COMPLAINT SUBMISSION SYSTEM: AN ANDROID APP

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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 **"Complaint Submission System: An Android App"**, submitted by **Abdul Ahad**, ID No: 173-15-10384 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfilment 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 *26/01/2023*.

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DECLARATION

I hereby declare that, this project has been done by us under the supervision of **Mr. Narayan Ranjan Chakraborty, Associate Professor, Department of CSE** Daffodil International University. I 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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Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

This app is mainly for the students of universities and the university authorities to solve the basic problems they face in daily life and to make life easy for everyone. In the universities, the students faces many types of problems. But sometimes they don't have the ability to solve them. So, I have made this app so that they can easily notify the authority about the problems and the authority can solve them. And to make the long-term process as short as possible. Mainly here I made two apps. One is for the general students, and other one is for the admin. After login a student can find some buttons of different features. One is for to make new complain with complain details and complain photo. In the other button, the student can see his previous complains and status. I also add a emergency help button and a notice button. The admin can send any notice through this app to all the students. In one word it's a lifesaver app. It will make our daily life easy. Normally when a student finds a problem, he doesn't have the ability to solve them. And it's also a time consuming process. So this application contains an easy way to solve the problem. We might forget the era when one have to wait a few weeks for getting a solution. Here's also have a emergency sms system where if a student find himself in danger, he can quickly send his location to the authority instantly through this app so that the authority can easily reach to the student.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

This app that can be used to eliminate some drawbacks in the current system of lodging a complaint. An online Complaint System is one of the latest applications which can be used widely by all organizations and every individual wherever there is a need of lodging complaints via users and the analysis of these complaints which are made.

Operations for complaint management are carried out at a speed that was never anticipated while using the manual approach. This complaint management information gives a better understanding of the users' issues by reporting on complaint specifics and pending complaints. In our country, there's effective direct relationship to the university authority and the students for problem resolution [1]. So that, as a result, this is really a long process to get help from authority, which sometimes otherwise take at least few weeks to get the solution.

By incorporating technology into the process, I want to revolutionize the current system. The project's goal is to move the reporting procedure online, making it easier for the general students to use and minimizing their contact with officials [2].

Due to these limitations, I am unable to get solution soon. Reaching out to such persons and knowing complaint is challenging for the admin too. In order to ensure that, here, I provide a COMPLAINT SUBMISSION SYSTEM: AN ANDROID APP as a solution to all the aforementioned problems.

1.2 Motivation

Often we see that, general students face problems during daily life. But they don't have the ability to solve them. Here comes the topic for solving their problems in an app where users can send their problems to the authority. They can inform the authority about these problems by providing detailed information through this app. And the authority can know who are facing problems and what the problems are so that they can take proper action to solve these and also give feedback or update the user about their problems.

1.3 Objectives

In our daily life, we face many problems around us as a student. Seeing all these problems, we complain about them in our minds, get angry and then return home without doing anything. On the other hand, the university authorities also say the same thing that if no one complains about it how will they know! So, here is the solution – Complaint Submission System: An Android App. It can solve the problems that are facing both sides.

By this "Complaint Submission System: An Android App" – all students can easily tell the local authority the problems that they are facing daily. They can posts these problems and also can add photos about them. And the authority can easily know who and where the problems exist. And they can take their action above it. It will connect the students with the authority and they can work together.

1.4 Expected Outcomes

I intend to provide this help to everyone in the nation. Ideally, it will perform excellently.
- ➢ A simple and helpful android-based software.
- ➢ Save time and reduce work strain by quickly providing assistance.
- ➢ To build a more secure educational environment while also improving it
- ➢ Creating a quick and simple route for both victims and admin.
- ➢ To improve university and make it safer for everyone.

1.5 Project Management and Finance

After complete this application, I'll publish this app in the google play store. So that, the general students and the university authority, can install this app in their phone and can use it properly.

1.6 Report Layout

Users of the proposed System can raise concerns or missing reports and keep track of them. Users can submit complaints under the Complaint categories and they can view the progress of all their actions. The user must sign up for the system. The Firebase backend stores the book listings and inventory data while Java has been used for creating the app's front end. The app contains both a user and an admin part.

In the user app, on the home page, I have six sections. The first section is called "Update Your Information". In this section, it will all be displayed when a user log in and users may edit their information. Second is "Complain Your Problem". Here the user can complain their problem by giving a complaint title, complaint details and attaching an image and then can submit it. Then a "Live Chat" button, here they can send message directly to the admin. In the "Your Old Complaint List", they can see all the previous complaints and also the status of it. Then in the "Emergency Contact" button, they can send their location to the admin by a sms. Lastly, the "Notice Board" is for any notice by the university authority.

In the admin app, here are three section. In the "Complaints", admin can see all the complaints provided by the users. In the "Notice", admin can send any notice of the university to all the students by providing a notice title and details. And in the "Chat", admin can see and send message to the students.

CHAPTER 2
BACKGROUND

2.1 Terminologies

This paragraph describes several security applications in our nation as well as other nations and offers some related studies. A product running out of stock is typically a good sign, but if it continues to be unavailable, customers may grow anxious waiting for it to restock. They can demand a customized order or keep calling for updates on the solution. This often denotes an urgent requirement for your solution that must be met right away. Users dislike having to explain their issues to your representatives. They either deal with an agent that isn't paying close attention when interacting with them or are reassigned to new reps when this occurs. Customers find it time-consuming and frustrating to have to repeatedly describe their problems. The best course of action is to cease transferring a user's call if they complain about having to repeat their issue.

2.2 Related Works

Before creating my application and report, I have studied a lot of research papers and projects which are related to my project. Such as "PTA CMS" (this is an app from Pakistan telecommunications authority), "MES Complaint Management" (this is an IT development & support call app), "National Consumer Helpline NCH" (this is a department of consumer affairs app) etc. All these applications are somehow related to my project. And I am helpful to these projects as it inspires me and enriches me very much.

2.3 Comparative Analysis

I shall conduct a comparative examination of my application in this section. I have studied a lot of projects before making my applications. Actually there's very few applications related to my project. Some of are mentions upon in the Related Works section. I have researched those and found some lacking. So, I have added those as a features in my android application. I have made a "Notice Board" section, where the university authority can send notice through this app to all the users. Also I have noticed there's no chat section in those app. So I have made a "Live Chat" option so that the students can send direct message to the admin and tell their problems directly.

2.4 Scope of the Problem

With my project, I've encountered many difficulties. The greatest issue I've had is bugs. Varied devices have different designs, and in the beginning I also had a significant issue with the size of my app. I have a lot of different classifications of names, which is the reason of my issue. That is the cause of the increasing size of our application. I've also had issues with building APIs, running them online, and then integrating them with Android.

2.5 Challenges

The following are the main drawbacks:

➢ Time consuming.

➢ Documentation Required.

➢ Database Loss.

➢ Outdated Information.

I have into many problems whiles creating this applications. Also I have a lot of things each time I face these problems. One of the problems is Firebase. I had no idea about it, so I have to learn it very well then I have implement that in my application.

CHAPTER 3
REQUIREMENT SPECIFICATIONS

3.1 Business Process Modeling

In my application, there's no related sector of this. Because this app is currently not for any business investments or related to that sector. Normally it is for general students and the authority to work together and help together to build a good environment in the university campus.

3.2 Requirement Collection and Analysis

General Student: Any student can open an account in this application by providing details about themselves. After that they can login.

Admin: The admin can see all the user complaint details and can send notice to all.

Location: When a user click on the Emergency Contact button, they have to grant their location access so that their location can be sent to the admin.

