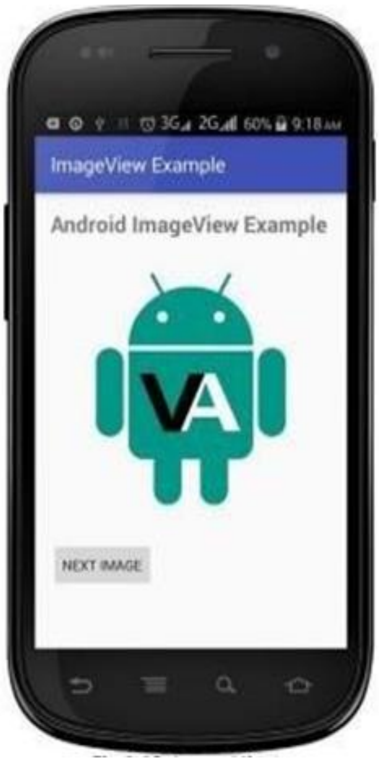
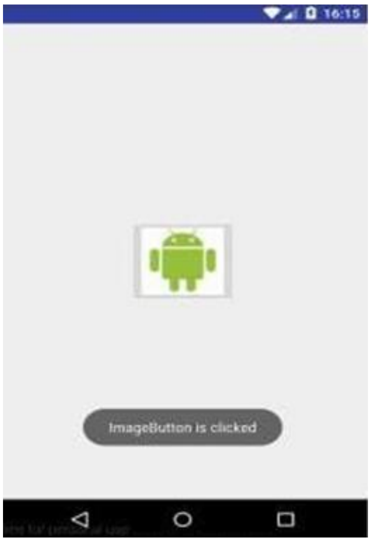


Fig 12 Image View

- *Code for Image View in XML:*
  <ImageView android:id=”@+id/iv” android:layout_width=”wrap_content” android:layout_height=”wrap_content” android:layout_ margin=”5dp” android:src=”@drawable/ic_launcher” />

- *Code for Image View in Java:*
  ImageView iv= (ImageView) findViewById(R.id.iv); iv.setImageResource(R.drawable.bat) IMAGEBUTTON It is a bubon with a custom background image.



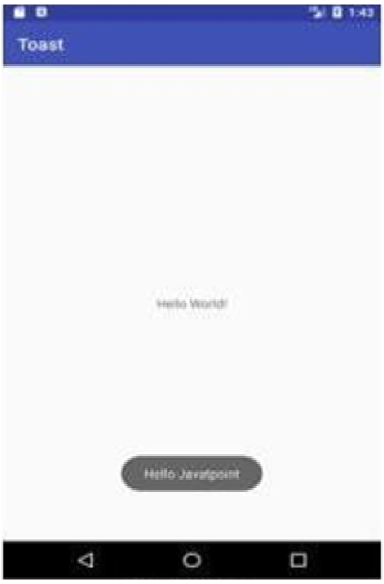
ImageButton is clicked

Fig 13 Image Button

- *Code for ImageBubon in XML:*
  <ImageBubon an droid:id=”@+id/ib” android:layout_width=”wrap_content” an droid:layout_height=”wrap_content” android:src=”@drawable/android_bubon” />

- *Code for ImageBubon in Java:*
  ib = (ImageButton) findViewById(R.id.ib); ib.setOnClickListener(new OnClickListener() { @Override public void onClick(View view) { });

➢ *Toast*
  Toast is used to display information for a short dura<on of <me and later it disappears.



Hello World!

Hello Javatpoint

Fig 14 Toast

- *Code for Toast*:
  Toast.makeText(getApplica<onContext(),"Welcome",Toast.LENGTH-_SHORT).show();

➢ *Intents*

It is a message object used for communica<on between components of android. There are two types of intents:

- *Implicit*: used for communication between applica<ons.
- *Explicit*: used for communication between activities. Intent code: Intent i = new Intent(this,secondactivity.class); startActivity(i);

B. Functionality of the Project

➢ *Login*

If the user has already registered with the app, they can login by entering their email and password. If the password matches with the one which is stored in the database, then user enters into home page, else the app pops up alert showing user not found.

➢ *Registration*

If new user, the user has to register with the app by entering username, email, password, address and pin code.

The products which are visible in the UI can be added to their cart. User can add various ranges of products from various categories such as fruits, vegetables and dairy.

➢ *Home Page*

- *This is the home page with all the details for messsaging,dialing*
- *User can do what ever they are wiiling to do to navigate to other page*

➢ *Dialing Police*

Dialing police button directly redirecting to calling page and it will automatically dial police number.

➢ *Location*

Here all the details of the police numbers of different states will be present.So that users can check numbers and can call to respective numbers.

