

**DIU STUDENT PREFECT: AN ANDROID BASED APP FOR STUDENTS
SHARING KNOWLEDGE AND SKILLS THROUGH RECIPROCAL
LEARNING**

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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 “DIU Student Prefect: An Android Based App For Students Sharing Knowledge and Skills Through Reciprocal Learning”, submitted by MD. GOLAM RABBY JIM, ID No: 152-15-5551 & ASHRAFUR RAHMAN, ID No: 152-15-5843 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 4 May, 2019.

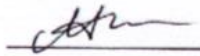
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We hereby declare that, this project has been done by us under the supervision of **Dr. SheakRashed Haider Noori, Professor and Associate Head, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

We find out some problems that students face continuously. Some of the students, when they face any problem with their academics courses at that time they feel hesitate to contact with their course teachers. Some of them can't concentrate on their full academic class lectures. That's why there are remaining some educational lacking among students. Besides, the time duration of those academic classes are not much sufficient to understand the topics properly despite students having interest of learning in the classrooms. In this circumstance, one student who is skilled enough to persuade the topics to another, s/he can share their skills with one another. That's why we are developing a project that titled "DIU STUDENT PREFECT: AN ANDROID BASED APP FOR STUDENTS SHARING KNOWLEDGE AND SKILLS THROUGH RECIPROCAL LEARNING". Basically "DIU STUDENT PREFECT" app is an android based mobile application that is making a community among students for sharing their skills and knowledge. In this platform, one student can find another to earn or sharing knowledge and skills in a specific topic.

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CHAPTER 01

INTRODUCTION

1.1 Introduction

We are developing an android based versatile application called “DIU STUDENT PREFECT”. This project's main focus is on improving the education sector. This time, if everyone comes to share their knowledge and build a good community, it will be possible to improve the education sector. With our project, we are building a good community.

Under a teacher, there are many students. A teacher always tries his/her best for his/her students. But, it will not always be possible for a teacher to find out individually and solve the students ' problems. A student is aware of his / her absence. In this fact, if a skilled student helps or shares their knowledge and skills with other students, It will be better for both of them. But he/she may not know that, who's good at those particular topics.

By using our application, students who are skilled in a particular topic can be found out. In our project, a user will be able to communicate via message with others. A user can be promoted through rating by another user. Aside from those, there are more highlights in our application. We have been trying to make our app more user - friendly. To make use of it more demanding and increasingly productive.

1.2 Motivation

We tried to find out a problem in our educational system and solve it with our Android-based application System. Some of the students for many reasons miss their academic classes or the class lectures can't be understood. Again, they lack enough time to fail to properly understandtheir topics. That's why the students unwittingly have some educational gap or deficiencies. A study on [1] "A simple procedure, based on a questionnaire, was used for the assessment of student concentration during lectures. Analysis of 1353 questionnaires from 12 lectures showed that student concentration rose sharply to reach a maximum in 10-15 min, and fell steadily thereafter." Also, there are

many students who hesitate with their course teachers to discuss their shortcomings. In addition, there are a lot of students under a teacher, despite having the will, teachers can't contact a student. That's why in their lives they contain their educational Shortcomings. Which would cause problems in later if a student shares their knowledge and issues with another skilled student who will be fruitful in removing their educational deficiencies. Not only knowledge, but they can also share with each other their skills and educational tools. Which will make them a better educational life. And their educational expenses are also reduced. To that end, we are trying to build our project so we can build a large community to share knowledge, skills and educational tools.

1.3 Objectives

We know that [2] Reciprocal teaching is a strategy that asks students and teachers to share the teacher's role by allowing both to lead the discussion on a given reading. Every day, reciprocal learning is populated. But it's not yet so populated in our country. We want to begin reciprocal learning on our country through this application. Where students can share each other's knowledge. Using this application, students can share their knowledge, skills, and tools. We want to start a platform where students can help each other to solve their problems. We want each student to be successful by sharing their problem & skills that will increase their skills and reduce their educational cost.

1.4 Expected Outcome

- Students will be able to share their knowledge, skills, and tools with each other.
- Starting reciprocal learning in our entire educational system.
- Have a student will become more skilled.
- It will also find out the prefects (who will act as a teacher) lacking's.

1.5 Report Layout

In this report, we try to describe our full project clearly through 6 chapters.

Chapter 01: Introduction

This is our first chapter. In this chapter, we are trying to describe the basic overview of our project. Here, we have discussed about the introduction, motivation, objectives, expected outcome and why we chose android of the project.

Chapter 02: Background

We try to describe related works, comparative studies, scope of problems, challenges and gantt chart in the Background chapter.

Chapter 03: Requirement Specification

In this chapter we discuss about requirement specification such as business process model, requirement collection and analysis, use case modeling and description and design requirements.

Chapter 04: Design Specification

This chapter describes front - end design, back - end design, interaction design & UX and requirements for implementation.

Chapter 05: Implementation and Testing

In this chapter we will discuss the implementation of database, implementation of front-end design, implementation of interaction, testing implementation and results.

Chapter 06: Conclusion & Future Scope

In here, we discussed the conclusion of the project and the scope for further developments.

1.6 Why We Chose Android

Nowadays, electronics devices such as Computer, TV, Smart phones etc. are available to everyone. Among them Smartphones are very much available to everyone. There are many mobile operating system throughout the world such as iPhone OS (IOS), Blackberry OS, Symbian OS, Bada, Android OS etc. Where Android operating system is the most used mobile operating system. Also android is the portable working framework that is most used.

Some of the OS are paid, some of are open source but not so much popular. Where at a time android is an open source as well as most popular operating system. Also a developer must use a Mac to develop iOS devices. But development of android allows Windows, Mac & Linux. Android apps are developed using one of the most popular language 'Java' which can be easily transmitted to other mobile operating system such as Blackberry, Symbian & Ubuntu. Android apps can also be easily ported to Chrome OS as well.

We developed our Android project by using Android Studio IDE & Firebase Database. Android studio is a very excellent, fast & efficient IDE for development. Android is opensource, so it makes easy to develop any android application. Any Android application can be deployed very easily through the "Android play store". It's an easy way to go from development to user experience. We chose Android platform for all those things.

CHAPTER 02

BACKGROUND

2.1 Introduction

We are developing our project to eliminate the lack of students. On the other hand, our project will build a large educational community that can help build a good relationship and cooperative attitude among students. Through our application, students can easily find help. We are trying to design our application user-friendly that can help to make user acceptance. A user can be easily and effectively interact with our application.

2.2 Related Works

Some related works, such as our project, exist. But not exactly like our project. Google Classroom is an application that is very popular. Google is developing this application. We can create an online classroom through google classroom. Students can share their learning materials and knowledge with this app. Classroom works through a classroom code. Where every student must attend the class through the code. As a result “No classroom code, no help” in google classroom.