3.3 Use Case Modeling and Description

A model that illustrates how users interact with it to address a challenge is known as a "use-case model." The techniques are referred to as "use cases," and the important variables are called "actors." Which actors have engaged with each use case is suggested by the use case model. This description outlines the actors and use cases that typically make up a use case model. The functional device components must be captured in a use case model. Inside the gadget, it embosses the business approaches. As you go about your device, you may look at a variety of device features that you versioned with in the use case model.
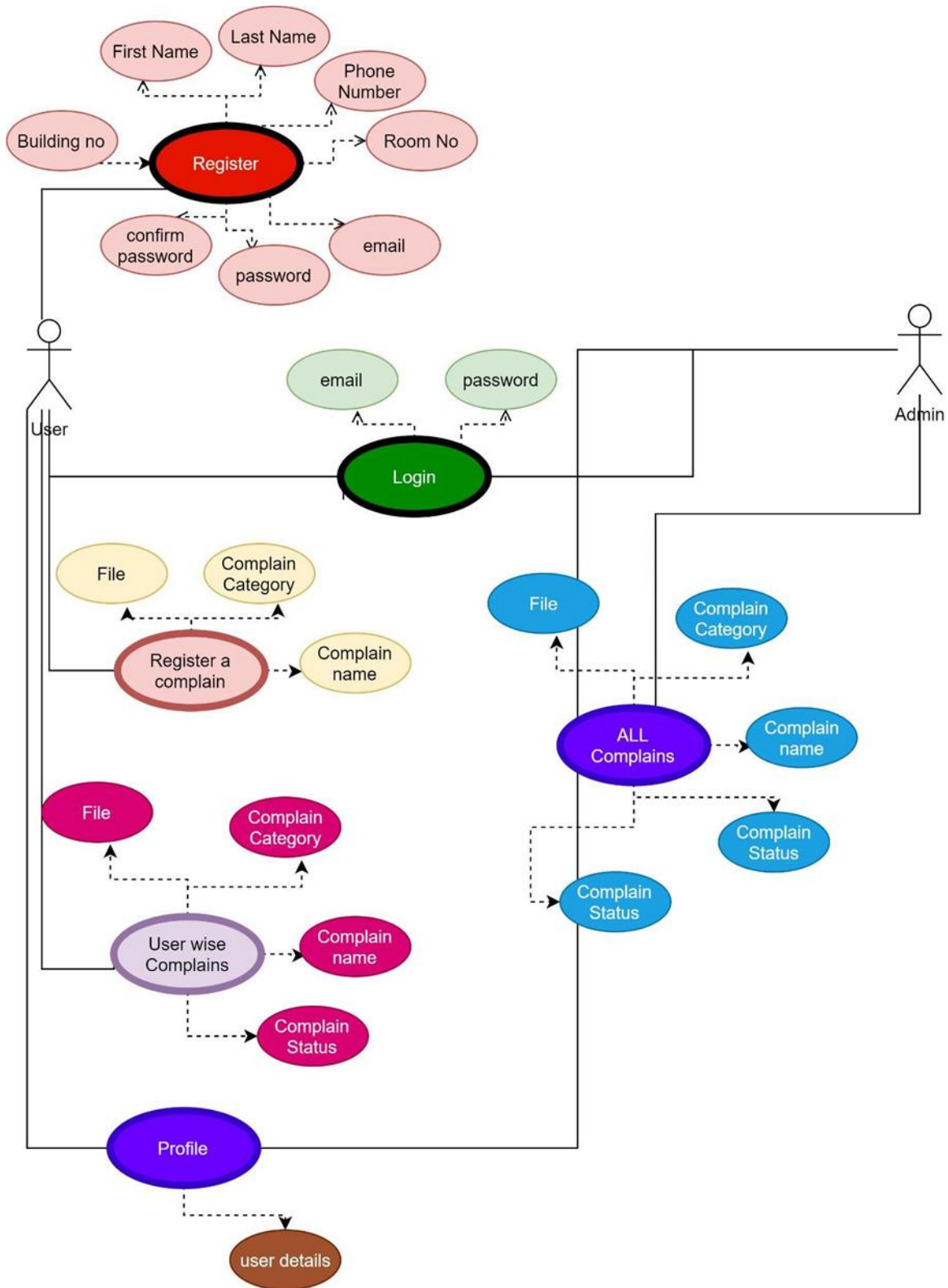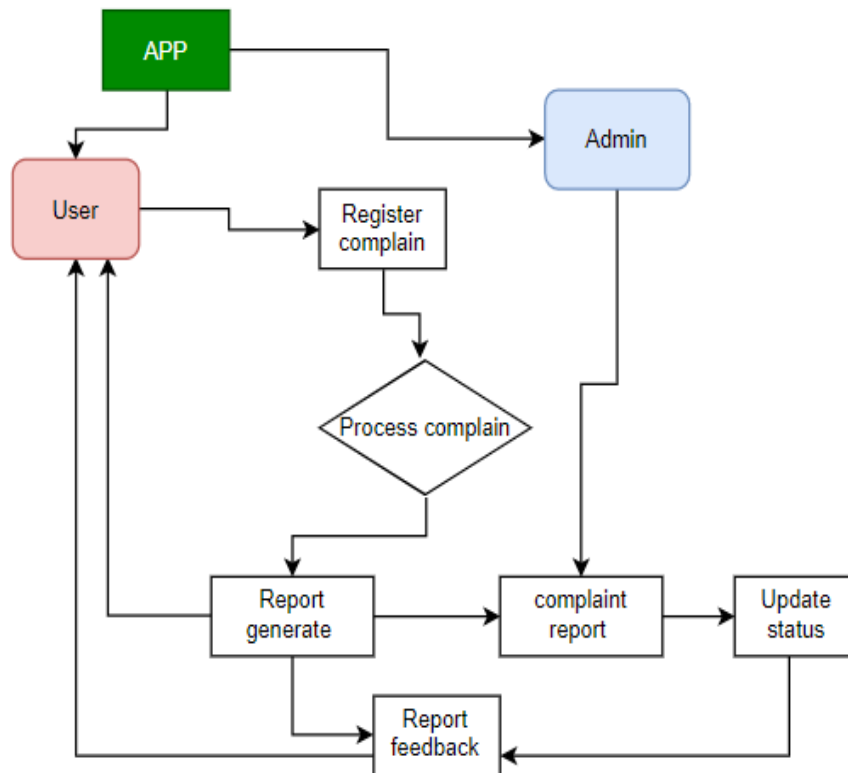
Actors:

- User
- Admin

Fig 3.3.1: Use Case Diagram

3.4 Logical Data Model

In this figure 3.4.1, here is a Block Diagram of my application.

Block Diagram

Fig 3.4.1: Block Diagram

3.5 Design Requirement

In my application, I have used different types of pictures from free sources. I have tried to select the best pictures or logos for the suitable options. And I also have designed my best so that the user can experience it well

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

Front-end design is the primary display that the user is able to view. Here are some screenshots of my projects:

Fig 4.1.1: Sign Up
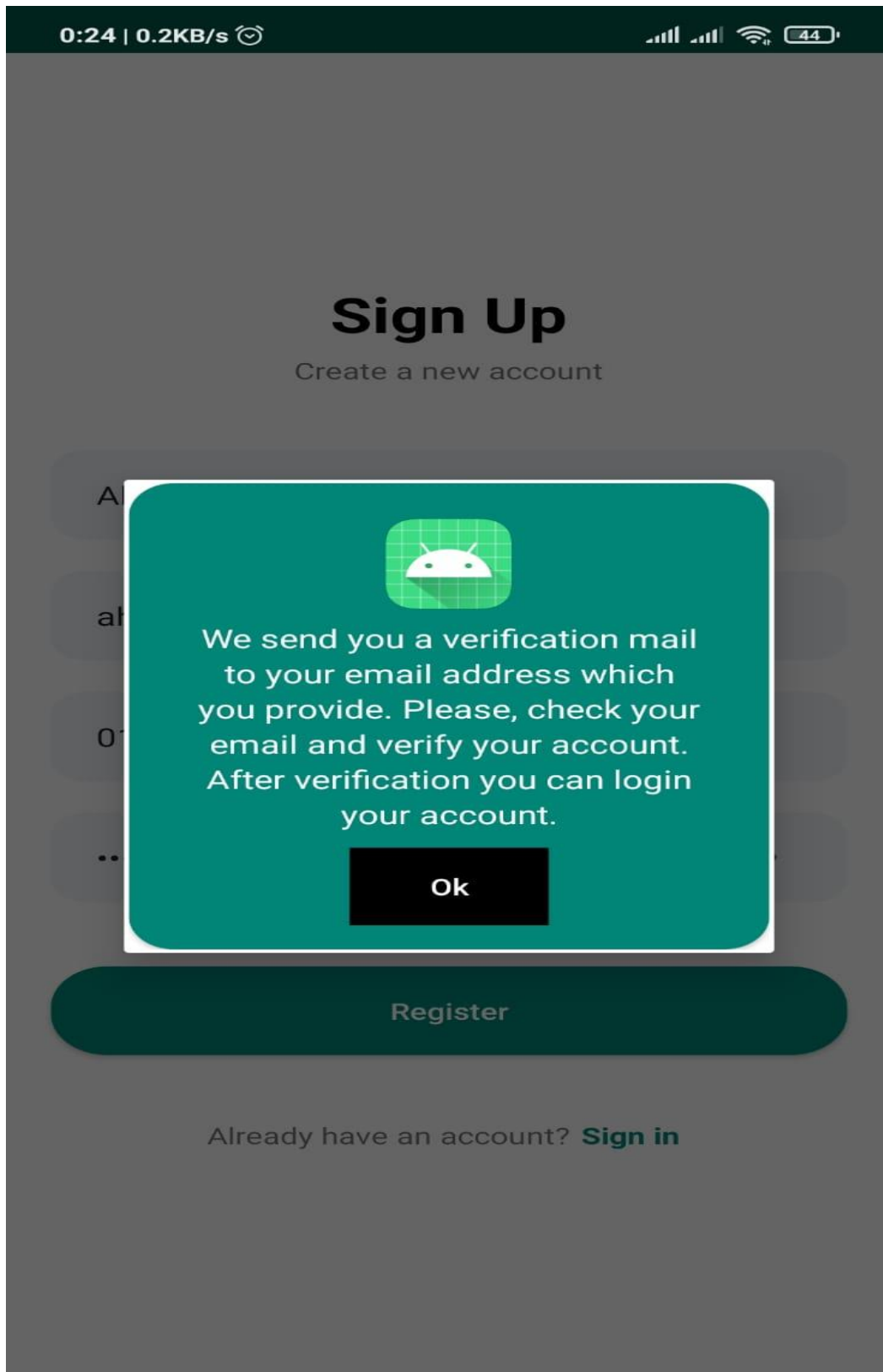
Fig 4.1.2: Verification Mail

Fig 4.1.3: Complaint App Screen
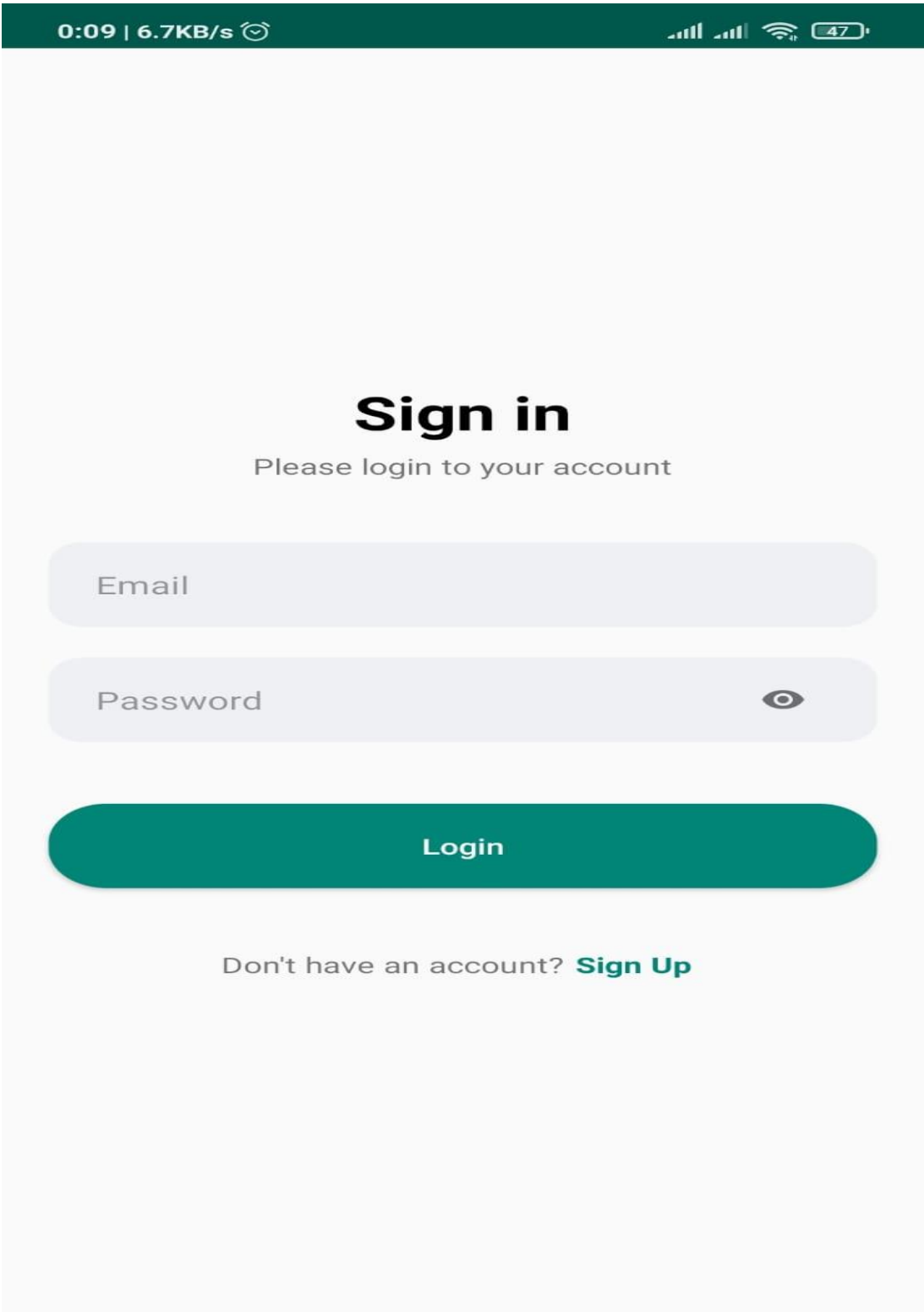
Fig 4.1.4: Sign In

