Android Based Mobile Application Exclamation

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled Android Based Mobile Application Exclamation submitted by Nafis Newas Khan, Shafayat Jamil and Mansorol Islam to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on *02-06-2021 *
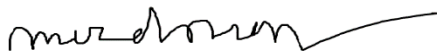
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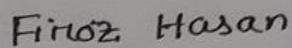
Jahangirnagar University

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Jueal Mia, Sr. Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.
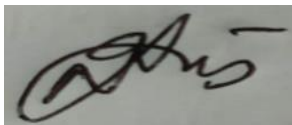
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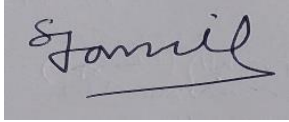
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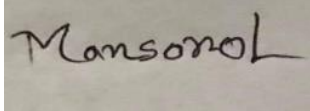Department of CSE
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ACKNOWLEDGEMENT

First, we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Supervisor Md. Jueal Mia**, **Sr. Lecturer,** Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "*Android*" to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to Md. Jueal Mia, Sr. Lecturer and Head**,** Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Exclamation is an application where we dream of a safe society, where criminals will be afraid to commit crimes, many will come forward to rescue people in danger, people will no longer think of themselves alone, where girls will have no courage to get excited. Maybe. We've used a number of important technologies in this application, including Google Maps, that can be used to identify victims. Sending or looking at Google Map directions like Uber Diver can take us to the right destination. If someone sees a hazard or crime somewhere, they just open the app and press the bell button, then the notification will go to all the forgotten details in the vicinity and they will be able to come forward. And the police station has been attached to this application so that the police can come to the spot and take immediate action This application is suitable for use by all people. This application is designed in such a way that people can easily understand and use it. When most people start using our application, we believe that the security of the society and the country will increase and people will be united.

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CHAPTER 1: Introduction

1.1 Introduction:

We get into a lot of difficult situations from young to old. When I was little, maybe I called my father, I called my mother and I got by their side. But there is a time when you have to stay away from them. Then we often call our friends in case of any danger. But there comes a time when we live alone in an unfamiliar place, we have to go to many unfamiliar places for work. Maybe on a trip somewhere, maybe on a local bus or train we could be in danger. Then I will not be with my father, mother or friend. Then.

It could be an accident on a terrible night. We are having tea in a nearby shop. We can't get up to 2-1. Ambulances come too late and many have to take first aid very soon. Then.

Figure 1.1: Help One Another

What's wrong with trying one last time!

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I took the smart phone out of my pocket and took out the Exclamation app in a very short time and kept it with one click. If there is any user of this app around us, he can see our location on Google map and come forward to help us.

There must be people in every area, there are representatives who come forward to help people, want to help, stand by people in danger. If there was no such person, the world would not exist.

This is the Exclamation App that works as a last resort in danger. One last attempt at the last moment of despair.

1.2 Motivation:

We all listen to e-news, read newspapers daily, most people are connected to e-Facebook. For

Figure 1.2: Need For Help

several days now, I have been circulating the newsfeed on Facebook and seeing rape, kidnapping and murder.

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Everyone knows more or less about Abrar's murder. So, the way we know about killing Abrar, he didn't get any help because the killers were with him. So, from there I started to think about how to tell my friends or people about the danger at that time. In general, people shout in danger. Exclamation is the virtual form of that scream.

1.3 Expected output:

We are thinking of this exclamation in order to get quick and easy help when people get into any small or big problem in their journey.

Figure 2.3: No Crime

The idea of this Exclamation is to get the news to the nearest hospital in a very short time with the help of the people nearby or in case of any accident. We think that Insha'Allah we will get the positive results as we expected. People travel at night in secluded areas, there are many places where there is no shop or anything next to it at night, just maybe an owl can be found. If there is a breakdown of the vehicle or if there is some problem, do not fix it except in the morning. There may be many dangers in such a lonely way. Then any help can come through the Exclamation app. There is no way out. There will be no harm without the benefit of the people, God willing.

Besides, there are people everywhere mixing the good and the bad. Since it is meant to benefit people and many people will be able to see the hours and locations of this help, there is no hope that bad people will try to harm them. We hope you find this app positive and we hope people will respond positively to our thoughts and actions. People will also enjoy the benefits of this app.

In the end, I pray that all people will be healthy, all people will be safe, God will take care of everyone.

1.4 Objective:

This is the main purpose of us and Exclamation apps so that people can help themselves as a last resort in times of danger and have one last hope without falling into despair. Again, those who will be app users, if they find any endangered people in their area, I request them to come forward.

If you go ahead in the danger of one, then the one for whom you go ahead may go ahead for someone else, thus maybe in the cycle of the world you go ahead in danger, for you and someone came forward but you did not realize that it was the result of your good deeds. We will move forward in each other's danger, it will make our minds bigger, and we will learn from such dangers and avoid those mistakes.

1.5 Report Layout:

It's all about helping people and getting people to help. It can be used very easily. It requires the user to have an internet connection, to have adequate data. With just a click of a bell, apps within the area can help the user. The job of the help candidate is just to click the bell button. And those who will be in the specific area of the candidate will get a notification.

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Figure 1.5: Bell

Click there to see the time and a location link. Just by clicking on that link, he will be able to see the location of the help seeker. And if he leaves that location and goes somewhere else, his new location update can be seen. After receiving help, he will be able to share his comments and experiences. Apps update, in fact, new features will come, God willing.

If everyone has prayers and help, I hope people will benefit from I.

CHAPTER 2: Background

2.1 Introduction:

We humans are the social way we live. We cannot go on without society. All the people in the society are not one but we have to live with the good and the bad. There are some who find happiness in the loss of others. There are some who find happiness through helping people. Our project is primarily for people who want to bring peace back to others through cooperation. When a person is in danger, he begs everyone for help. And our goal is to help those people. So that a

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person does not suffer from the lack of help and cooperation. We want to increase the attitude of help and cooperation through our project.

2.2 Scope of the Problem:

Our project is "Exclamation". It takes many nights for the women of our country to return home after finishing their work. They are victims of eve teasing most of the time. They can't say anything for fear of public embarrassment and sometimes there are incidents like rape. There are many

incidents of snatching at night and no help is available immediately. If someone is injured or in danger in a road accident at night or in a secluded place, help can be obtained through the "Scream" application. People who remember this theme for people will be able to reach out to more and more people through our project.

Figure 2.2: Android Cycle

Our aim is to help people who have fallen into accidents and helpless people. Holding hands with everyone, we will jump into each other's danger.