On the other hand, there are Stack Overflow, Quora and some other mobile apps, which are educational apps. A user can submit their query through these applications to find any solution. But, through our application, a user can find a person who can help him/her by meet up for a specific problem. If any user wants to help another user, then s/he can respond to the request post. Through message option, they can communicate with each other. A user will be able to share this app. So, those apps are consistent but not exactly like our app. In our project, we are doing some specific work.

There is some tuition application on Google play store. A user can find a subject tutor through that application. But, to find a tutor we don't want to build an app here. Here we develop a reciprocal learning environment, that free for students/uses.



Figure 2.1: Some Android Applications Based on Education System.

2.3 Comparative Studies

Our Android-based mobile application has a gigantic distinction from any current application. The principle inspiration for our undertaking is to build up a complementary learning condition. Some of the existing application have basically comparable with our "DIU STUDENT PREFECT" application. Be that as it may, we endeavor to make application exceptional. What's more, our undertaking thought is absolutely novel from different tasks. User can add a request post and reply to a request for a post. Through that, the problems of our student can be solved. On the other hand, one user and another user can be followed. That can help to build a large community.

2.4 Scope of Problems

- Finding all the problems of his / her student and solving those problems is quite impossible for a teacher. Therefore, the problems of the student remain hidden.
- Some of the students hesitate to contact their teacher on his / her educational issues.
- Students are sometimes unable to concentrate their entire classes. So, there will be some deficiencies in his / her education. So, they're facing some educational issues in the future.
- Students will not be able to acquire proper skills due to lack of class time duration.
- In our country, the reciprocal learning environment is not popular. But, our education system can make a big contribution.
- There is a large lack of communication between students.
- Students don't know who in a particular topic can help him/her or who is an expert on those particular topics.

To solve all these problems we are trying to build our project.

2.5 Challenges

In Android Studio IDE, we developed our project and use Firebase Database to store all data. Here we chose Java as the programming language. Over 50 java classes, 40 XML files, and 50 draw able resource files are created in our project. That's going to make our application massive and our application can be slow. This affects the user experience badly. We're always struggling with the user experience. So, making our application smooth was a big challenge for us.

In addition, different devices are used by different users. So, we're trying to nicely design our app. Whether it can't have any bad effect on the user interface of the application and the user can interact easily and effectively with our application. For our project, deployment is the big part. Because our app is entirely user - based. If this application is not used by the user, then this application will have no value. So, for us, this is one of the greatest challenges.

2.6 Gantt Chart

Here is our project's Gantt chart:

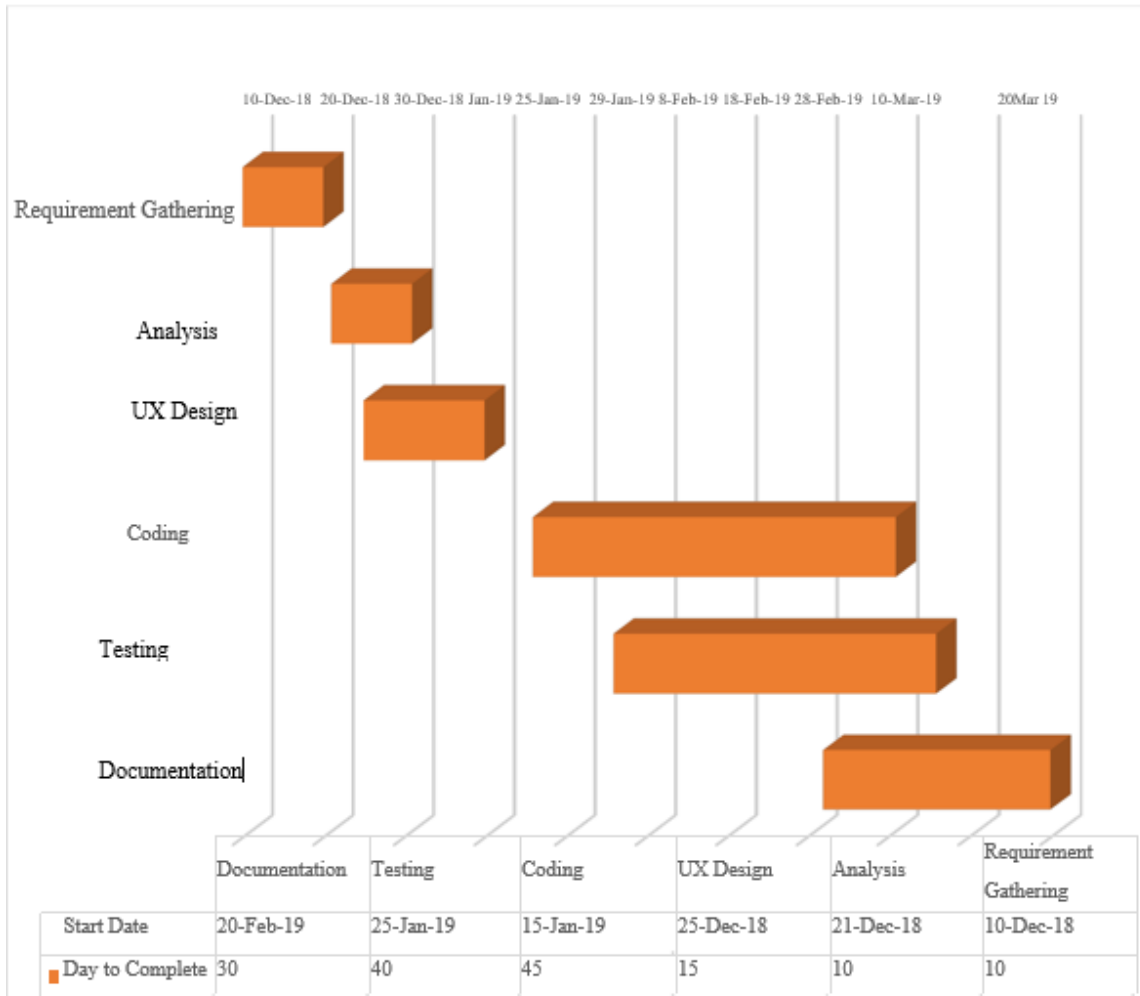


Figure 2.2: Gantt chart for DIU STUDENT PREFECT Application.

CHAPTER 03

REQUIREMENT SPECIFICATION

3.1 Business Process Model

[4] Business process modeling (or) process modeling, is the analytical representation or put simply an illustration of an organization's business processes. Modeling processes is a critical component for effective business process management.

