DIU EXCHANGE

BY

NADERA AKTER SHIMU
ID: 161-15-6986

NAIMA ISLAM
ID: 161-15-7264

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

Supervised By

Subroto nag pinku
Lecturer
Department of CSE
Daffodil International University

Co-Supervised By

Ferdouse Ahmed Foysal
Lecturer
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Project titled "DIU Exchange", submitted by Nadera Akter Shimu, ID No: 161-15-6986, Naima Islam ID No: 161-15-7264 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 5th December 2019.

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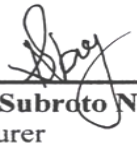

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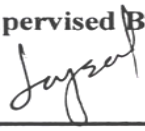

Ferdouse Ahmed Foysal
Lecturer
Department of CSE
Daffodil International University

Submitted by:

Nadera Akter Shimu

Nadera Akter Shimu
ID: 161-15-6986
Department of CSE
Daffodil International University

Naima Islam

Naima Islam
ID: 161-15-7264
Department of CSE
Daffodil International University

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ABSTRACT

This report is about a diu exchange. Here student of a university will be able to post for any kind of help and they can post for any books or tickets or sheet exchange. In Dhaka there have various type of university and lot's of students. We are creating the apps thinking about the students. Day by day students are increasing. So we are creating our apps think about the situation. We use firebase for storing data as it is very fast and reliable and easy to use. This is an user based application where user can create account using his/her email and password. Their student information show up anyone. Students can easily update and delete in his/her student information. We use Firebase Realtime Database to store and load to our user information, and post as well. We implemented different methods, used different libraries to make this application as easy as possible. User can mail or massage on every post. User can see his/her own posts, profile and can delete post as well. In diu exchange apps will make students life easier. Here user can post for any kind of help. Then any person can see the post by this apps. This is such a platform where students can post any type of help within the same university. So this app is very helpfull for the university student.

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CHAPTER 1
Introduction

1.1 Introduction

DIU Exchange is an android based mobile application where people can post, send mail, send massage of any kind of problems, and they can post for any tickets, books and sheets exchange and sell.This app reducing the any kind of problem within the same university students.

1.2 Motivation

Bangladesh is a developing country. Everyday many students come to Dhaka to study. Most of the students from a university comes from outside Dhaka. So they go to their home on a university vacation. But for any reasons they can not go home, so their ticket was lost. Many times we do not need many books. Those we went to sell, but we cannot sell due to the lack of time. Similarly we do not need many sheet. Also many times we have many problems at university, but immediately there is no help available. As we felt these problem we wanted to solve these for us at 1st stage. So our practical problem make us motivated for the app.

1.3 Objectives

1.To make a platform where students can easily post for any kind of help.
2.To help students to get the problems easily and can solve the problems.
3.To make out life easier.
4.To reduce the problems.
5.Save our time.

1.4 Expected Outcome

1. We went to lunch this application in the market.
2. Students will use it for reducing the any kind of problems.
3. Make sure all the people use it.
4. Reduce the time of students for finding problems.

1.5 Report Layout

Create our report with all the details and suitable information. We have completed our report as follows:

Chapter 1: In this chapter, we discuss about motivation, objectives and expected outcomes of our project.

Chapter 2: Here we talk about introduction, related works, comparative studies, scope of the problems. From this chapter we discuss about background of our project.

Chapter 3: We composed here about business process modeling, requirement collection and analysis. Here we have shown use case modeling and description, logical data model and design requirement of our project.

Chapter 4: Here we give of font end design, back end design and implementation requirement of our project.

Chapter 5: We specified database implementation, font end design implementation, implementation of interaction and also testing implementation of our project.

Chapter 6: We conversed about discussion and conclusion. We also provided our scope for future development our project.

CHAPTER 2
Background

2.1 Introduction

Before started our project we completed many research in field level. We talk to many type of people for this project. They give a positive review. After completing our research on field level we started our work.

2.2 Related Works

In the present time there have some similar work in the market. Few of them are working well like ticket exchange, books exchange etc. All the apps that is available in the market is a based on one topic. But in our app all the topics are together at the same time. So our app is much better then the market's app. Few of them are doing well. But these are simple and not well organized. We see that their apps are look like poor UI design and also their user experience not good. That's why we try to provide a better user experience and also UI design from them.

2.3 Comparative Studies

Most of the apps are very simple. Comparison among these apps become studied well. Even we see that some apps are provide bad user experience and poor UI design also. But in our apps provide user friendly UI design. We have unique features which is not available in any other existent apps such as phone number authentication, graphical view.