Tools permit developers to test and debug their code and used for testing the user-facing the interface of an application. Implements increase the abilities of developers and make it easier, quicker, and efficient for his works. The tools we are used in this project to achieve our goal given below…

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- ➢ Android Studio
- ➢ Java
- ➢ Firebase
- ➢ Email Authentication

2.3 Related work:

The exclamation app works like Uber pathao. In the Uber pathao app, just as the customer finds the rider for his needs, our exclamation app users will be able to find helpers if someone is in danger. Our app users will be able to see the location of the endangered person just as Uber pathao can see the location of their rider
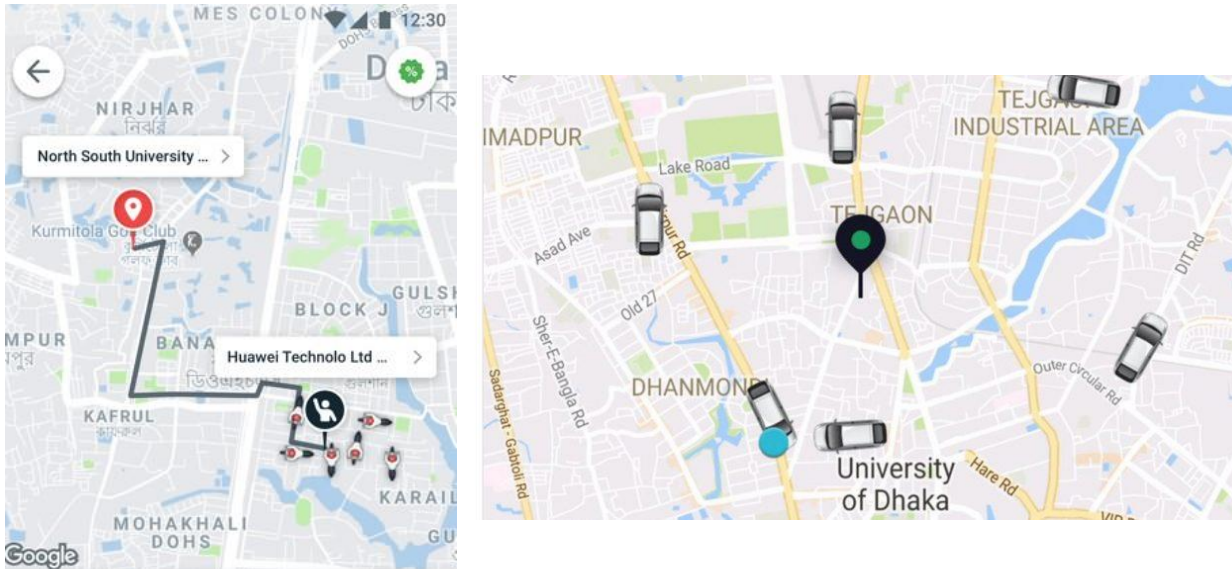

Figure 2.3: Uber and Pathao Location map

Uber & Pathao is one of the largest rides sharing applications in our country. One of the means of transportation for thousands of people every day, here the user searches for the location by typing the name of the place which is notified to the drivers in the vicinity.

And all the drivers interested in seeing the user's location and destination go to the user with Google Maps. And took him to his destination [15][16].

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2.4 Challenges:

Bangladesh is a very densely populated country. The population of this country is about 16.50 crores. In a country with such a large population, any crime is a trivial matter and dealing with it is a difficult task. The government has to spend crores of rupees to maintain law and order in the country. Our goal is to help people collaborate through our app. So that the crime rate in a country with such a large population is low.

The role of the police is essential for a society the problem of crime is the type of crime Social security and social prevention Our police as well as the app will play an important role. Ignoring any community, we human beings will come forward in social danger to each other, then our country and our world will become a crime free world.[2].

2.5 Comparative Studies:

Google is a mobile operating system developed by Google that is designed to handle devices like smartphones and tablets. The virtual keyboard relies directly on manipulation and manipulation to access the Android interface using some real things like swiping, clicking and pinching. Google TV has an Android TV, an Android watch for a watch, and an Android auto system for a car, all of which are on a torch skin device. Digital camera games, notebooks, etc. are added to the Android system along with other electronics. It has a monothetic system kernel which means that all systems are divided into one block and the driver function code is based on the operating system Linux 2.6. Required drivers are included in Linux Kernel 2.8. Allows Wi-Fi and Bluetooth for example. Android has five levels. The library has C and C ++ higher functionality. The goal of creating a virtual machine viewing runtime environment for an incompetent computer like an HTML engine or database phone is to transform Java into Android's understanding machine. Java is a platform for organizing and collaborating on virtual machine applications [1][4].

CHAPTER 3: Requirement Specification

3.1 Business Process Modeling:

The SLDC is a term used in systems engineering and information systems and software engineering to describe the process for the design, production, testing, and implementation of
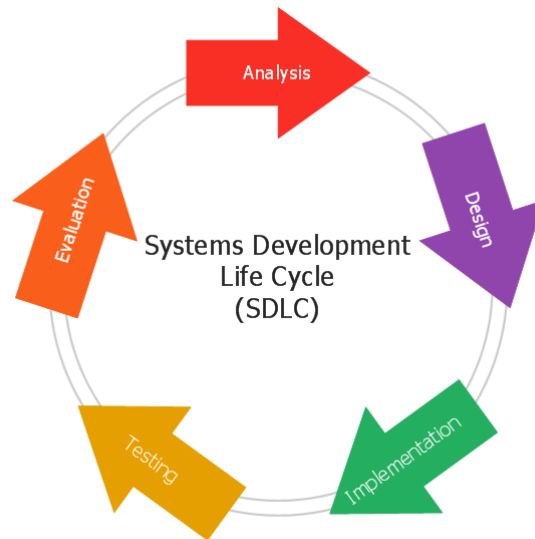

Figure 3.1: System Development Life Cycle

information systems. The system development life cycle is often referred to as the application development life cycle. A selection of hardware and software configurations is subject to system development life-cycle definition because a system can only be made of hardware, software, and/or both of them. A business procedure is the planning of validly connected responsibilities to complete a fixed business result. Business procedures are usually classified as essential and supporting business forms. It is significant because it shows how the necessities have connected with the framework application. It centers on the business forms that are occurring and how these fundamentals can be accomplished all the more effectively to complete the undertaking.

A business process that has its own multiplicity or process which is further divided into how many parts it has some multiplication of its own. Quality or tasks play a vital role in achieving business

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goals. Business Quality Analysis includes mapping of lower level functions or properties and sub-processes [3][12].

3.2 Requirement Collection and Analysis:

Requirement analysis and collection are the most essential requirements for any development process. We have gathered fundamental necessities from the field level and the web. We also surveyed to analyze the needs and requirements of people. collect data from local people and local police [11].

3..2.1 Functional Requirements:

❖ need to login.

❖ Location must be kept on.

❖ You have to keep the phone time right

❖ The date of the phone must be correct

❖ Must have internet

3.2.2 Non-Functional Requirements:

People cannot be harassed by pressing the bell button unnecessarily. You must refrain from pressing the bell button without setting the time or date of the call.

The plan for implementation functional requirements is detailed .in the system design. [5].