Business process model includes some process, starts and symbol, condition as like a flow chart. In our business process model, we show that a process is completed by at least two users (user 1 & user 2). User must register and he / she can login to complete the process. With your google, Facebook or email account, a user can also login. Upon registration, a user must fill in some of the required information such as name, ability, contact number, etc. that we called profile. The user can post a request post with his / her account after setting up the profile.

On the other hand, the user 2 (prefect) must register, login, set up his / her profile, and finally he / she can answer the request. Using the google map, he / she can provide a location to meet if their requirements are met by each other. And that's how it will complete a process. We use "Inventor for Business Analysts" tool to develop the process model diagram. Here is our business process model diagram

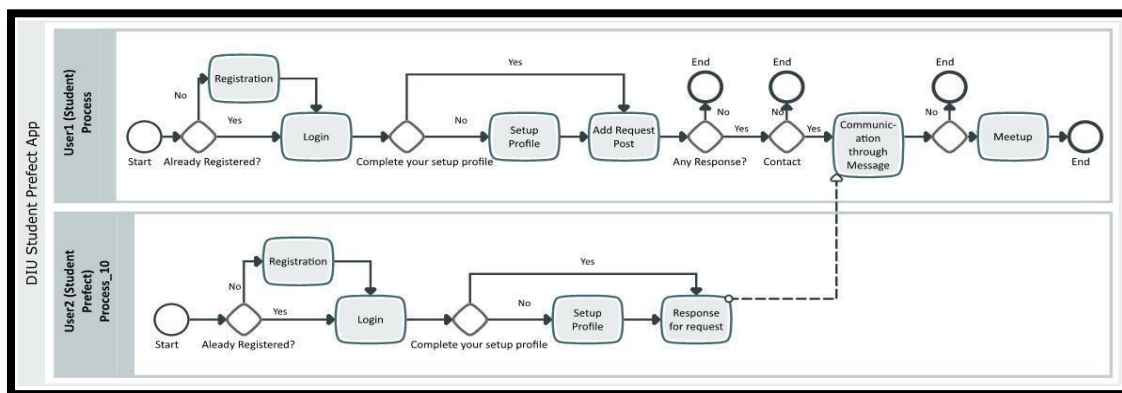


Figure 3.1: Business Process Model

3.2 Requirement Collection and Analysis

Collecting and analyzing the requirements is a very important term for developing a system or any type of android application. Our application's target users are students. So, it's very important to collect the student's requirements. We try to find out their problems to develop our application. The requirement collection of our project is given below:

- To use the application, registration must be required.
- Users can be able to sign up through Google Account or Facebook Account.
- Must need to verify users email address.
- Basic information must be provided in order to use the application.
- A request post for a specific topic can be added to a user.
- In a request post, a user can be responded and commented.
- Users will be able to communicate through message or phone call.
- Users will be able to report a post.
- A user will be able to follow other users.
- A user will have reviews that other users provide.
- Needed to collect the user's feedbacks.

Tools requirements to develop the projects:

- Android Studio IDE to develop the project.
- We use programming language such as Java, XML etc.
- Firebase database.
- Android devices to testing our application.

3.3 Use Case Modeling and Description

The Use Case Model describes the new system's proposed functionality. A Use Case is a discrete unit of user (human or machine) interaction with the system. Use Cases are typically 'actors' related. An actor is a human or machine entity to perform meaningful work interacting with the system. In Figure 3.2, here is our Use Case Model

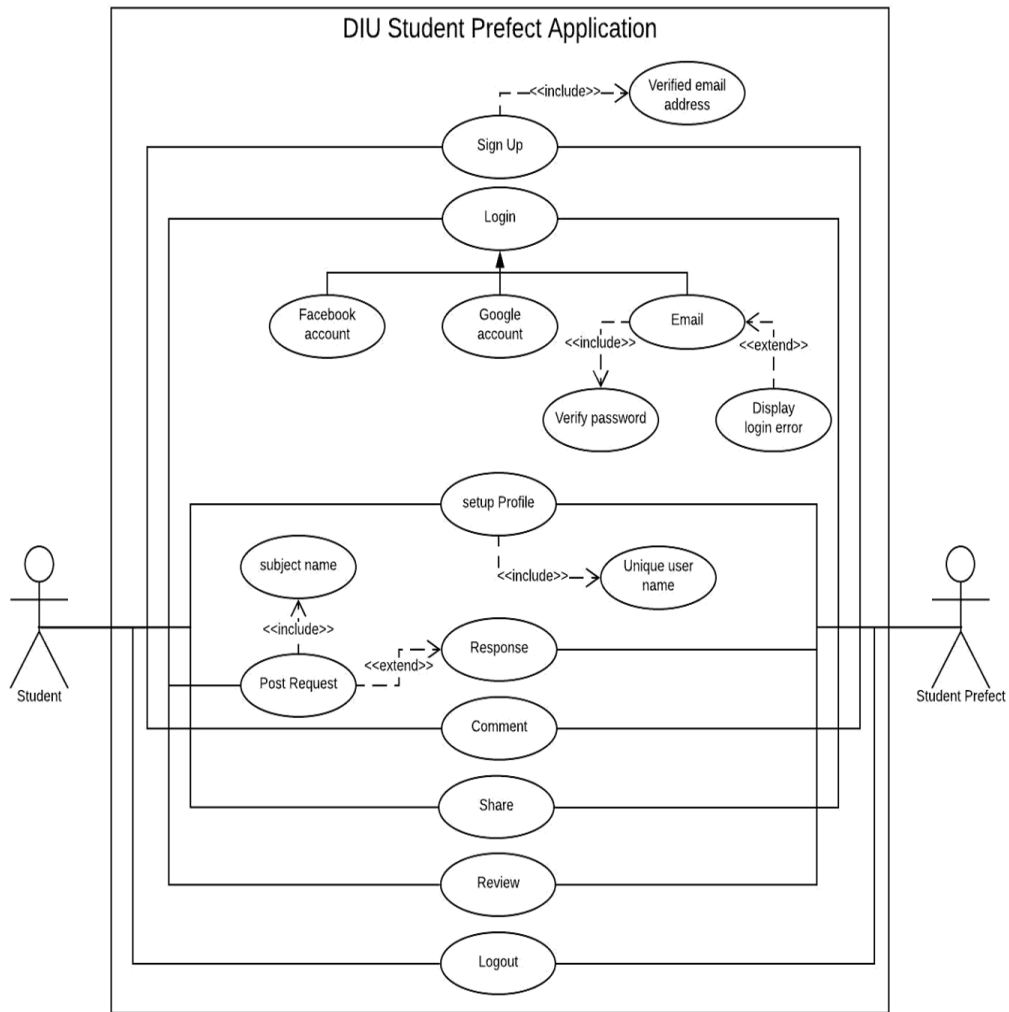


Figure 3.2: Use Case Model for DIU Student Prefect Application.