In this location with longitude and lattitude will be displayed,location with longitude and lattitude will be sent to mobile via message.

Accordingly, the status will be updated by the administrator.

C. Firebase

Firebase is used in this project to store all the informa<on. It is a backend plaSorm used for building web, android and ios applications.

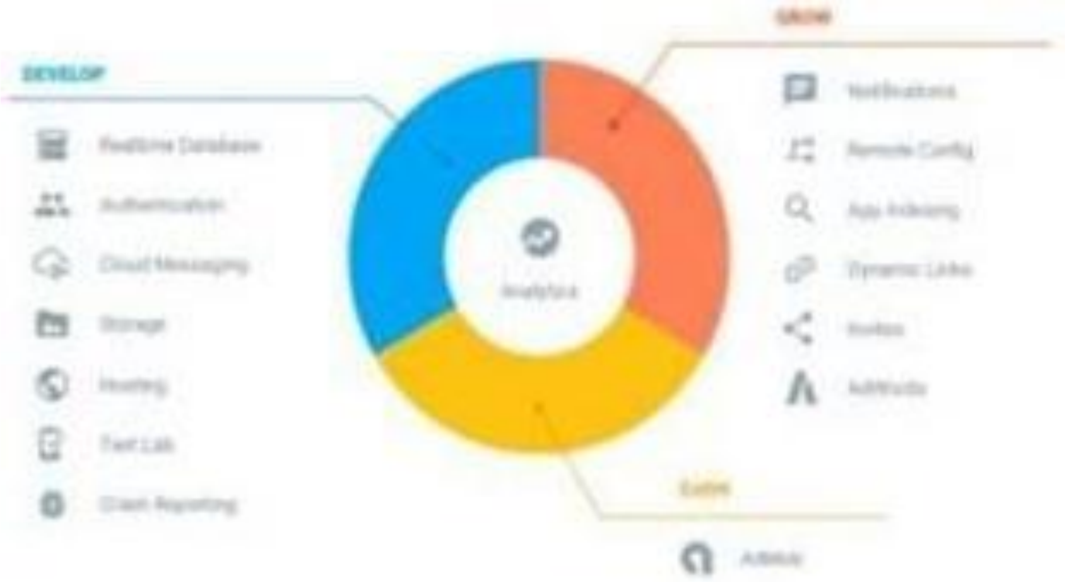


Fig 15 Firebase

- *Real-Nme Database*

Firebase supports data in JSON format and all users connected to it will receive live up dates aHer every change done in the database.

- *Authen NcaNon*

There are numerous ways to authencate users, they can use email and password, Google, Facebook, Twiber, Github and more.

- *Adding new data*

Firstly connect the app to fifirebase. If any data is entered in the app, we can see it in the dashboard under DATA tab.

- *Storage*

All images are not stored as downloaded items as it will increase app size. Instead they are stored using their URL. They all are stored in the firebase cloud storage.