Fig 4.1.5: User Home Screen

Fig 4.1.6: Navbar
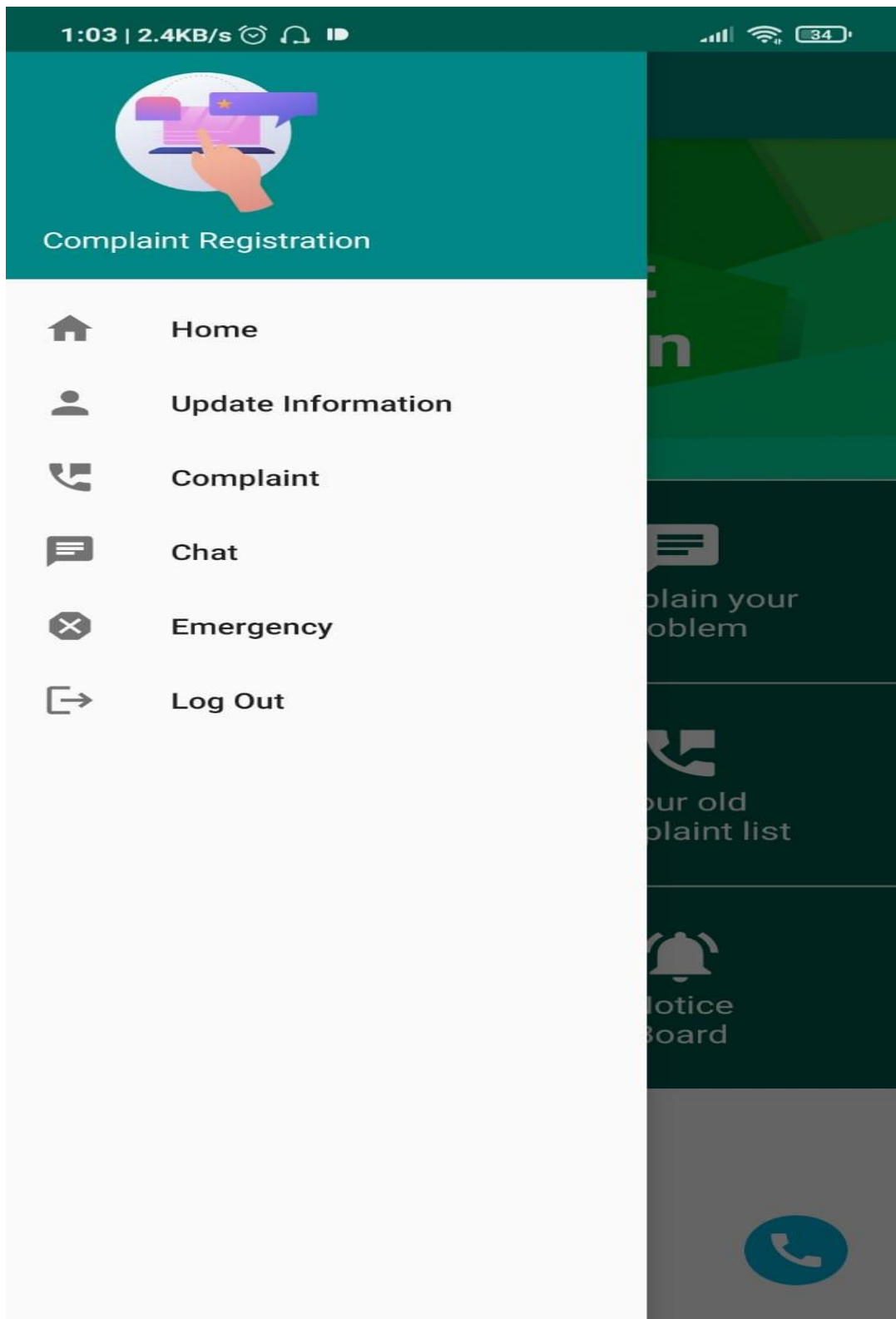
Fig 4.1.7: Update Information
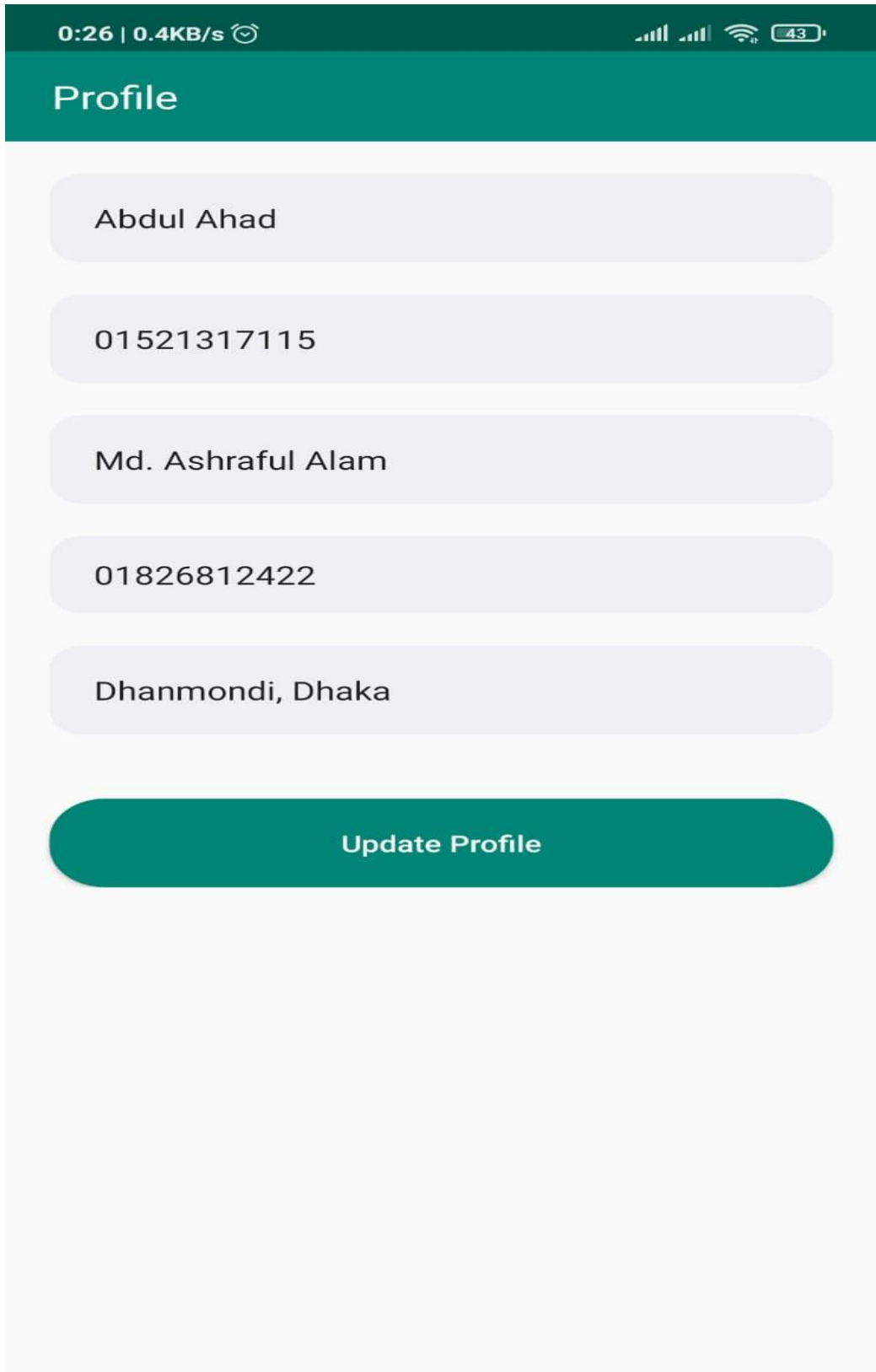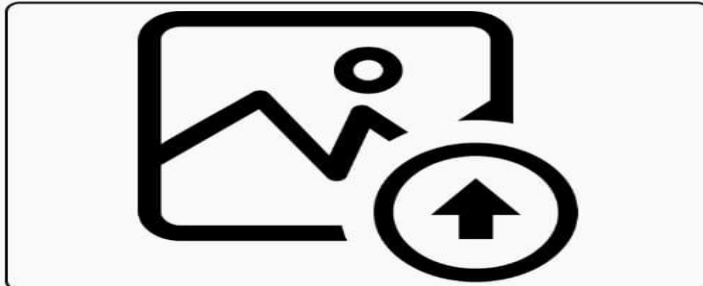
Fig 4.1.8: Add Complain
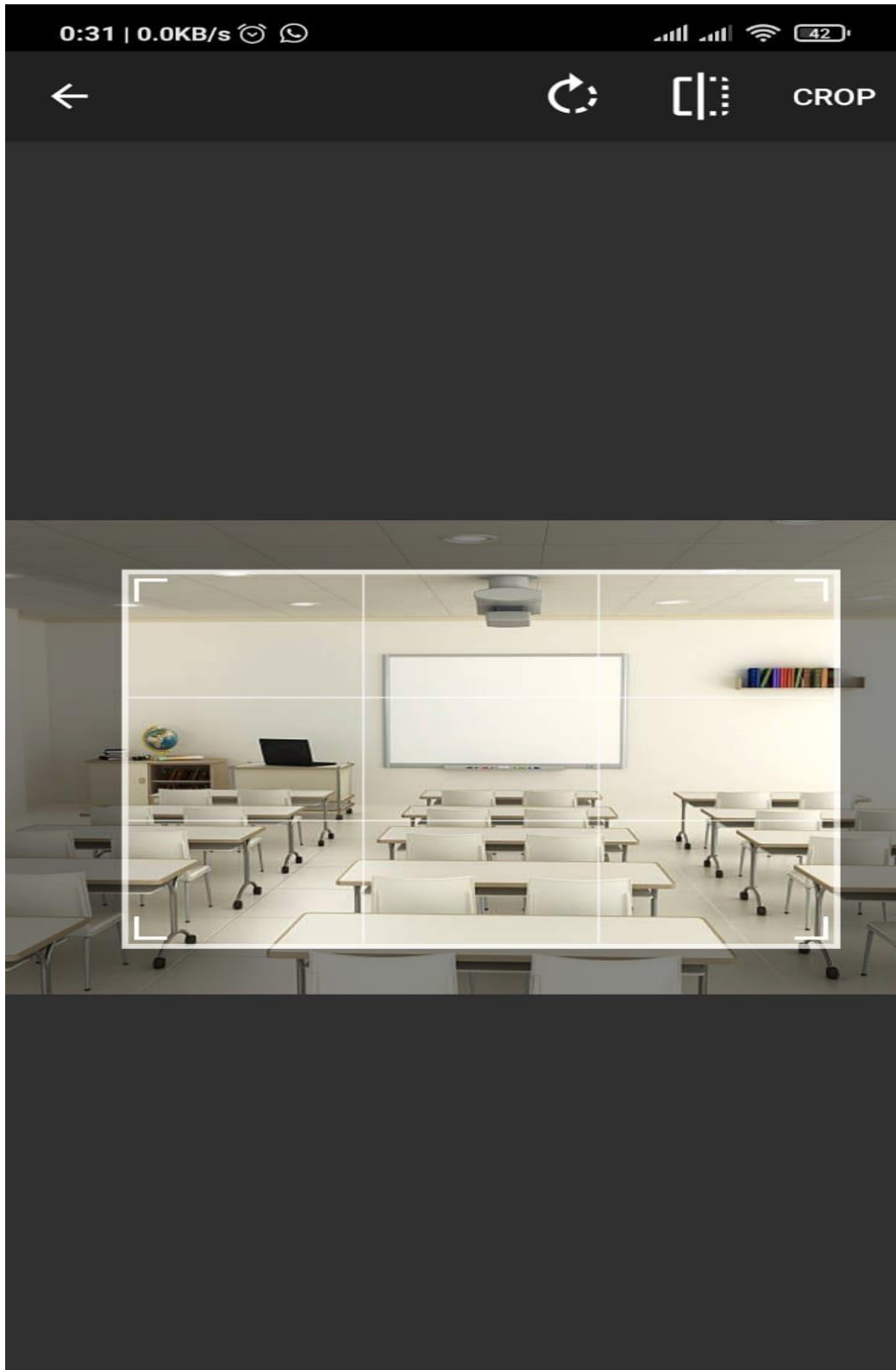
Fig 4.1.9: Image Cropping