Use Case Description:

Table 3.1: Use case description for Authentication

Use Case #01	Authentication
Primary Actor	User
Secondary Actor	System
Pre-Condition	Complete the registration
Scenario	Provide the valid email address in the email edit-text and password in the password edit-text
Post-Condition	<ol style="list-style-type: none">1. Showing the setup profile page.2. If the setup profile page completed before then it will be shown the home page

Table 3.2: Use case description for Add help post

Use Case #02	Add help post
Primary Actor	User
Secondary Actor	System
Pre-Condition	<ul style="list-style-type: none">• Complete the Authentication part• Click the add help post button
Scenario	<ul style="list-style-type: none">• Provide the help description and the subject.• Click the add button
Post-Condition	<ol style="list-style-type: none">1. Showing the post in home page.2. Other User will be able to response, Comment, report and share the post.

Table 3.3: Use case description for Message

Use Case #03	Message
Primary Actor	User(Student, Student Prefect)
Secondary Actor	User(Student, Student Prefect)
Pre-Condition	<ul style="list-style-type: none"> • Complete the Authentication part
Scenario	<ul style="list-style-type: none"> • Search for a user • Go to his/her Profile • Sent him/her message
Post-Condition	<ol style="list-style-type: none"> 1. Showing the message on message box. 2. Back to home page or exit

3.4 Design Requirements

First of all, a user must register in our application. Then a user can log in to the app. Users can use Google or Facebook account to sign up. In the setup profile page, a user must provide his / her information. Without filling up the page, our app features cannot be used by a user. A user will see the home page after entering the application. Students request post will be displayed on the home page. Users will be able to response, comment, call, report and share posts. The user will also post his own request. A user can give another user his valuable review and communicate with each other through message. A user can see in the notification page all his / her notifications. Users can edit their profile information on the profile page. In the more option page, user can search another user, share our app, and rate our app. We provide help and support option for users to send us feedback.

CHAPTER 04

DESIGN SPECIFICATION

4.1 Front-end Design

The visual part of a project is the front-end design. For an Android mobile application. It is very important because slow pages frustrate visitors in seeking alternatives. Higher conversion rates result in instantaneous application response. Optimized performance is one of the front-end application's business benefits.

An application must also reflect the company's real purpose. The design & graphics should not confuse the customer as it interacts with the part at the front end, well-designed interfaces instill trust & trust in the brand and help achieve communication goals that lead to higher traffic & conversion. We are trying our best to develop a useful user interface. We are trying to make our application smoother.

Login page is our application's opening page. If a user already has an account then with his/her verified email id and password he/she can login. Users can login to their Facebook or Google account. If there is no account in any user then the user must register. And a valid email id and password with at least 6 characters must be provided by the user. After registration, we will provide an email verification mail to verify user's email id. User must need to verify to his/her email id before login. Otherwise, s/he will be unable to login.

If the user forgot his/her password or username, s/he need not create a new account. There is a "forgot password" button to create a new password with a verified email by clicking this.

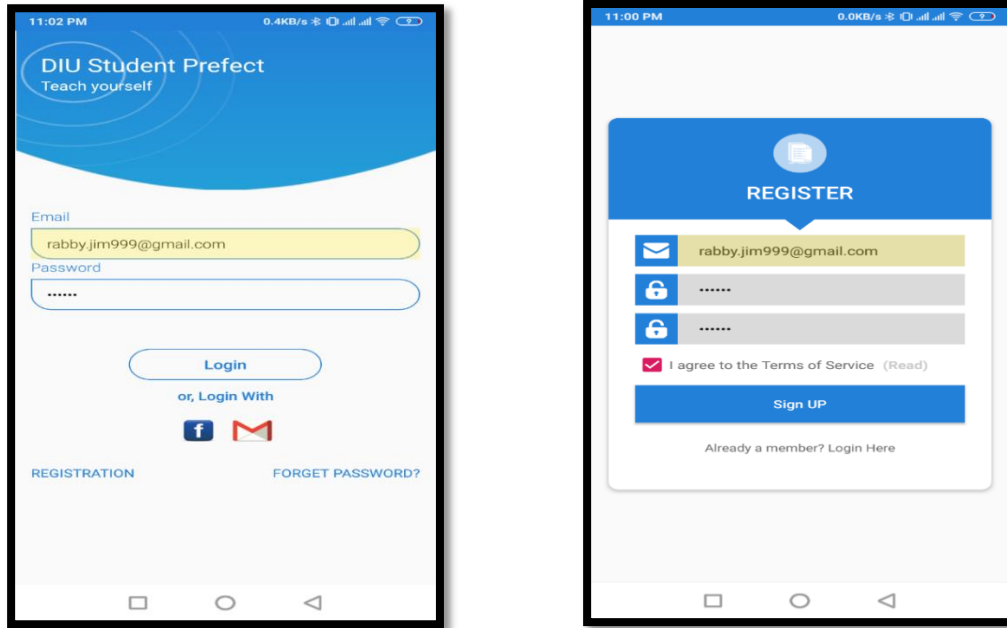


Figure 4.1: Authentication part.

In our project we provide two-step verification. After login a user must give his/her basic information. Without fill-up the user setup profile page, user will not be able to go the next step.

The user needs to set username, his/her skill, educational qualification, and topics of interest in basic information. There are two fields required. The name of the user must be a unique name and the skill s/he had to fill out.

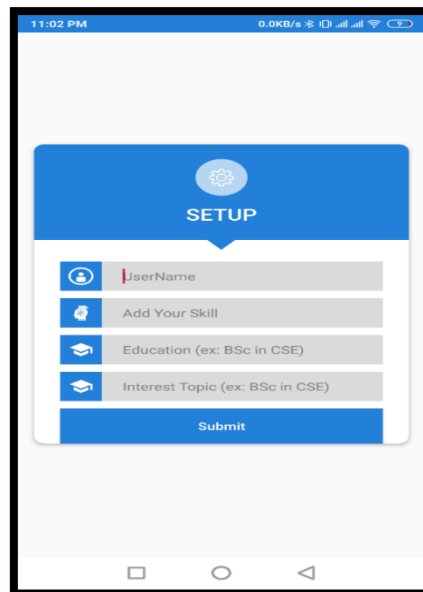


Figure 4.2: Setup Profile Page.

A user will be able to view all request posts on the home page, which are provided by other users. If the user can help, the user can be answered for request posts. User can add his/her own request post. User can be able to share a post. If anybody gives a bad post that time a user can report the post. We provide the comment feature for a request post.