CHAPTER FIVE
RESULTS

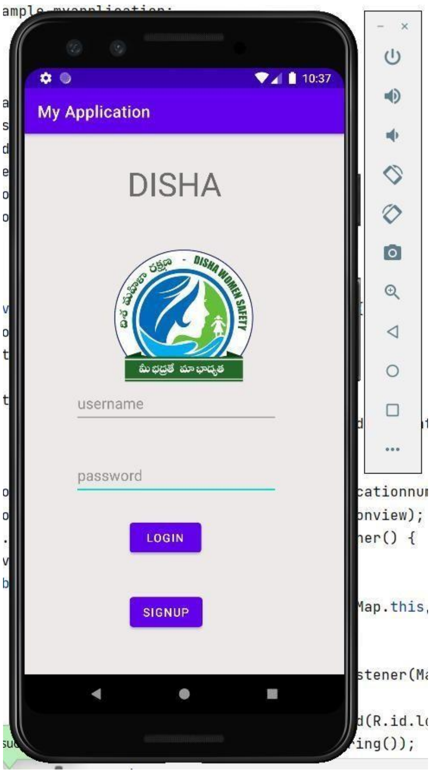


Fig 16 login Page

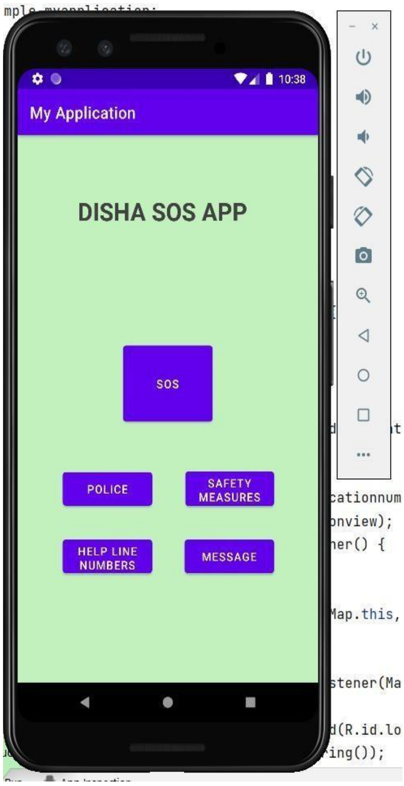


Fig 17 Home page

- *Login Page:* This is the login page where users can log in using their user name and password
- *Home Page:* This is the home page with all the details for messaging, dialing

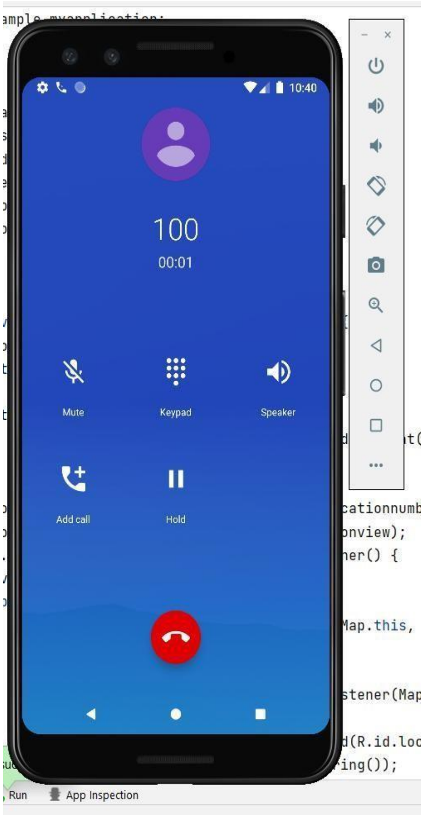
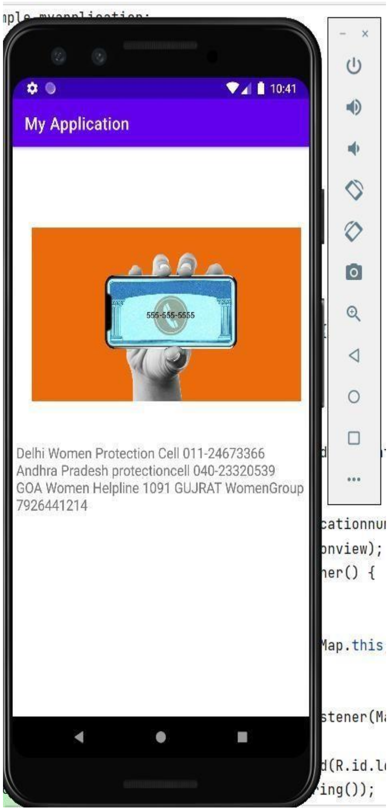


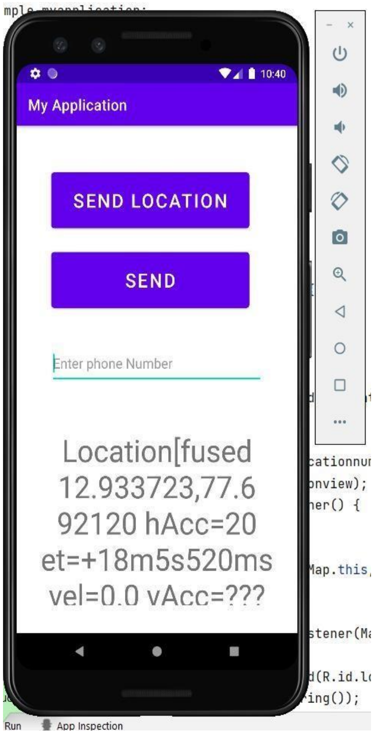
Fig 18 Dialing page



Delhi Women Protection Cell 011-24673366
Andhra Pradesh protectioncell 040-23320539
GOA Women Helpline 1091 GUJRAT WomenGroup
7926441214