2.4 Scope of the Problem

Building such type of apps we need to do many field work. We have to ensure have people will use it, know it properly, but in 1st stage it's really difficult for to ensure the use of the apps.

2.5 Challenges

In this project we have to face lot's of problem. First we have to face problem in several sector. When we work on Admin panel, we have to face a lot. In flatten data structure section we have to face most difficulties. An apps quality and representation depend on UX design and related to others graphics design. So we felt enough challenge on design section. We focused on user friendly design for user. In notification section we have to face huge problem to control the structure.

CHAPTER 3

Requirement Specification

3.1 Business Process Modeling

This is the main structure of "DIU EXCHANGE" where almost everything can be seen here. Students can login, post for any kind of help like ticket, book, sheet, emergency help. When anybody will give request for an account a code will go to the list view where can see also other posts of different users. In this apps we can find out home, activities, schedule, profile etc.

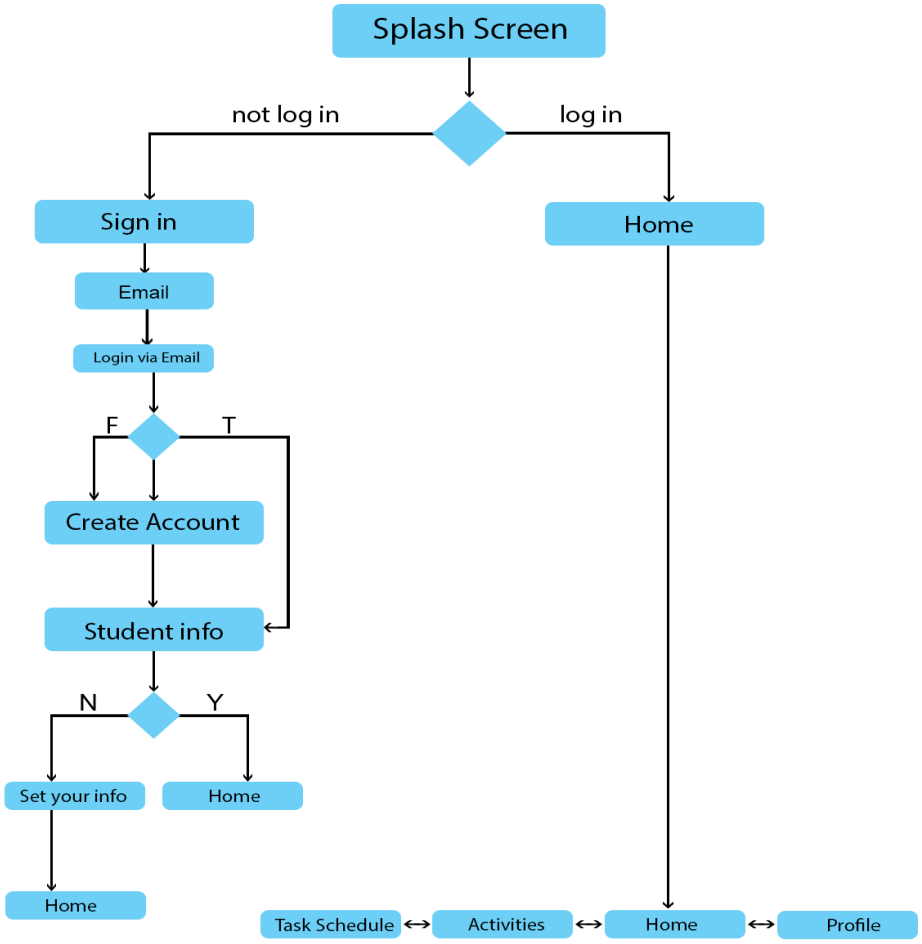

Fig 3.1: Business process modeling

3.2 Requirement Collection and Analysis

To build the project we needed android studio software. At the same time we have to use firebase for secure database and server. In language section we have to use java. Moreover we uses all of these in a mobile. After completing our apps we analyze that via students. Based on student review we changed few think like notification section and few UX design part.

3.3 Use Case Modeling and Description

In our app there is only one actor which is User. So user can access all the options, features available in the application. User can register via his/her phone number. After verifying user can enter the application. User can logout if he/she wants. User also able to change his profile picture anytime but can't change his phone number. User can post, and can send email to the students. In navigation bar user can access the profile section, my post section (in this section the user only see his/her own posts), home section (in this section all post will show up and will add new post when any user do a post) and log out option. After log out, user need to login for accessing the application and it will complete by verifying the registered number. Every time user logged out he/she need to login via phone number. User can also update and delete student information.