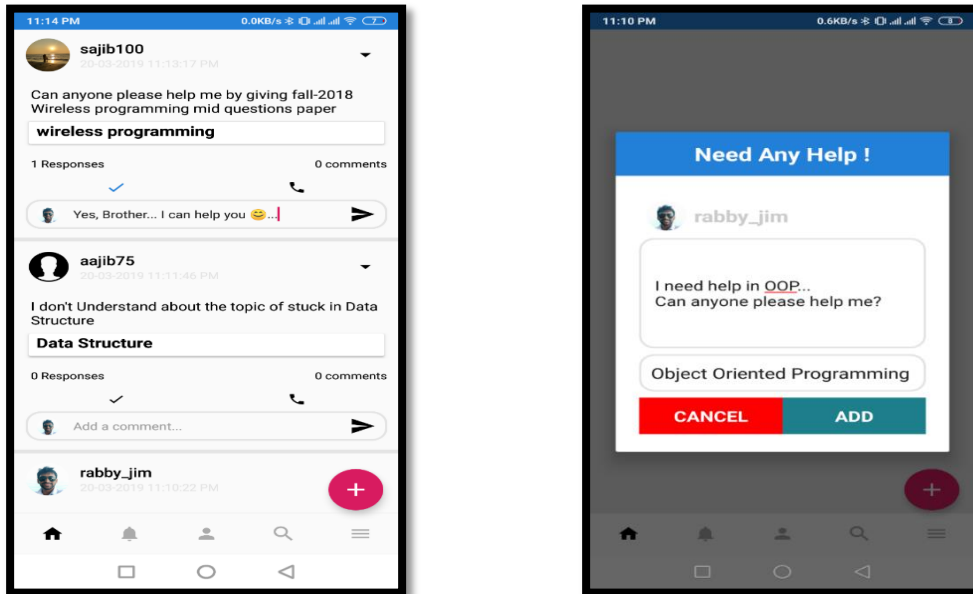


Figure 4.3: Home Page.

In notification page, a user can be see the notifications.

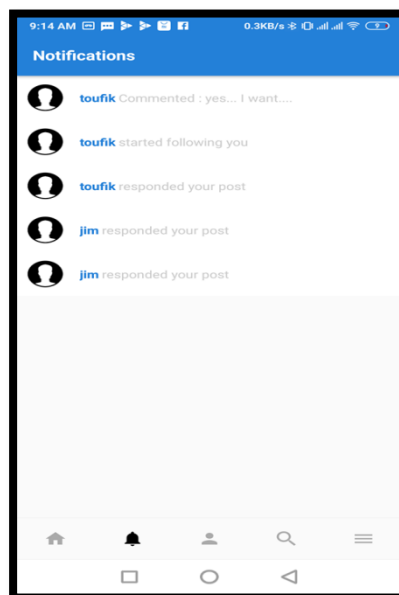


Figure 4.4: Notification Page.

A user can see all of the user's information on the profile page. Where the user can set up the image of his profile. He/she can see his/her list of followers followed by the user, can check how many people are rating on his/her profile & message list. The user can also check his/her mobile number, educational qualification & skills that he/she has provided. There is also a button called "Edit Profile" where he/she can update his/her username, phone, email, education & skill if he/she wants to change.

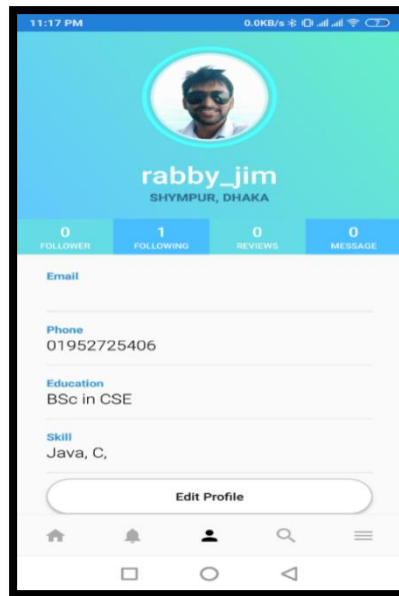


Figure 4.5: Profile Page.

A user will be able to search another user by username. From the page, user will press the follow button to follow other's posts and shares. And also able to visit other profile.

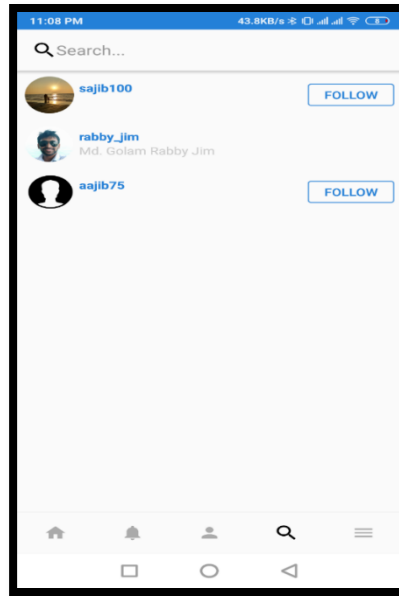


Figure 4.6: Search Page.

User can search for another user in more option page. There is a message box here on this page that the user can contact directly with the other. A user can also see all the previous chats.

The user can share the application with the "Share this app" option if he / she thinks it is useful to others.

Using the "Rate this app" option, he / she can also rate the app. The user also checks the application & developer details from the "About us" option. With the "privacy policy" option a user can also check what kind of privacy we followed and what he / she should do to make his / her profile more secure. We make certain terms and conditions available. User can be a sign-out from this page.

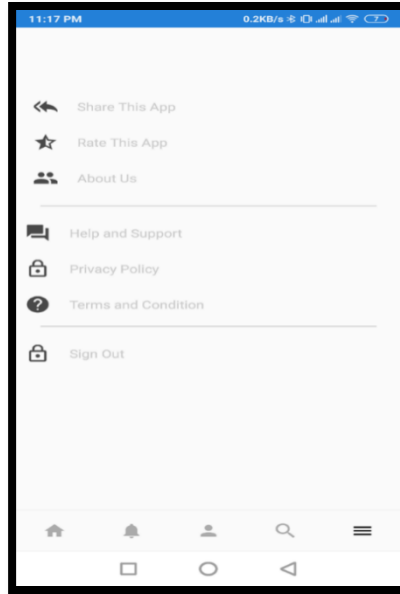


Figure 4.7: More Page.

In our application, we provide the messaging feature. A user can communicate with other users through our chat feature.