3.3 Design Requirement:

Design is an important part of an app. The more beautiful and attractive the design, the more attractive the people will be. The easier it is to use apps the sooner people can benefit.

Figure 3.3: Application Cycle

The idea that we designed our apps is:

❖ We have two types of users in our apps, one is a help seeker and the other is a helper.

❖ Two types of users need to login to e-apps.

❖ Two types of user e-apps will use themselves as needed.

❖ You have to login with the user's email, you have to use the verification code in the email.

❖ When logging in, the user may have to give NID card and his picture.

Some more such features may be added in future updates. Some of this data will be stored in our database for the protection of apps and app users. Administrative action will be taken against any miscreant

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3.4 Use Case Modeling:

The Use Case model is used to solve a variety of problems. The model of how it interacts with a system achieves the user's goal through this model and it creates interaction within the system. The goal is achieved by describing the necessary behavior of the system [7].
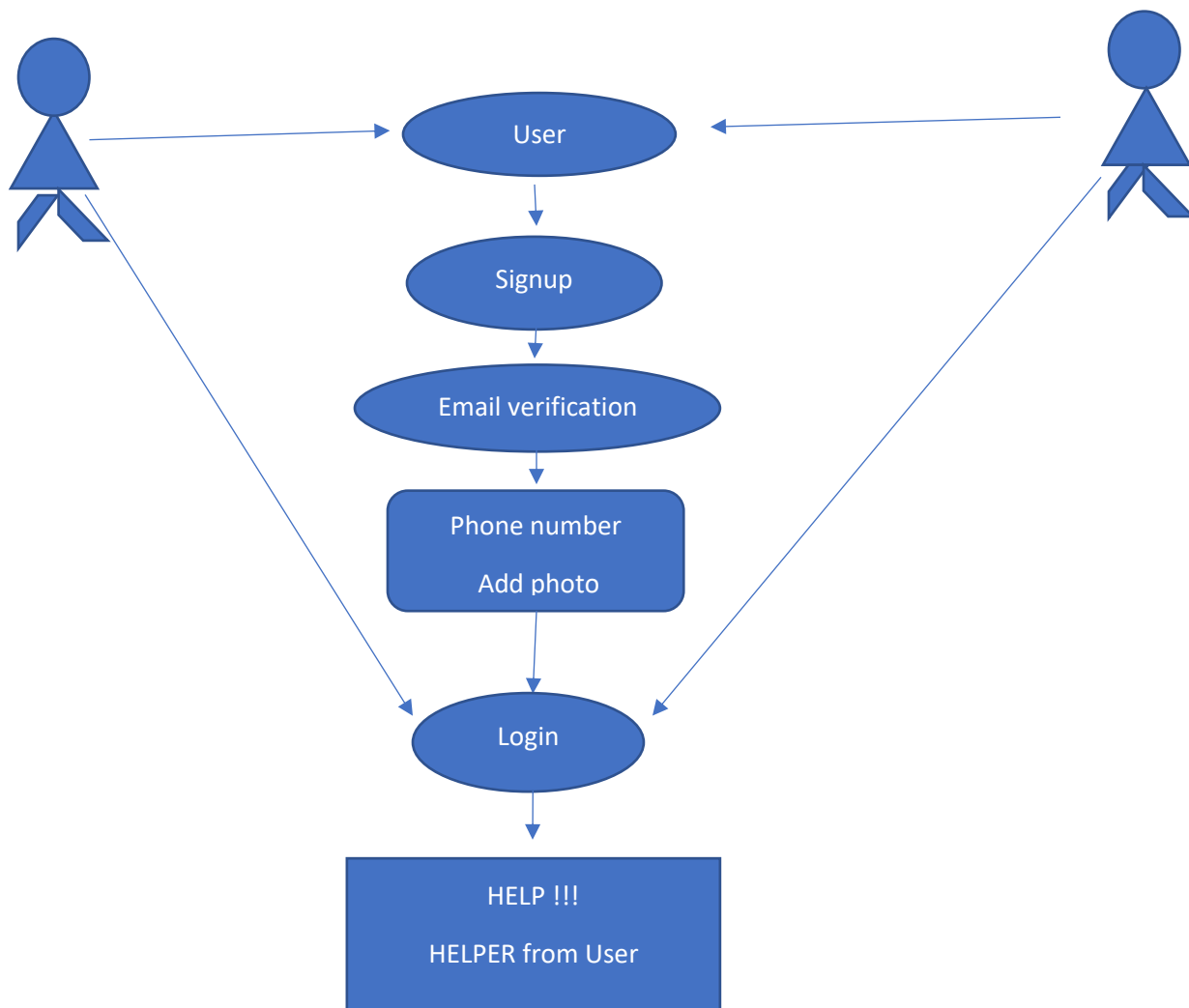

Figure 3.4: Use case diagram

3.5 Interaction Design and UX:

Interaction design describes the communication between the user and the application. Interaction design considers how the user provides space, processes problems, and discovers results. It performs related activities and takes care of problems in performance. The interaction design of the application essentially centers on the general experiences between the users and the application. In our application, all the features interact with the user. We are primarily focused on the applicability of the application and there is an option where the user will need to register and log in to the application using their verified information. In our application for UX, we have tried to give our users a great experience by adding some new features. We attempt to keep our application straightforward and simple to use for better execution and experience for the client Here we have outlined the definition of both terms as well as the key differences between them.
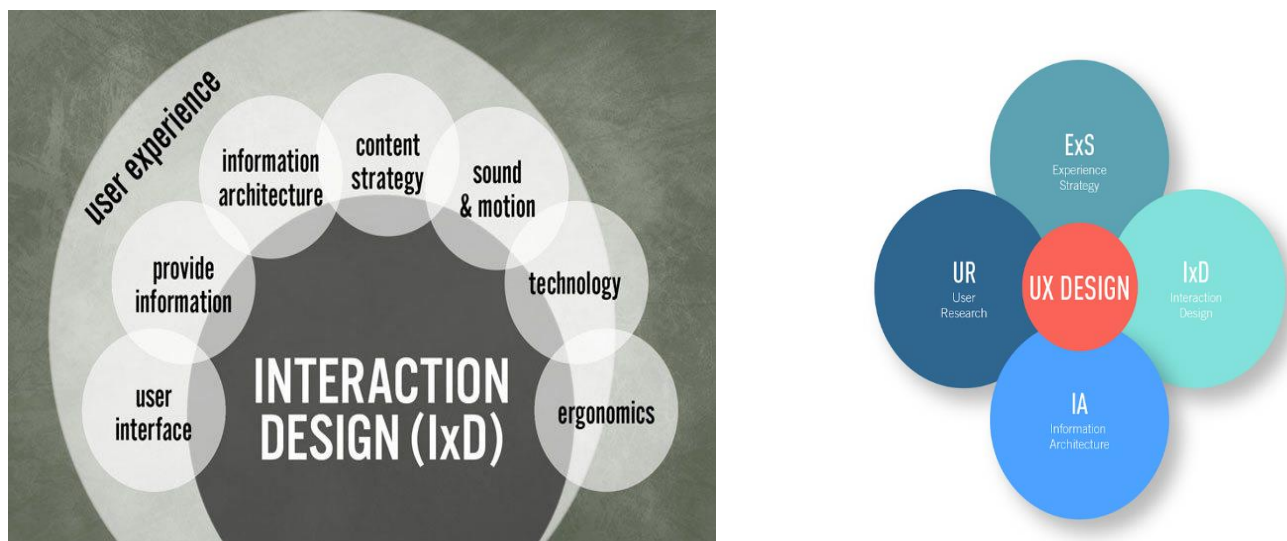

Figure 3.5: Interaction And UX

Interactive design is the focus of any design and how users interact with it. The user's limitations are closely associated with the design, the demand context. Designers are given the ability to customize the output according to specific needs [7] [13].