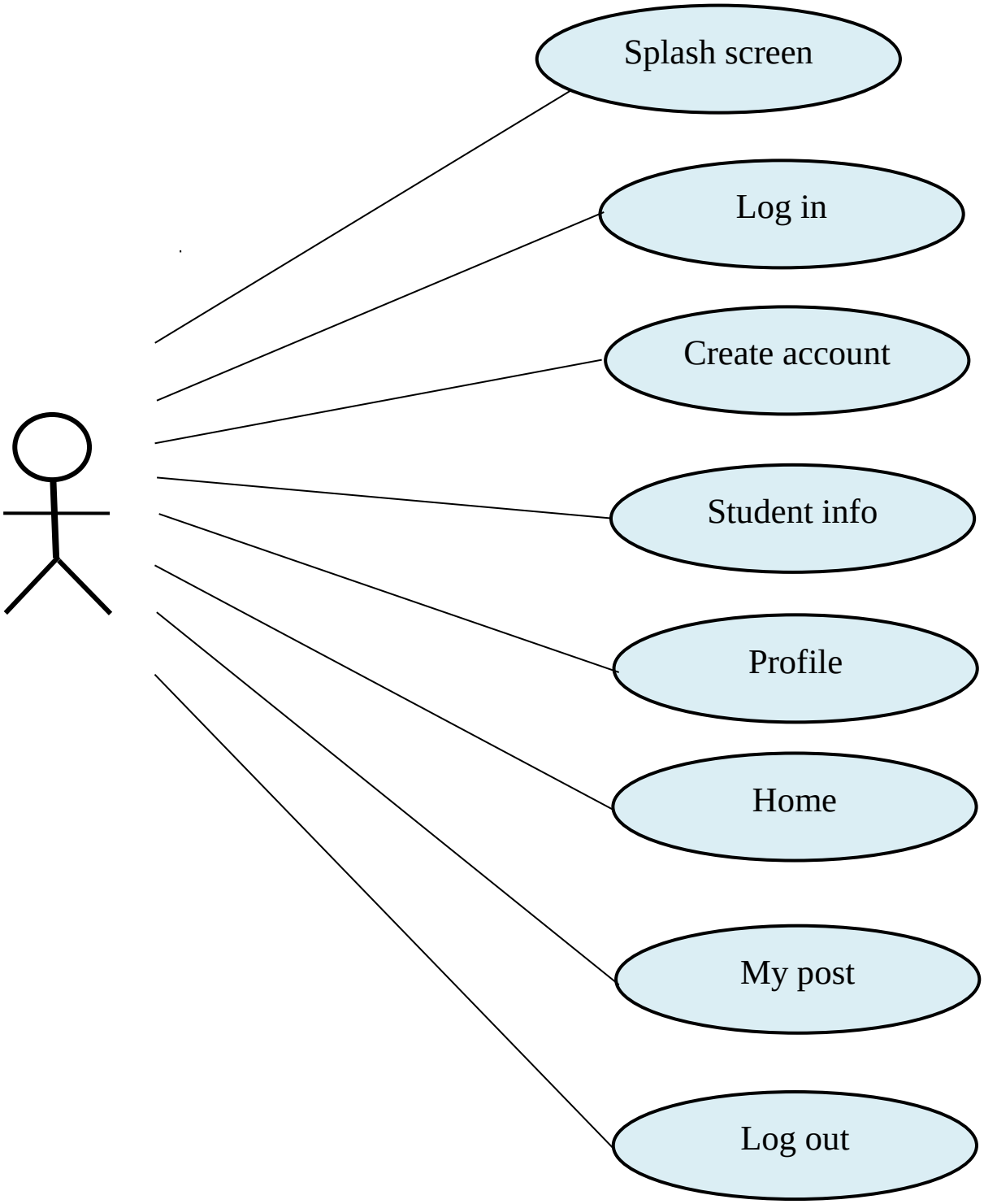

Fig 3.3: use case diagram

3.4 Logical Data Model

In logical data model part all data will be connect to the database. Data will transfer from database to android version. Apps will take all data from database. Apps security system is good enough for user.

3.5 Design Requirements

To complete the design we required user interface design skill. We need proper database design and modeling. We need to take step in design sector. Design should be user friendly. We use XML to design the user interface.

CHAPTER 4

Design Specification

4.1 Front-end Design

We make a front end design which is easier for user to handle. Here user will get various type of taste. We make the apps for all type of user who will be able to control the apps easily. We use XML for front-end design.