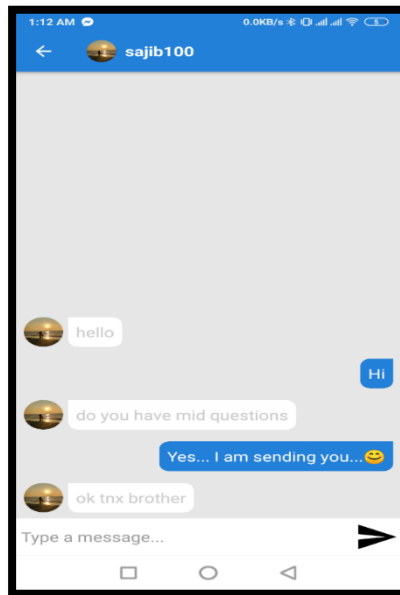


Figure 4.8: Chat Page.

4.2 Back-end design

Back end can be interacted by programmers. Only programmers can be see and edit the data. User can't interact with the back end design. For our project purpose, we need to store a lot of data. So, we create database for our project. We chose "Firebase" for database. Firebase is essentially a real time database and very easy to use. We use the authentication, real time database and storage service from the firebase services.

Firebase generate a unique value for each user. And we saved all the user's data under the user's unique key. For storing images we use firebase storage service.

4.3 Interaction Design & UX

The design of framework is an essential part of the enormous user experience plan framework. Interaction design describes the relationship between the application and the user because it is only the way a framework collaborates and a client. User Experience (UX) plan is the way the user's choice is important. It is the configured way in which data should be displayed within such a framework to enable the client to appreciate the data in the best possible way, but this is also intermittently thought to be the disparate train of "data arrangement."

A few climaxes can ally with the customer & operation in our application. We use help & support that allows any customer to contact us if the user faces any problems, obligations or disadvantages. Our application is based on data. Where the user can upload any file from our application or download any file.

We try our best to design a straightforward and uncomplicated lightweight application for the best User Experience (UX) framework. Our application is too basic for a better customer experience, affection & beheading. To make our application smoother and faster, we use fragment. We expected the user to be assured & complemented by our structure data.

4.4 Implementation Requirements

We use different kinds of tools to implement our project. This gives us a lot of development feature. To develop our android project, we use android studio. Android Studio is now the most popular IDE for Android development. We use Java as the programming language and XML file to design.

Android Studio is a great android development IDE. It gives us more developmental features. We can write code in android studio easily and quickly. Google is developing Android Studio and they do it as an open source. So, using it makes it easier. We're using the latest version of Android 3.3.2. And, Our API level for the project is API-28.

For the testing purpose, we could use emulator or any android phone as real device. [5] An emulator is hardware or software that enables one computer system (called the host) to behave like another computer system (called the guest). An emulator typically enables the host system to run software or use peripheral devices designed for the guest system. We can use emulator to get different type of android devices flavor. But here, for testing, we use some real devices. Sometimes in different devices, the app acts differently. So, it is very important to test our application in different devices.

Here, we use some android dependency that makes to develop our application easier. The dependency makes our code smaller. It allows for less overall code when attempting to refer to services that you share across classes, and generally nicely decouples components.

```

implementation 'com.android.support:support-v4:28.0.0'
implementation 'com.android.support:design:28.0.0'
implementation 'com.android.support.constraint:constraint-layout:1.1.3'
implementation 'com.google.firebase:firebase-auth:16.1.0'
implementation 'com.google.firebase:firebase-core:16.0.7'
implementation 'com.google.firebase:firebase-database:16.1.0'
implementation 'com.google.firebase:firebase-storage:16.1.0'
testImplementation 'junit:junit:4.12'
androidTestImplementation 'com.android.support.test:runner:1.0.2'
androidTestImplementation 'com.android.support.test.espresso:espresso-core:3.0.2'
// circle imageView
implementation 'de.hdodenhof:circleimageview:3.0.0'
// retrieve image
implementation 'com.github.bumptech.glide:glide:4.9.0'
annotationProcessor 'com.github.bumptech.glide:compiler:4.9.0'
//image cropper
implementation 'com.theartofdev.edmodo:android-image-cropper:2.7.0'

implementation 'com.android.support:cardview-v7:28.0.0'
//progressBar
implementation 'com.github.ybq:Android-SpinKit:1.2.0'
//for google SignIn
implementation 'com.google.android.gms:play-services-auth:16.0.1'
//facebook login
implementation 'com.facebook.android:facebook-login:4.41.0'

//add these libraries
implementation 'com.squareup.retrofit2:retrofit:2.4.0'

```

Figure 4.9: Firebase Dependency.

The most popular real-time database is the Firebase database. It gives us a lot of features to make our app more efficient. We use some firebase database services. These are authentication, real time database, and service for storage. We use the free firebase database service. So, it is providing us with a limited service. It gives us 1 GB storage for the storage of our database.

CHAPTER 05

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

In this section, we describe our project's database. A database is a systematic collection of data. Database support storage and manipulation of data. We use firebase for our project database. Firebase is a real-time database. [6] Data stored as JSON in the firebase database and synchronized to each connected client in real time. When we build cross-platform applications with iOS, Android, and JavaScript SDKs, all of all for our clients share one instance of the real-time database and receive updates with the latest data automatically.

In our database there are eight entity in our database. Which are connected with one another with one to one or many to many or different type of relationship. This relationship makes our application to work effectively. In our project one user can add many post. One post has many notification also many responses but one user can do one response. Many user receive many notifications. One user can follow many user. One user can follow many user. One user has many chatlist member & one user can many chat option.