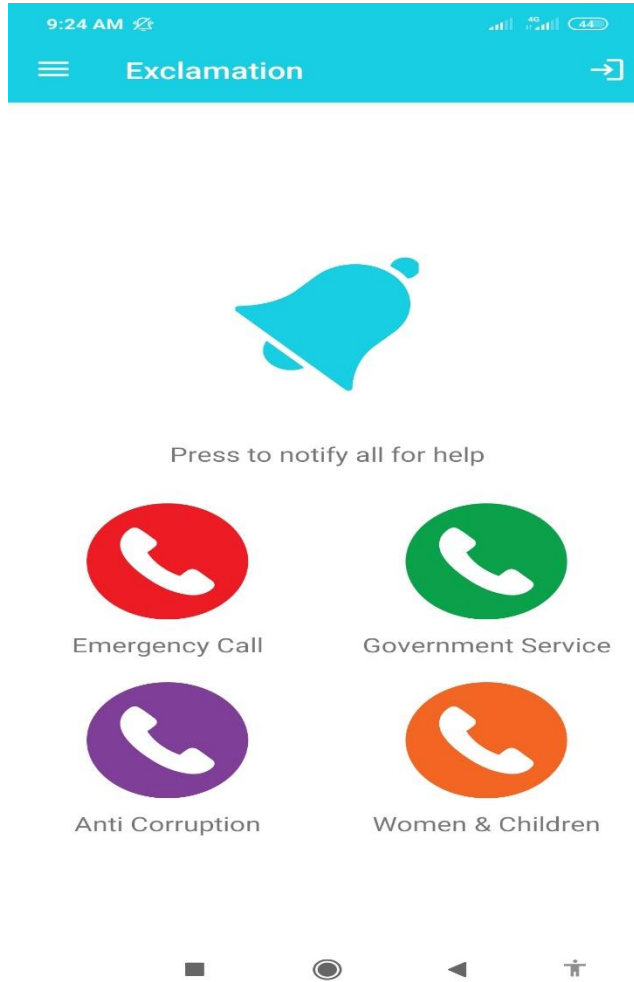13

CHAPTER 4: Design Specification

4.1 Main page:

Figure 4.1: Main page

This is the home page. There is a bel button. If a person who has had an accident or is in danger clicks on this bell button, a notification will go to all the mobiles that use the app and keep the data on. And here are some options.

When the user clicks on the notification, it will immediately take you to Google Map and the location of the endangered person will be seen.
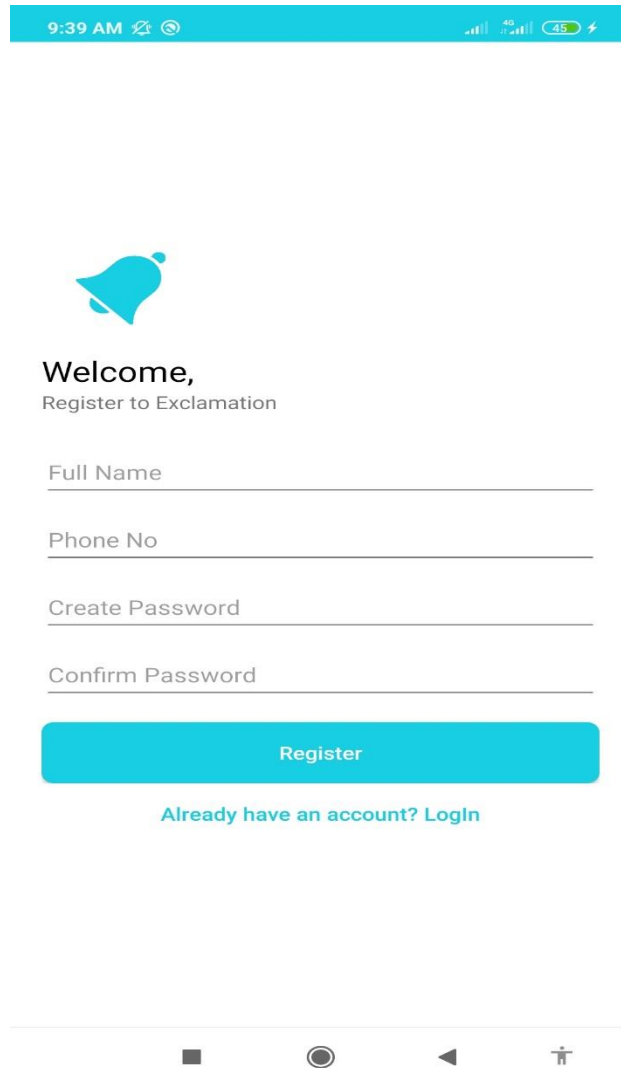
4.2 Login:

Figure 4.2: Login page

The first user will be able to come to the home page by logging in. If he is not registered, he has to register. At the time of registration, you will be able to complete the registration with the username, email and password.