Fig 4.1.10: Complain History
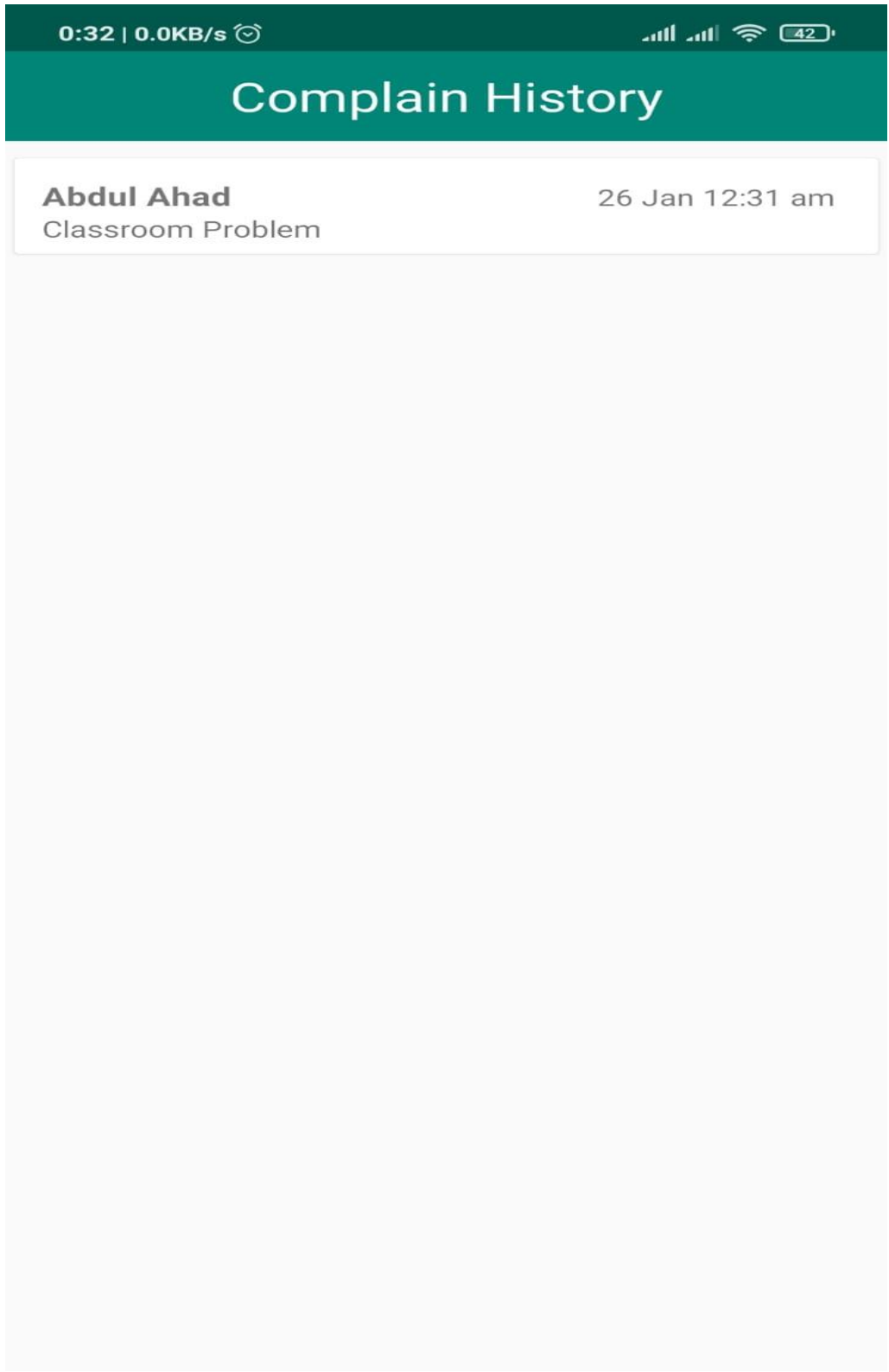
Fig 4.1.11: Complain History 2