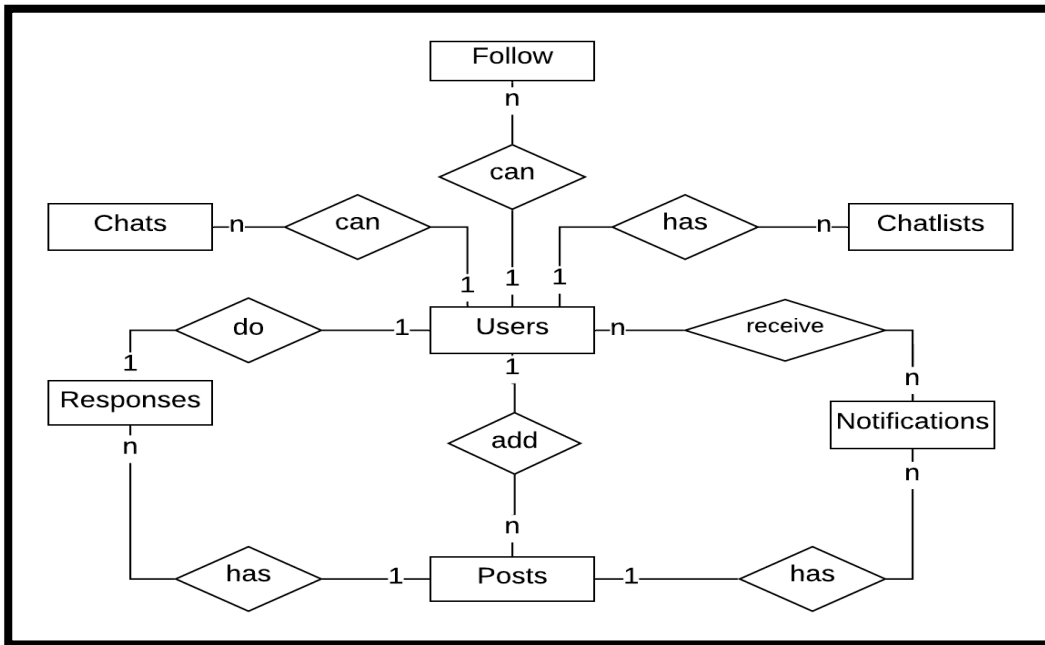
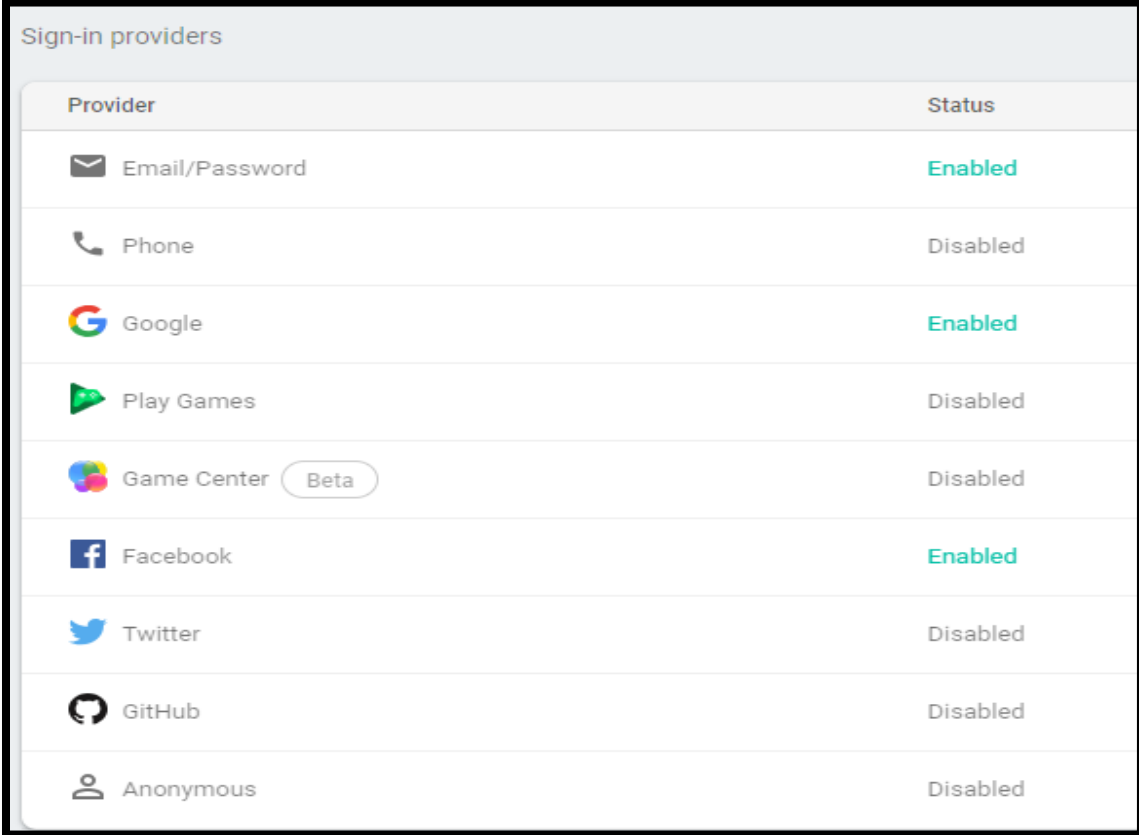


Figure 5.1: ER Diagram.

[7] Firebase authentication provides backend services, easy to use SDKs, and ready-made UI libraries to authenticate users to our app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more.

Here we use email, google and Facebook authentication supports in our project. Through that, a user can easily authenticate in our application.












Provider	Status
 Email/Password	Enabled
 Phone	Disabled
 Google	Enabled
 Play Games	Disabled
 Game Center Beta	Disabled
 Facebook	Enabled
 Twitter	Disabled
 GitHub	Disabled
 Anonymous	Disabled

Figure 5.2: Firebase Sign-up providers.

Firestore database provides us a unique id for each user. The information is stored in each unique table through the unique id. In Figure 5.2 We can see the real-time database of our project.