4.3 Signup:

Figure 4.3: Sign page

4.4 Verify by OTP code:
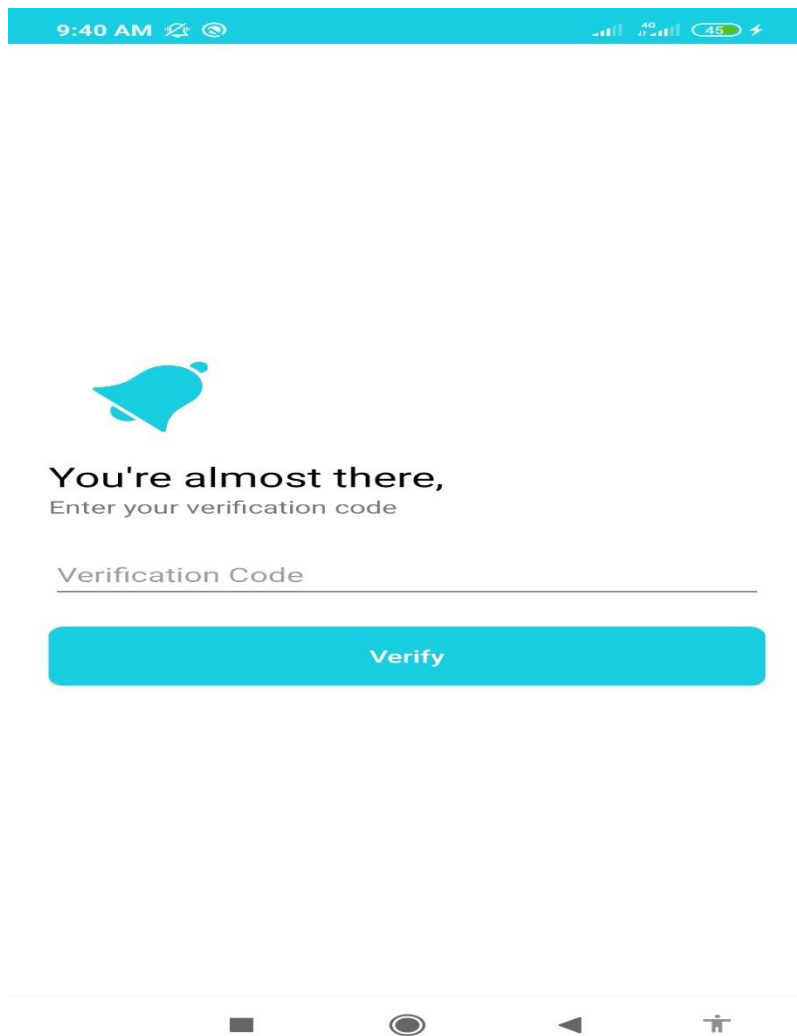
Figure 4.4: Verify by OTP code

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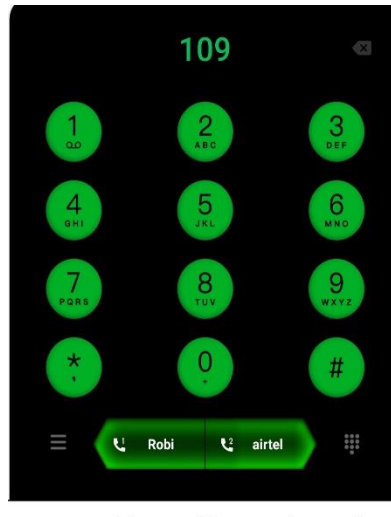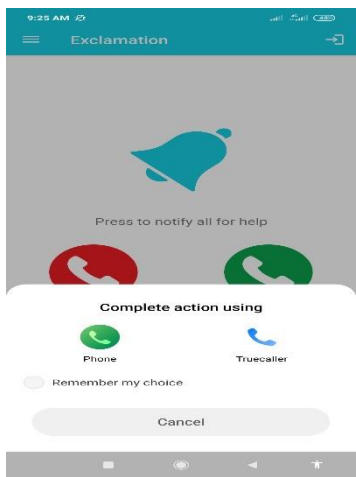
4.5 Call services:

Figure 4.5: Call services

4.6 Notification:
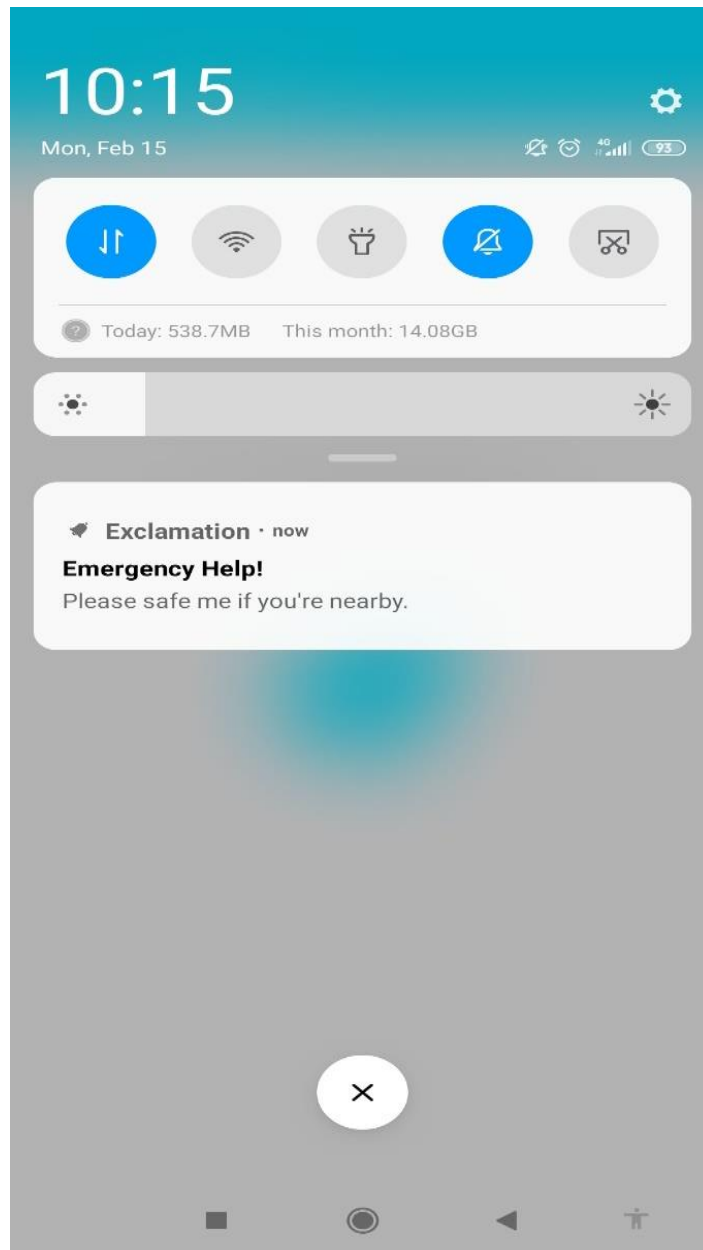
Figure 4.4: notification

4.7 Location:
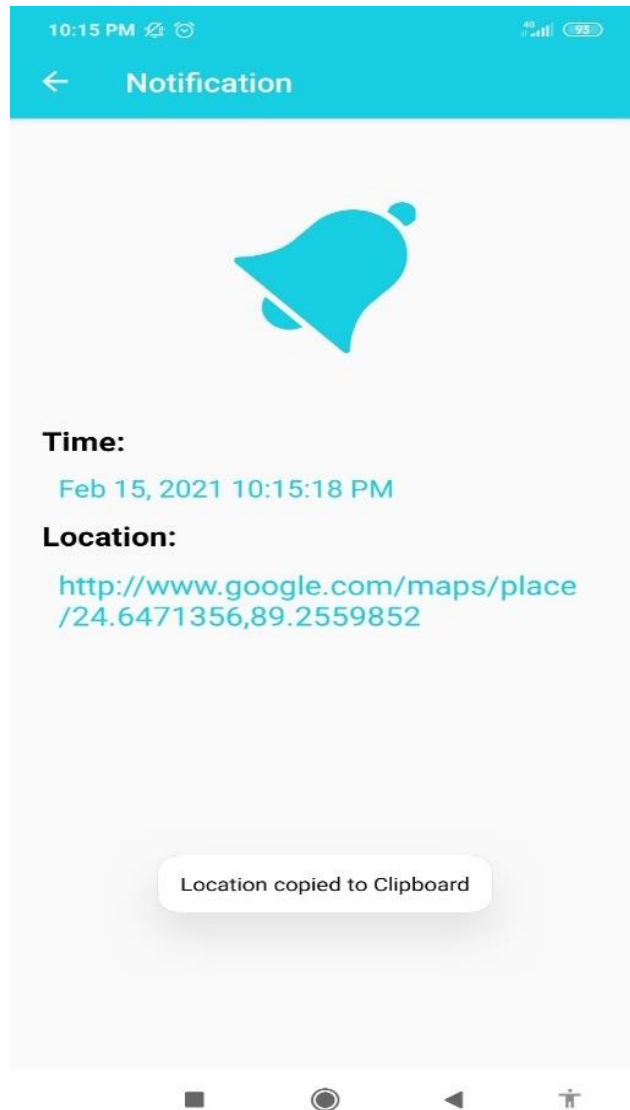
Figure 4.5: Location link and date time

The location of the accident victim can be seen so that the rescuer can easily find and help him.

4.8 Location in Google Map:
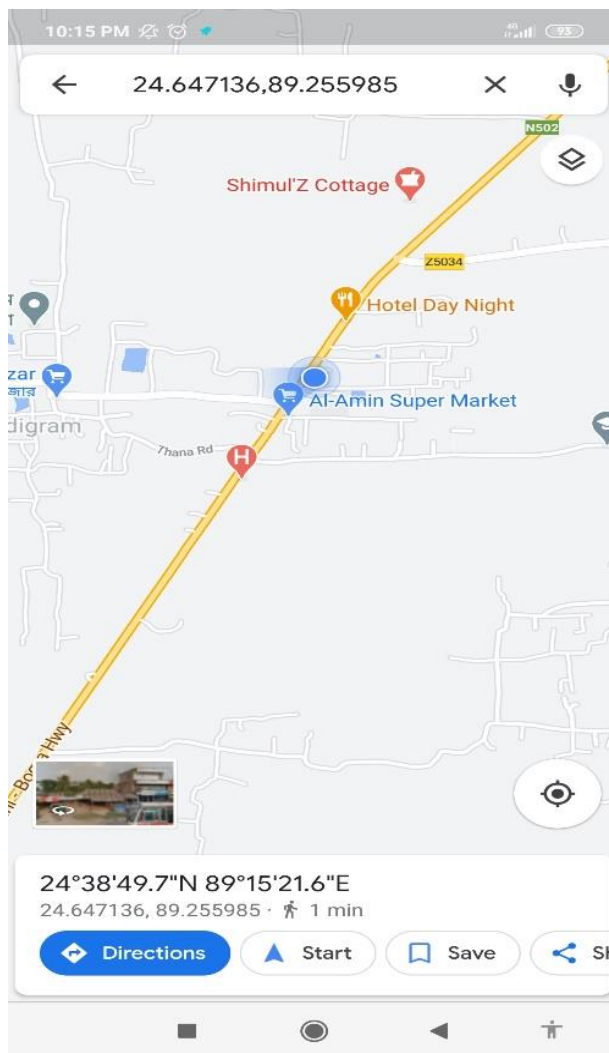
Figure 4.6: Location

The location of the accident victim can be seen so that the rescuer can easily find and help him by google map.

CHAPTER 5: Implementation and Testing

5.1 Implementation of Database:

For the database, we have used Firebase which is powered by Google. Firebase is Google's mobile application development platform. It helps to build, improve, and grow the mobile application. It's a real-t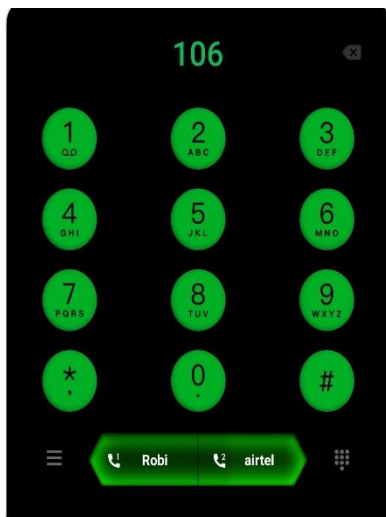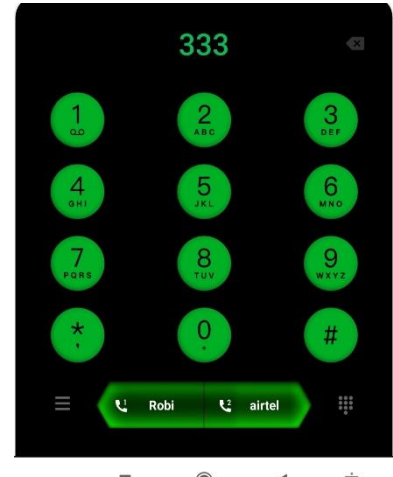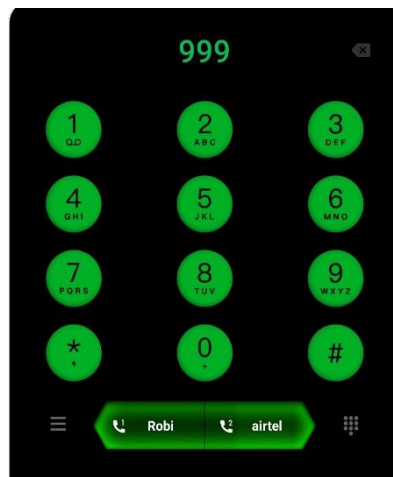ime database that supports real-time cloud response, chat messages, etc. Firebase helps in the easy storing and retrieval of dynamic content. Firebase is a NoSQL database. Without custom coding the backend, firebase makes this easy for us to develop our project. That's why we've chosen Firebase as our database [9].
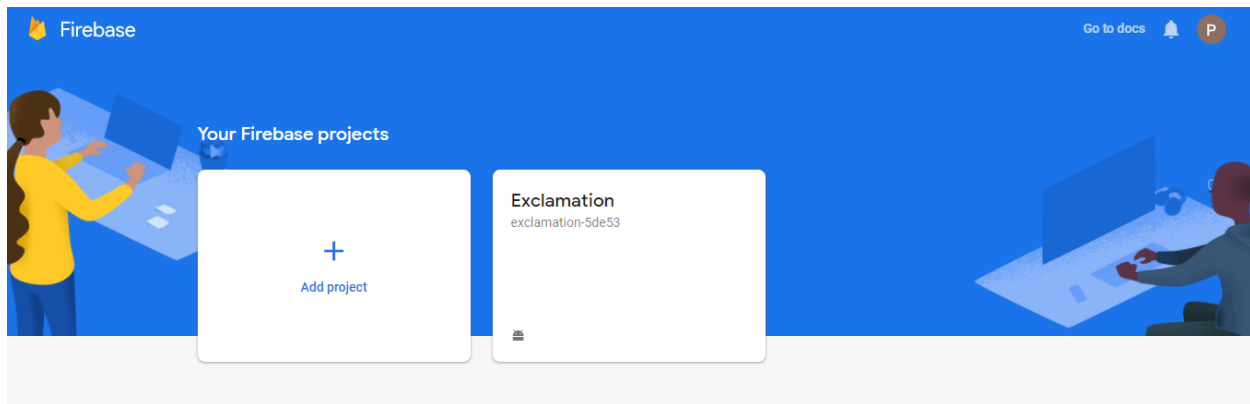
Figure 5.1: Firebase