Fig 4.1.12: Live Chat

Fig 4.1.13: Emergency
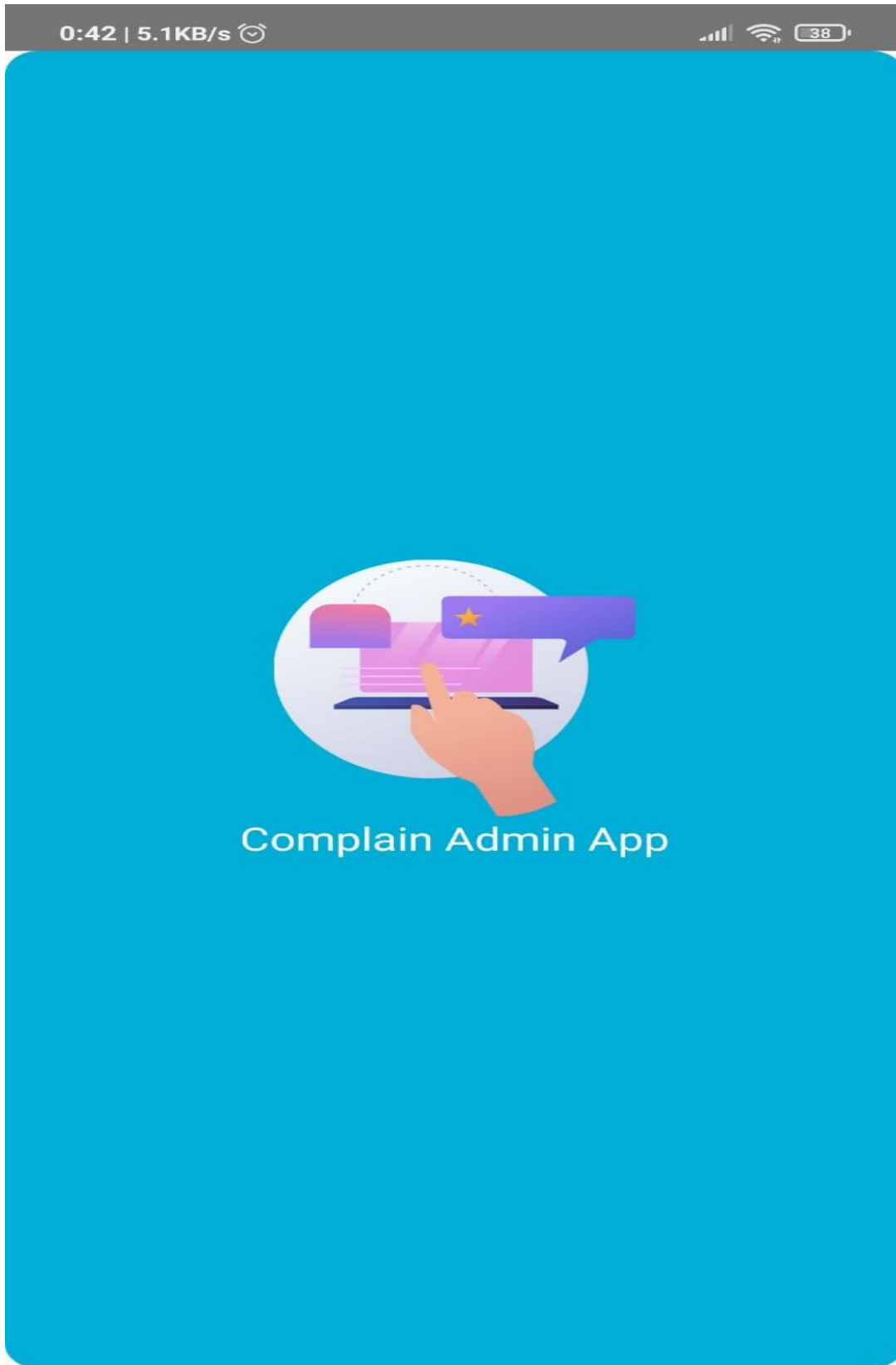
Fig 4.1.14: Admin App Screen
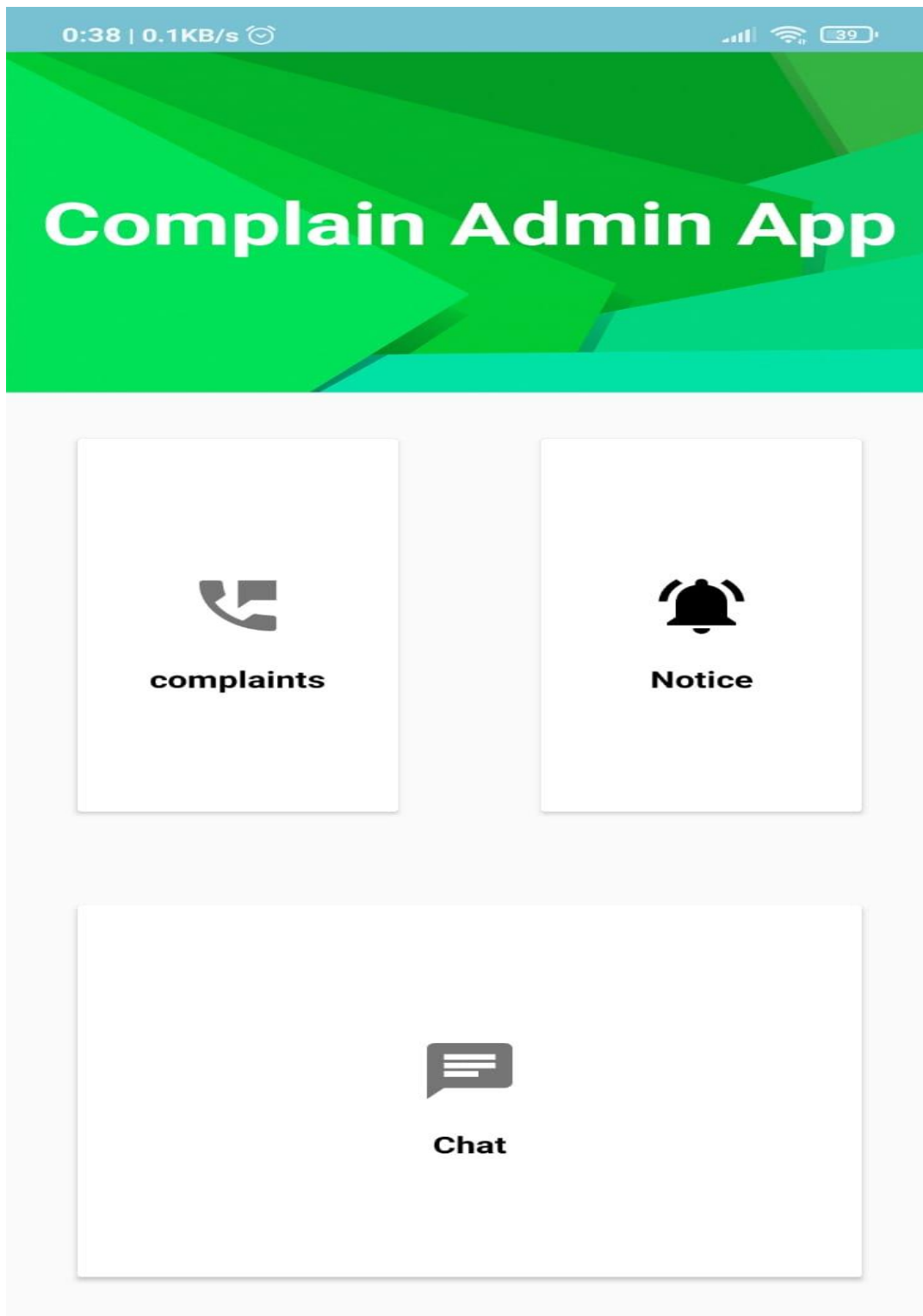
Fig 4.1.15: Admin Home Screen
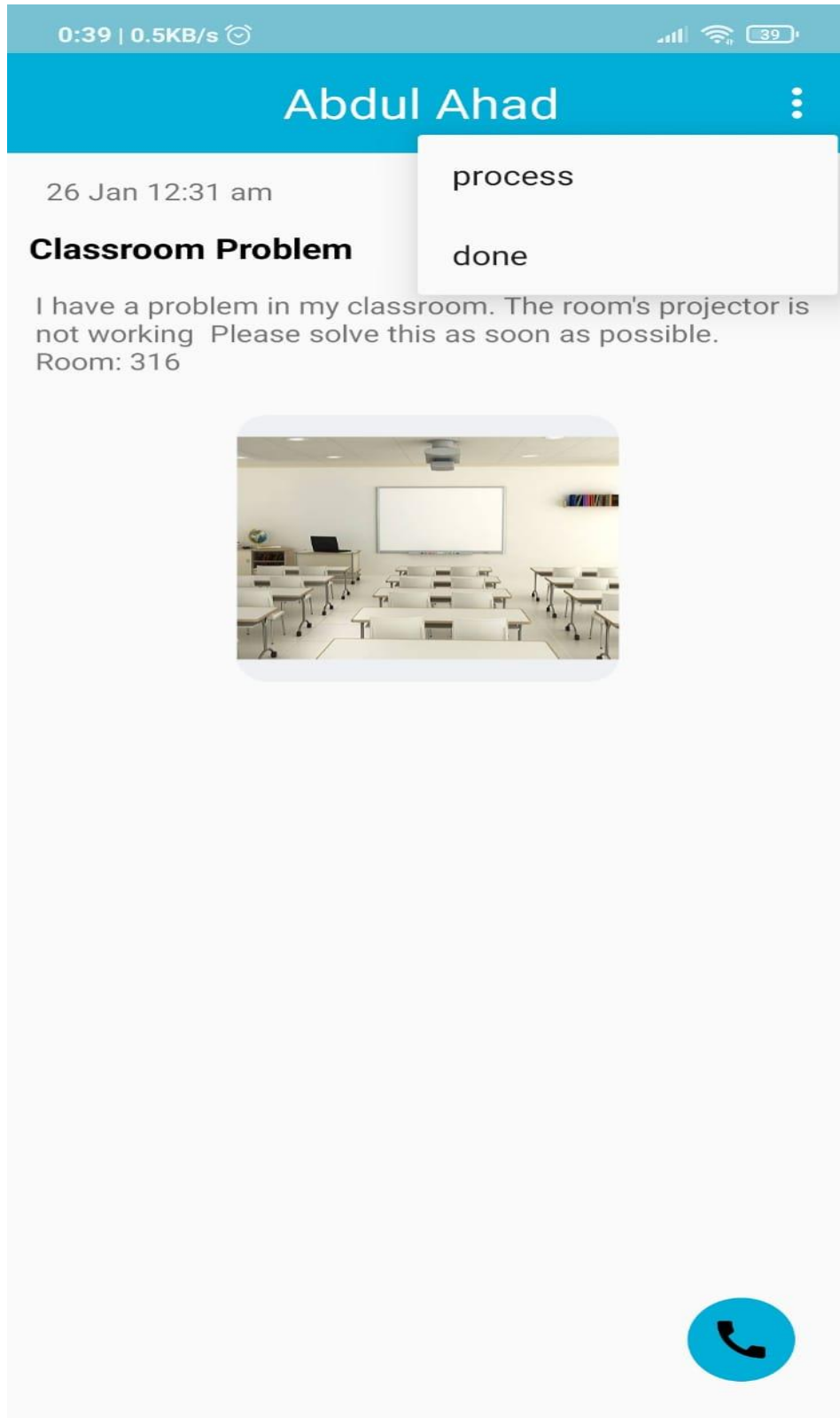
Fig 4.1.16: Admin Complaint Process