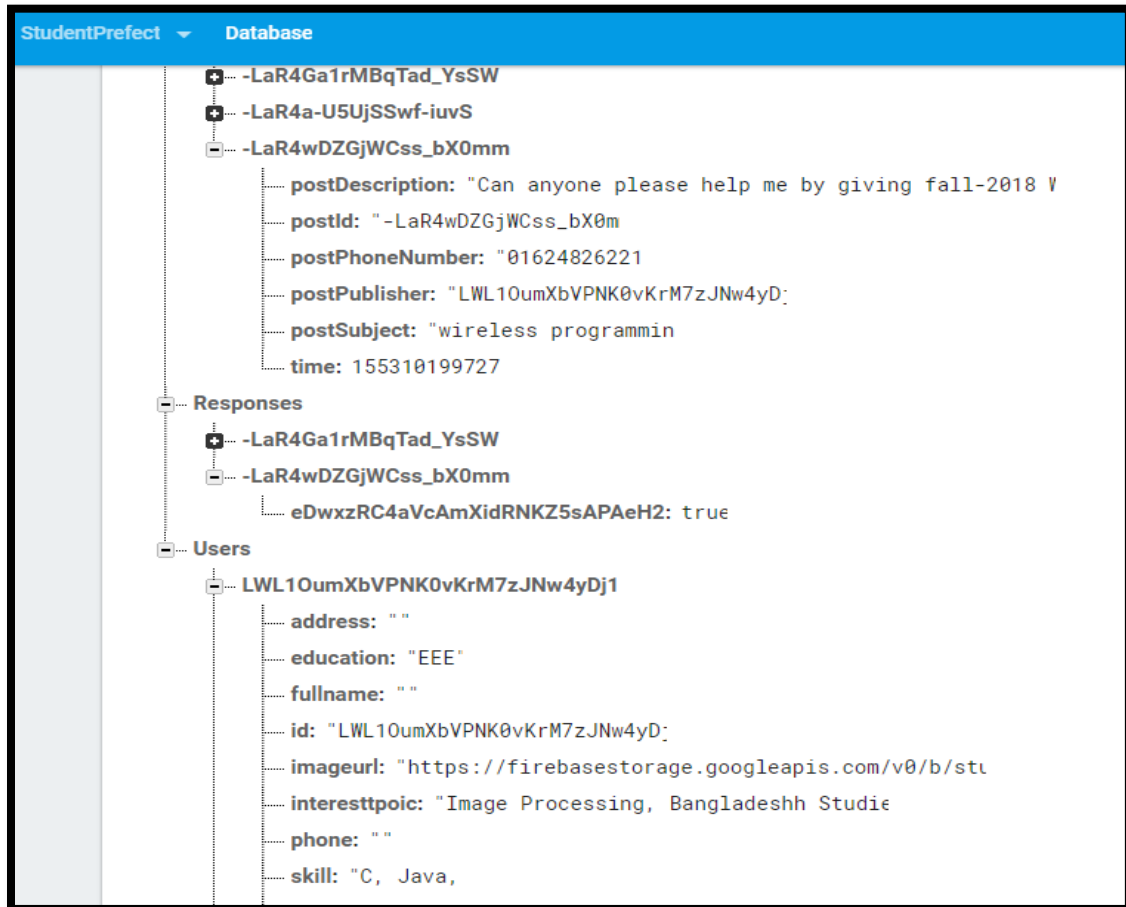


Figure 5.3: Data from Firebase Realtime database.

5.2 Implementation of Front-end design

User mainly interacts with the front-end design. So, it is important to make the front-end design attractive. We are trying to make our front end design user-friendly so that the application can be used effectively by a user. Upon completion of the registration section, a user can login and use the application.

A user must need to give some basic information in setup page to enter the next step. Then a user will able to add a request post or response other's request posts. A user can

also able to comment, report and share the post. And User can be edit and delete his own post. A user can search for other users and able to follow them.

5.3 Implement of Interaction

We are developing our application to improve our system of education. And students are our main target users. We are trying to make our application user-friendly. We try to simplify and smooth our application so that the application responses quickly. Instead of Android activity, we use fragment that can make the app simple. We're trying to use our understandable icons to make it easy to use. Our expectation is that we will receive good user feedback.

5.4 Testing Implementation and Results

A test case is a set of conditions or variables under which a tester will determine whether a test system meets or works properly. The process of developing test cases can also help to identify issues in an application's requirements or design. Here In table 5.1, shown that the Test Case Table for DIU Student Prefect App.

Table 5.1: Test case table for Student Prefect App

No	Tested Case	Test Input	Expected Outcome	Actual Outcome	Result	Tested on
1	Display the login page	Tested on different real android devices- <ul style="list-style-type: none"> • MI Note 5 Pro • MI 4X • Nokia 6 	To display the page successfully	Displayed the page successfully	Passed	25 January, 2019
2	Login	Valid email and Password	To logged in successfully	Login Successful	Passed	28 January, 2019

3	Unique Username	Provided a username that is already exist	To display an error message	Showed the error message	Passed	5 February, 2019
4	Add help post	Provided the description and subject for Add help post	To display the post on the home page	Displayed the post on home page.	Passed	10 February, 2019
5	Message	Send a message to another user	Message will be sent successfully	Send the message successfully	Passed	25 February, 2019
6	Follow a user	Press the follow button from a user profile	To followed a user successfully	Follow a user successfully	Passed	26 February, 2019
7	Delete a user own post	Press the delete button of a help post	To delete the help post successfully	Deleted the help post	Passed	3 March, 2019

CHAPTER 06

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The application was implemented successfully. Overall features and functionalities work fine after connecting to the application via the firebase server. We believe that our application will be helpful for students. And Student can solve their problem by using the application. And it makes a special role to create a big community among student. We try to our best to make the front end design nicely that student can easily use the application. This project is intended to describe all the features and procedures followed during the application development. We describe all those features and documentation in the paper that we used in our applications.

6.2 Scope for Future Development

Google map service will be integrated into our project in the future. A user can add a request post with his / her location at that time. And search with his / her location for a student prefect as well. The application will be more efficient at that time.

We will gather data from the database and try to find out which subjects or topics are confusing for students by data mining. And we will give the report to the management of the University to make more effort to solve the problems of those subjects or topics.

Students will be able to upload pdf files to our application in the future. Through which, students can share their e-books for others.

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APPENDICES

Appendix A: Project Reflection

We began our journey from spring'18 to implement our Android Application. Our main focus is on making our project a user friendly interface. Our project's main feature is building reciprocal learning in our country. Our students are lacking due to lack of class lectures, lack of concentration and feel hesitant to contact the teacher. As a result, reciprocal learning among students can remove this problem.

People are more likely to use the smartphone in their practical lives nowadays. Our mobile application based on Android provides them with a service in their study life. First we build a model of our application to improve this application, then we develop our application step by step. Our application mainly provides students with service. It will reduce their lack of education and increase their ability. Students can share their problem with others where the skilled person is sufficient to persuade the topics. Basically, with this application we try to make a student community to share their skills, knowledge, and educational tools.

We believe that our application in our education sector will be a positive & effective one.

PLAGIARISM REPORT

<p>Turnitin Originality Report</p> <p>Processed on: 02-Apr-2019 10:17 +06 ID: 1104286394 Word Count: 6450 Submitted: 1</p> <p>DIU STUDENT PREFECT By Md. Golam Rabby Jim</p>		<table border="1"> <tr> <td>Similarity Index</td> <td>17%</td> </tr> </table>	Similarity Index	17%	<p>Similarity by Source</p> <p>Internet Sources: 13% Publications: 0% Student Papers: 16%</p>
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<p>1% match (student papers from 01-Apr-2019) Class: Spring 2019 Assignment: Students report Spring 2019 Paper ID: 1103696359</p>
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<p>1% match (Internet from 06-Sep-2018) http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/20.500.11948/2861/Farming_information_Support_system.docx.pdf?sequence=1</p>
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<p>1% match (student papers from 01-Apr-2019) Class: Spring 2019 Assignment: Spring 2019 (ZH) Paper ID: 1103719223</p>
<p>1% match (student papers from 02-Apr-2019) Class: Spring 2019 Assignment: sample Paper ID: 1103981503</p>
<p>1% match (Internet from 16-Feb-2018) https://0-firebase-google-com.catalog.uoc.edu/docs/auth/</p>
<p>1% match (student papers from 21-Jul-2016) Submitted to University of Salford on 2016-07-21</p>
<p>1% match (Internet from 10-Feb-2019) https://kissflow.com/bpm/business-process-modeling/</p>
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