Requirements for Firebase connect

- ➢ Targets API level 16 (jelly bean) or later.
- ➢ Uses gradle 4.1 or later.
- ➢ Uses jetpack.
- ➢ Com.android.tools.build.gradle v3.2.1 or later compileSdk Version 28 or later.

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Added dependencies for adding Realtime Database SDK

dependencies
{
 implementation platform ('com. google. firebase: firebase-bom:26.1.1')
  implementation 'com. google.firebase:firebase-core:18.0.0'
  implementation 'com.google.firebase:firebase-auth:20.0.1'
  implementation 'com.google.firebase:firebase-storage:19.2.1'
  implementation 'com.google.firebase:firebase-database:19.6.0'
  implementation 'com.google.firebase:firebase-analytics'
}

We have taken post and comment as parent files as post, and rest are child file.[9]

For commenting we have used the following coding

```
@Override
  public void onMessageReceived(@NonNull RemoteMessage remoteMessage) {
      super.onMessageReceived(remoteMessage);

      String title = remoteMessage.getNotification().getTitle();
      String body = remoteMessage.getNotification().getBody();

      Map<String, String> extraData = remoteMessage.getData();

      String name = extraData.get("time");
      String location = extraData.get("link");
```

```java
NotificationCompat.Builder notificationBuilder =
    new NotificationCompat.Builder(this, "TAC")
        .setContentTitle(title)
        .setContentText(body)
        .setSmallIcon(R.drawable.logo);


Intent intent;
if (name.equals("")) {
    intent = new Intent(this, ReceiveNotificationActivity.class);


} else {
    intent = new Intent(this, ReceiveNotificationActivity.class);


}
intent.putExtra("time", name);
intent.putExtra("link", location);


PendingIntent    pendingIntent    =    PendingIntent.getActivity(this,    10,    intent,
PendingIntent.FLAG_UPDATE_CURRENT);


notificationBuilder.setContentIntent(pendingIntent);


NotificationManager    notificationManager    =    (NotificationManager)
getSystemService(NOTIFICATION_SERVICE);


int id = (int) System.currentTimeMillis();


if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O){
```
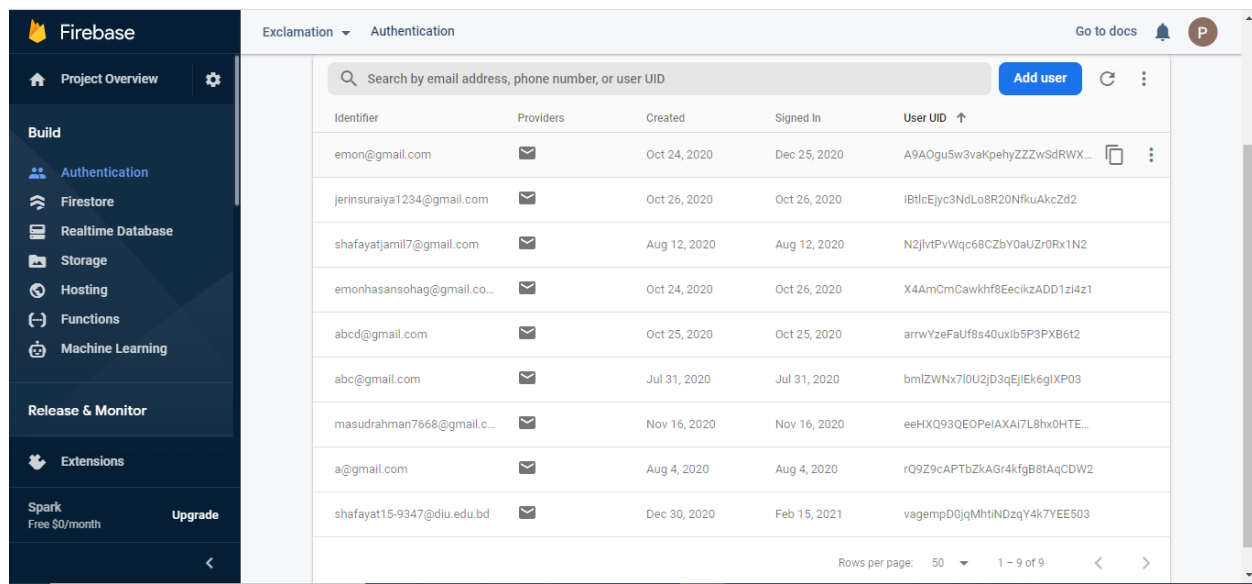
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```
        NotificationChannel                channel                    =                    new
NotificationChannel("TAC","demo",NotificationManager.IMPORTANCE_HIGH);
        notificationManager.createNotificationChannel(channel);

    }

    notificationManager.notify(id,notificationBuilder.build());