Fig 4.1.17: Admin Notice

4.2 Back-end Design

I have used Firebase for my this part of design. It provides backend services such as realtime databse, cloud storage, authentication etc.
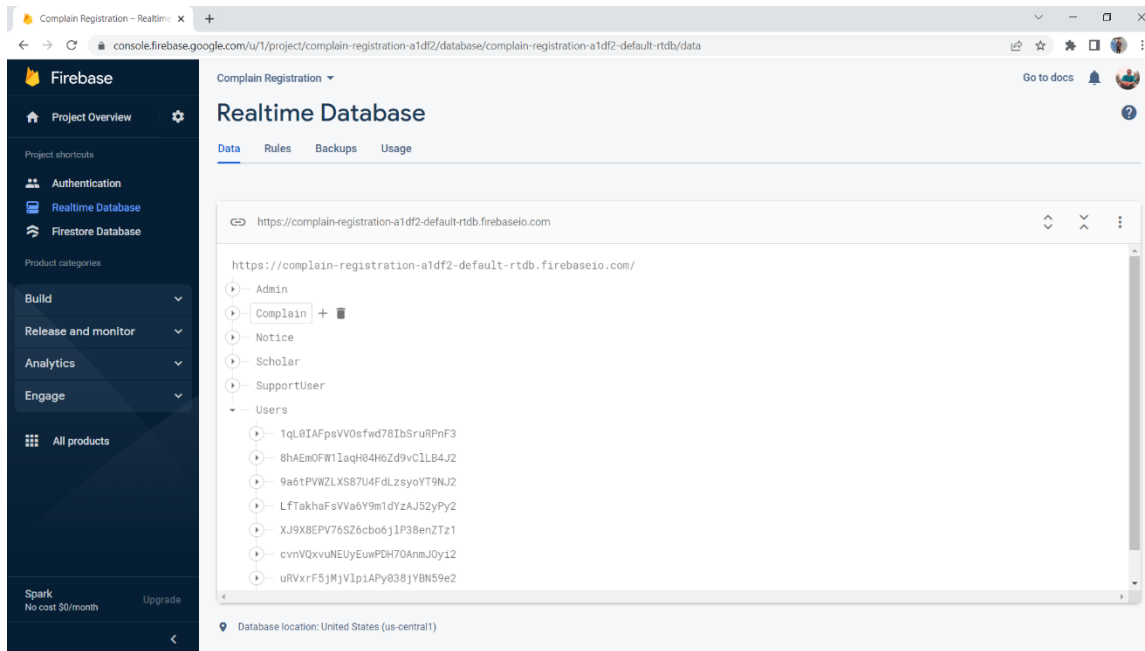
Fig 4.2.1: Firebase (Realtime Database)
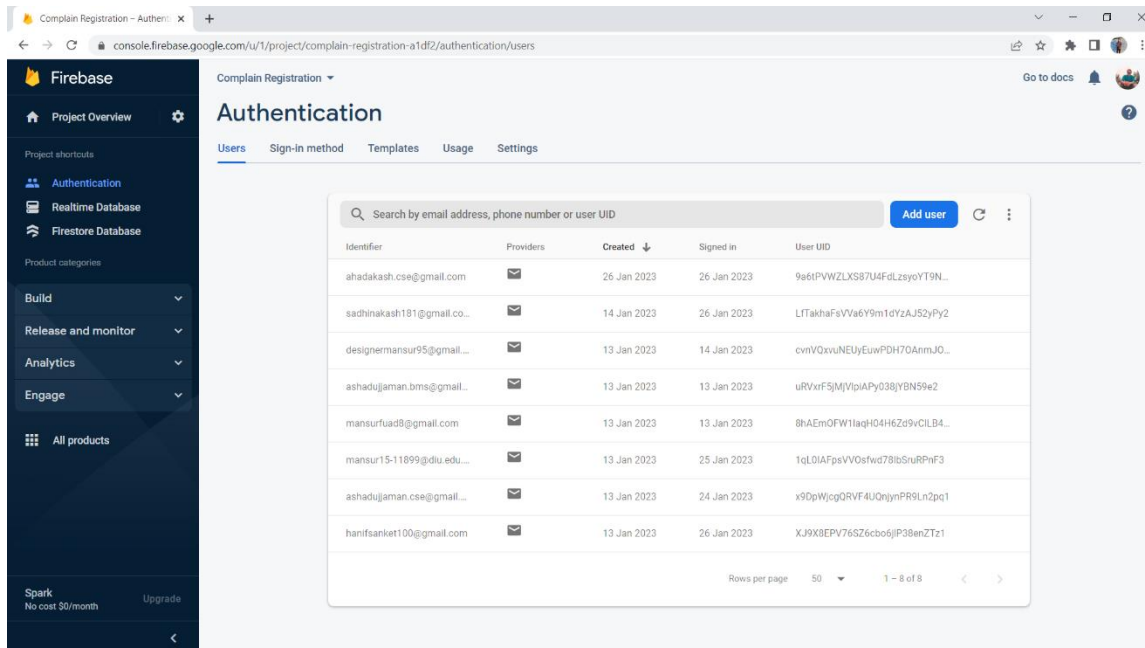
Fig 4.2.2: Firebase (Authentication)