4.1.1: Splash screen

This is the splash screen of DIU exchange apps. When member will open the apps they will see it.

Fig 4.1.1: Splash screen

4.1.2: Create account

User can register using name, email address, password and confirm password. If all information is OK then registration can be done.

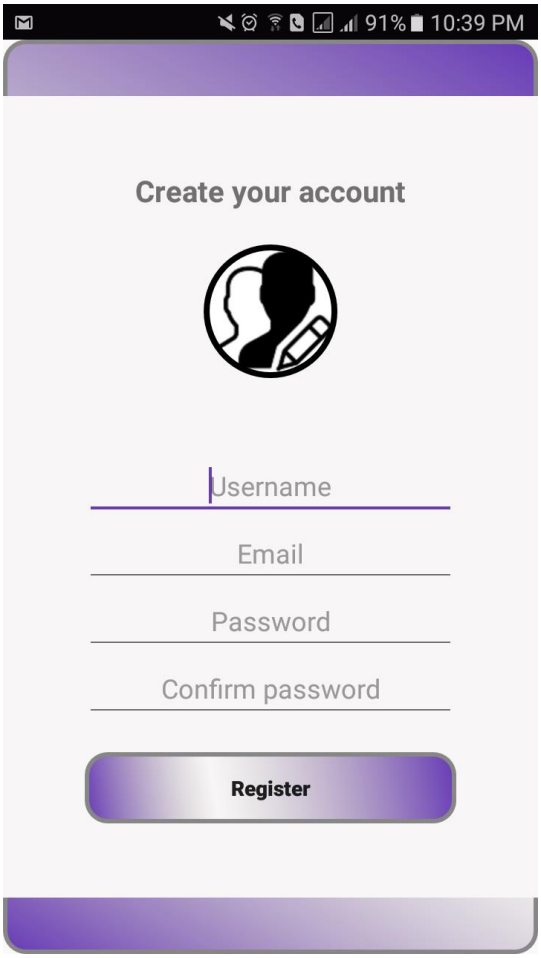

Fig 4.1.2: Create account

4.1.3: Log in

User can login to the app using authenticated email address and password. After doing a successful log in then he ready go the next activity.

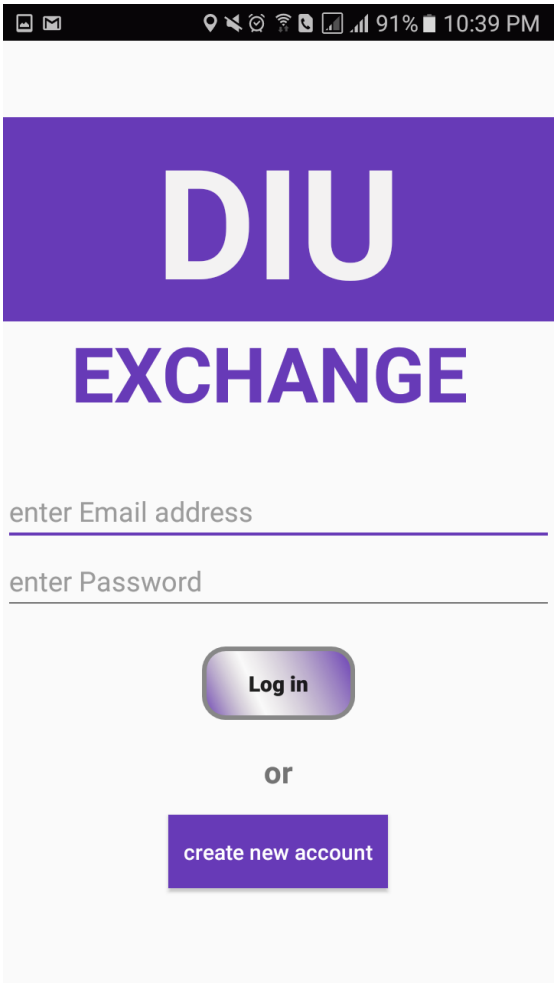

Fig 4.1.3 : Log in

4.1.4: Student information

User can save his/her information using name, id, department, batch no, semester, and section. And user can set his/her profile picture. User can easily update and delete in his/her student information.

Fig 4.1.4 : Student information

4.1.5: Home activity

In home screen we add a card view with 4 items where user can filter the post in 4 categories. When user select the specific category our app retrieve the data from database and show the results in Post Feed screen.