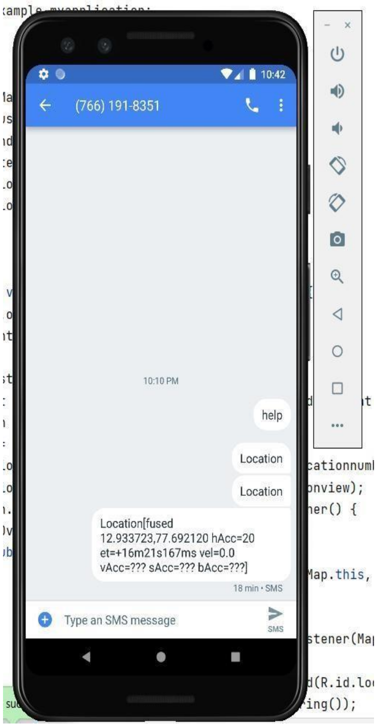
Fig 19 Help Line page

- *Calling Police*: This page will directly redirecting to calling page and it will automatically dial police number
- *Help Line Numbers*: Here all the details of the police numbers of different states will be present.So that users can check numbers and can call to respective numbers



Location[fused 12.933723,77.692120 hAcc=20 et=+18m5s520ms vel=0.0 vAcc=???

Fig 20 Location Sending page



help

Location

Location

Location[fused 12.933723,77.692120 hAcc=20 et=+16m21s167ms vel=0.0 vAcc=??? sAcc=??? bAcc=???]

Fig 21 Message sending to number page

- *Location Sending*:

In this location with longitude and lattitude will be displayed 6.Message Sending to number: location with longitude and lattitude will be sent to mobile via message

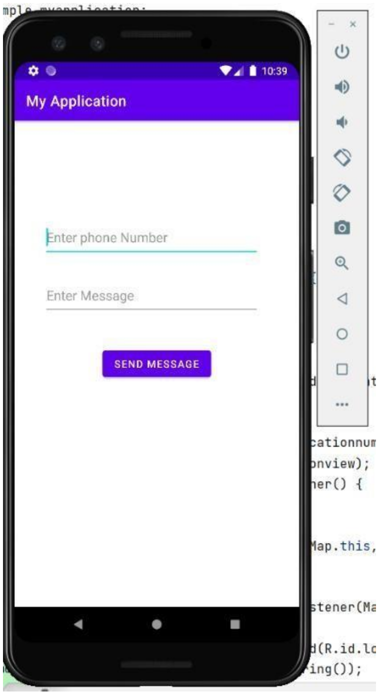
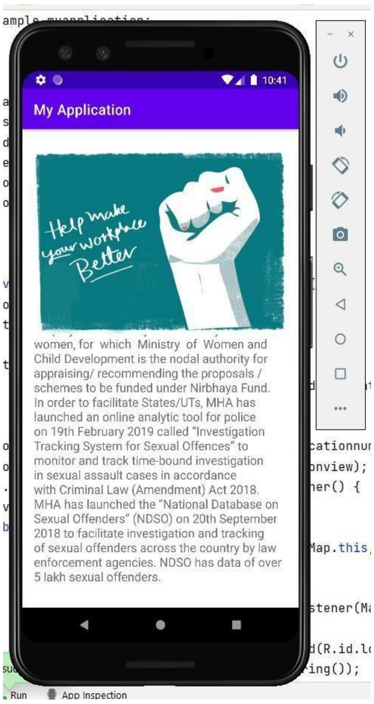


Fig 22 Messaging page



women, for which Ministry of Women and Child Development is the nodal authority for appraising/ recommending the proposals / schemes to be funded under Nirbhaya Fund. In order to facilitate States/UTs, MHA has launched an online analytic tool for police on 19th February 2019 called "Investigation Tracking System for Sexual Offences" to monitor and track time-bound investigation in sexual assault cases in accordance with Criminal Law (Amendment) Act 2018. MHA has launched the "National Database on Sexual Offenders" (NDSO) on 20th September 2018 to facilitate investigation and tracking of sexual offenders across the country by law enforcement agencies. NDSO has data of over 5 lakh sexual offenders.

Fig 23 Safety Measures page

- *Messaging* : A Simple Messaging Page
- *Safety Measures*: All the safety measures wil get together in one page

CONCLUSION

Ladies security is a significant social issue which ought to be settled frantically by crafted by all. It is preventing the turn of events and headway of the country or more all stinging the half people of the country in all viewpoints (really, mentally, and socially).Taking everything into account, women can be solid performers for agreement, security, and thriving. Exactly when they participate in agreement processes and other regular powerful cycles, they can expect a critical part in beginning and moving progression on fundamental opportunities, value, public trade off and monetary restoration.

By using this application women can atleast have a belief that they can intimate when they are in danger to their family members.

REFERENCES

[1]. https://www.javapoint.com
[2]. https://www.dev2qa.com
[3]. https://inducesmile.com
[4]. https://www.tutlane.com [5].https://www.tutorialspoint.com
[5]. Stack Overflow - Developers Learns, Share, & Build Careers. Availables at: https://stackoverflow.com
[6]. Udemy. Online Course with given contents : https://www.udemy.com .