  }
}[10]
```

5.2 Implementation of Front-end Design:

For the front-end design, we have used XML language. The software we have used-

- Adobe XD
- Illustrator
- Photoshop
- Android Studio

At first, we have designed our application layout in Adobe XD. Then we have implemented that into Android Studio compiler with XML coding. We have used Adobe Illustrator and Photoshop as well for presenting visuals and graphics.

5.3 Implementation of Interactions:

An interaction model is a model that integrates the user's ideas and the user supports their model. This ensures that users can go from place to place after searching for information. Provides a general view for an application. It enables the designer to understand how users move from an object to a work. Basically, creates a relationship between the work of a user and the designer which helps to present the work in a beautiful way.[14].

After completing our UI design, we have started working on the connectivity between all the classes and layouts. How people will interact was our main headache. We have implemented them one by one.

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5.4 Testing Implementation:

After completing the front-end and back-end we were ready for the testing for our application to check how perfectly it can perform. We checked from different angles and found some bugs. At first, our application wasn't running properly. We noticed some reports through the Bug Repost during debugging. We have fixed those but it was really a tough job for us. We have faced some difficulties like- for today our app is working fine but after opening the same file later on the day some errors can be found. For the issue, we had to add some dependencies. We added google (), maven () repositories following the guidelines.

5.5 Firebase authentication:

Figure 5.5.1: Firebase Authentication
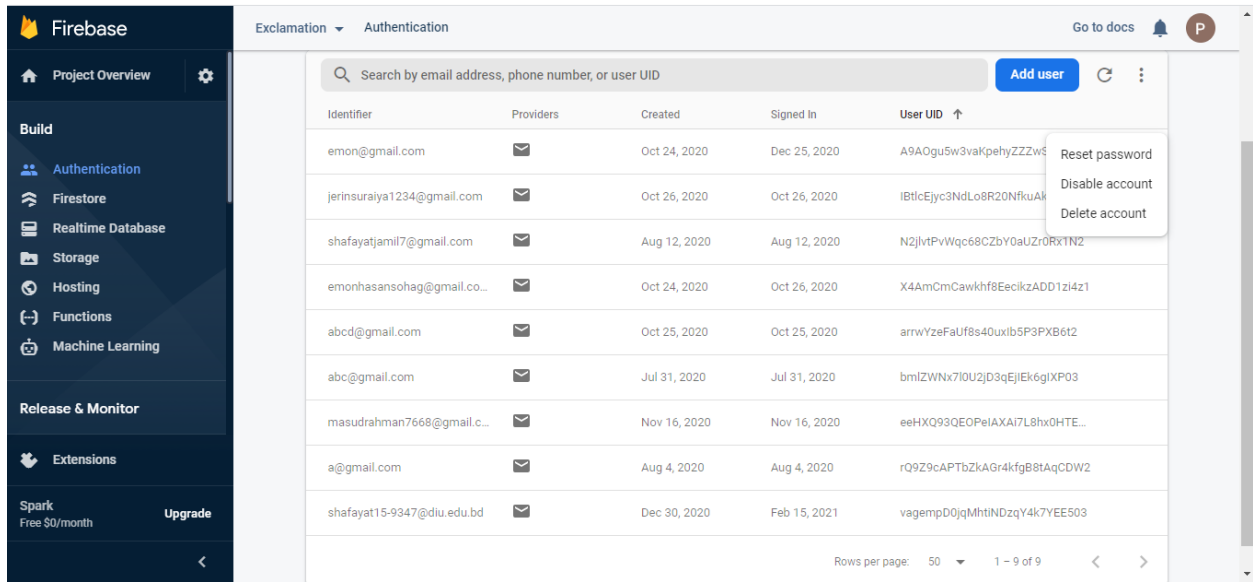
Figure 5.5.2: Firebase Authentication customize

5.6 Firebase overview:
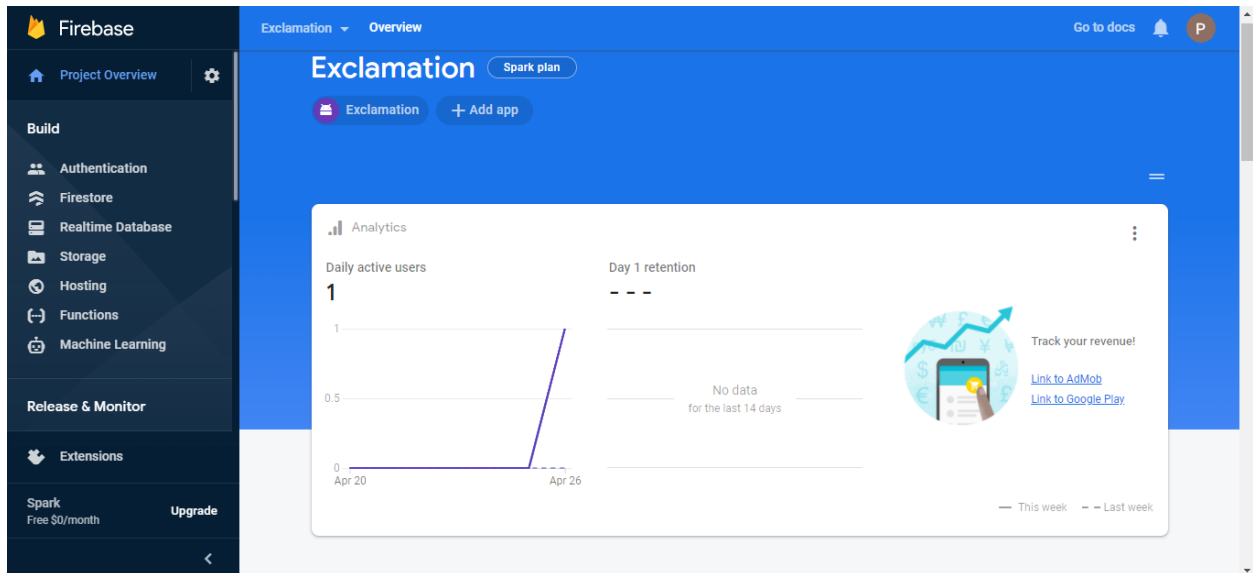
Figure 5.6: Firebase Overview

CHAPTER 6: Discussion and Conclusion

6.1 Discussion and Conclusion:

The crime trend is increasing day by day in our country and society. The young society is being ruined. They are creating area-based teen gangs, teenagers are involved in various crimes. Theft, robbery, snatching, buying and selling drugs, killing people, all these things seem to be a daily occurrence in the society. The present time has become unsafe for women. They are not safe anywhere from work to home. Everywhere on the streets, women are being victimized by eve-teasing. Rape is a daily occurrence. Another bad news for us is unsafe roads. Many people are victims of road accidents every day. Many people become helpless on the streets.

Figure 4.6: Help

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With this in mind, we have created "Exclamation" in the age of technology. This is mobile application. We are working with the slogan of resistance where there is crime. If someone encounters an unexpected event somewhere and immediately opens "Exclamation" and clicks on the bell button, the message will be sent to all the "Exclamation" user's phones around him along with his current location. So that people around him can help him very quickly by seeing his current position. In the same way, the details and current location of the victim will be sent to the nearest police station by Google Map.

If we can all come together on a platform through the "Exclamation" mobile application, our path will be safer, people will no longer think of themselves alone, they will have the courage to be defendants, they will have helpers in danger.

And in this way, we think that it is possible to help the helpless people and pull the reins of crime from the society. We will try to bring some new features in the future.

<p align="center">"OUR GOAL IS TO BUILD A SAFE SOCIETY"</p>

Appendix

We have been working on this projector since last year. We have been collecting different types of information since last year. Based on all this information we are working on this project. We have talked to people from different walks of life and collected their opinions. Based on their feedback and under the guidance of our supervisor, we have completed the work of this project. Our goal is to build a crime free society.

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