4.3 Iteration Design and User Experience (UX)

I have created the application which is a problem solution app for the general students and university authority. This project gives me good encourage to provide good service to the general students in their daily life. I tried my best to add all those required features. I thus anticipate receiving a glowing feedback from my user. The desired user experience will be received, leaving them extremely delighted.

4.4 Implementation Requirements

In my project I have used these technologies.

- Programming Language: HTML, Java
- App: Android Studio
- Database: Firebase

CHAPTER 5
IMPLEMENTATION AND TESTING

5.1 Implementation of Database

First of all I make sure that all the apps are installed properly in my device. Then I have used HTML, Java, Firebase etc. to make my this application.

Firebase is the most popular database management site. So I have used this to store the data. Also it has a massive different kinds of features. Firebase has seamless database management, cloud storage and testing services. It is really easy to operate. And I can easily analysis the data from the dashboard of it. It has real-time database feature, where I can understand fair and accurately every data.

5.2 Implementation of Front end design

Droid Script, Visual Studio, and Android Studio are among the IDEs available for constructing Android apps. Android Studio is a component of my job. The affiliation point for my project was made using XML. The Extension Markup Language is what we refer to when we say "xml." A markup language for information representations departs from HTML in every significant way. Both humans and robots can swiftly view XML. We choose xml since it is a lightweight language that makes our layouts simple while designing for Android. Surprisingly, the always changing strategy of the Endlessly View Group objects represents the whole considered xml.

A View Group is an unusual container for gathering kids' viewpoints. These children are also exposed to other gadgets that produce other UI components. The UI changes depending on the client. To show this application, we have two different sorts of affiliation centers.

5.3 Testing Implementation

I have properly checked my application severely so that everything work seamlessly. I have tried my best so that the app does not have any bug. I have checked all the parts and features of my application. I also checked the location access, camera access and other permission access are working properly or not multiple times. I checked if the data are properly coming from the database or not. And noticed they worked beautifully. I also assured that all the user information and accounts are real, that's why I have added email verification method.

5.4 Test Results and Reports

My system has six functions in total in the user app and there sections in the admin app. I have made every attempt to improve my application. The features include updating your information, commenting about an issue, registering an account, and a login page. I also attempted to include a function that is not available in the present app.

Tests	Test input	Expected outcome	Actual outcome	Results
1. Sign up	Enter information without empty field	Successfully created account	Successfully created account	Pass
2. Login	Correct info	Login successful	Login successful	Pass
3. Mail verification	Sent Sign up verification mail	Received mail	Received mail	Pass
4. Sign up	Empty field	Cannot be empty (Show Error)	Cannot be empty (Show Error)	Pass
5. Login	Wrong info	Show no user record	Show no user record	Pass
6.Register a complaint	Added Details and files	View submitted complaint	View submitted complaint	Pass
7.Feedback checking	Checking complaint history	Showing Processing/Solve Complain Bell icon	Showing Processing/Solve Complain Bell icon	Pass

Fig 5.4.1: Tests and results

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Society

I think that my this application will have a very big effect in our civilization. In daily life, students faces many problems in the university campus. It will be very helpful for the students. They can complain and tell the authority about their problem very easily. They will be benefitted very much. Because they don't have to wait very long time for the solution. As an admin app also exists in my project, the admin can solve their problem in a fast time and students can have a problem free life.

Also it has an live chat service so they can be connected to the authority directly and tell their problems. So the bond between students and teachers will improve in the university.

6.2 Impact on Environment

By simply placing the entire system online, the suggested software offers a venue to file complaints from anywhere in the campus area. The complainant only needs to submit his complaint and wait for a response. So it has no bad effect on the environment. Thus, it will improve the education environment because it is for the university students. When their all problems will be resolved, they can have a tension free life and can study more efficiently and their result will be good. So, I can say proudly this app has no negative that can harm the environment.

6.3 Ethical Aspects

We are living in a modern word. Here now almost everything are controlled by an app. As android app is now most popular products in the word, there are some bad people too who always try to steal the information and to harm the general user. I have maintained all these point while creating this app. I have maintained these basic ethical aspects of an android app. The location permission will only be needed when it has to work with it. Otherwise it will not be needed.

The users information will be safe in the database. No passwords have been stored in it. So no one can steal or login with it.

6.4 Sustainability Plan

The data given and the recorded complaints both need to be accurate. I have a big plan in the future. I will add other extra features so that this app will be more sustainable. So that all the users data can be safe. And in future, I will add more extra data and security features so that it can help the general students a lot.

CHAPTER 7
CONCLUSION AND FUTURE SCOPE

7.1 Discussion and Conclusion

Due to the distances to administrative offices and students know the phone numbers of these offices, students have many difficulties when reporting problems in the current day and are unable to reach them in an emergency. This project is an android software called "Complain Submission System: An Android App." Both the general admin and the students may use the framework that is being created, making it entirely integrated and practical, making it a win-win scenario for both. This system contains chat functionality along with capabilities for reporting complaints and information on the most wanted individuals. With both good and incorrect data, all modules in this application were properly verified. Since then, the system has succeeded in achieving every one of its set objectives and is ready to take the place of the existing one.

I therefore come to the conclusion that the COMPLAINT SUBMISSION SYSTEM: AN ANDROID APP – will be very helpful for the general students and the university authority.

7.2 Scope for Further Developments

This system has a various types of features and advantages.

➢ Simple to manage; Comprehensible
➢ Registering Agile.
➢ Crime may be easily reported from anywhere.

I have also some plans to implement in the future. Such as m multilingual app is very possible. I will also release the windows and IOS versions of this in the future. This app can be implemented in a town or a city or a district where general people can complaint their daily life problem to the government authority such as gas problem, road problem, electric problem etc. End-to-end encryption can be added to this app. Users can remain anonymous while sending their complain to the authority.

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