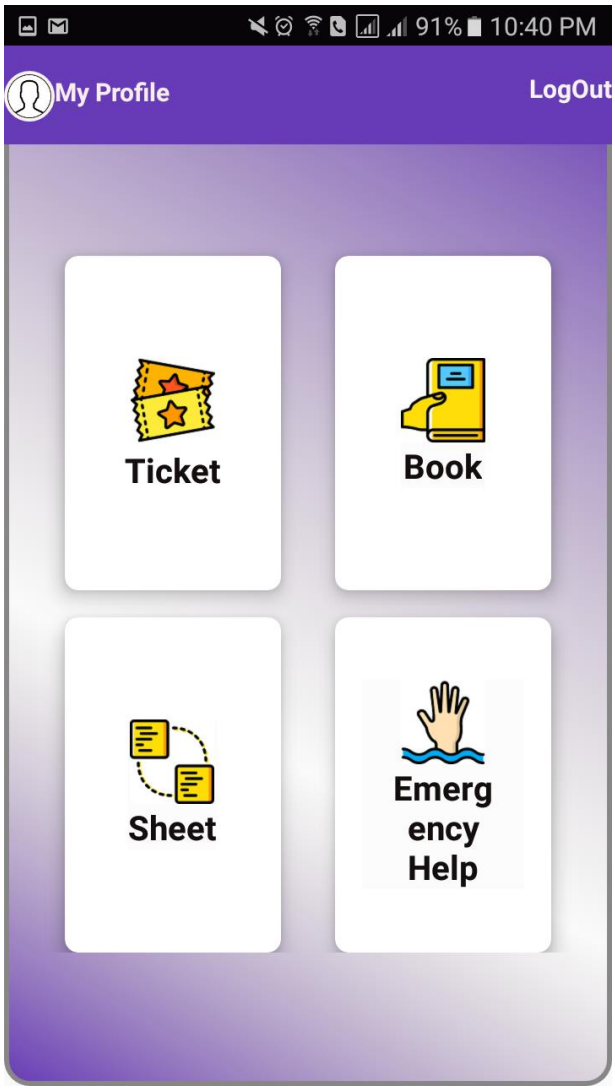

Fig 4.1.5 : Home activity

4.1.6: Ticket

If we want to exchange or sale the ticket we will need to fill up this information. Here's the ticket information is ticket type, ticket quantity, vehicle name, ticket seat no, ticket time to travel, ticket date, ticket price. Then we can post for the ticket exchange or sale.

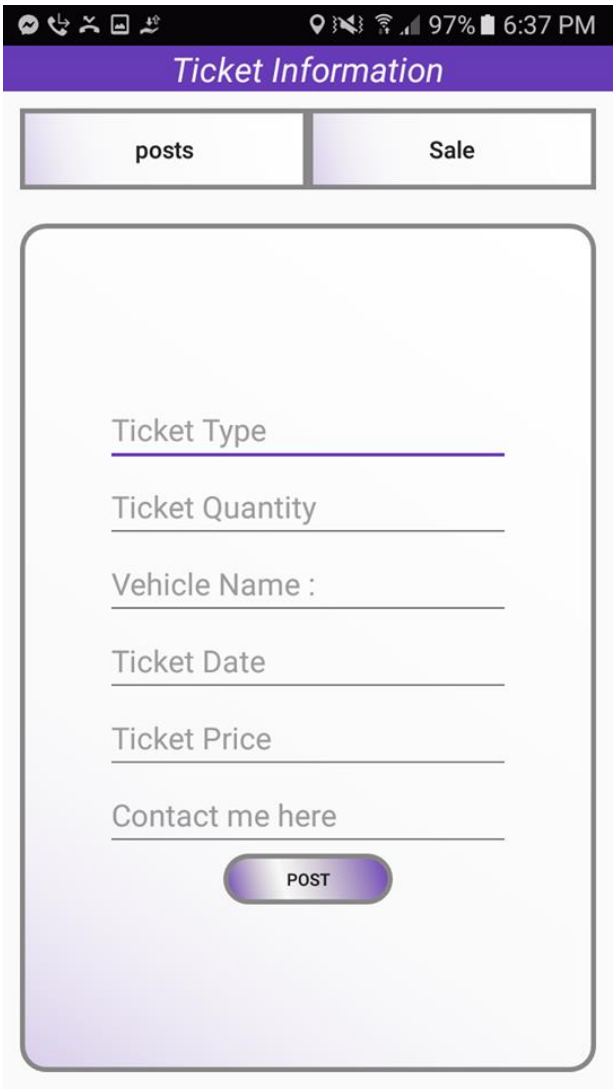

Fig 4.1.6 : Ticket

4.1.7: Ticket post button

This layout will be visible when we click the post button.

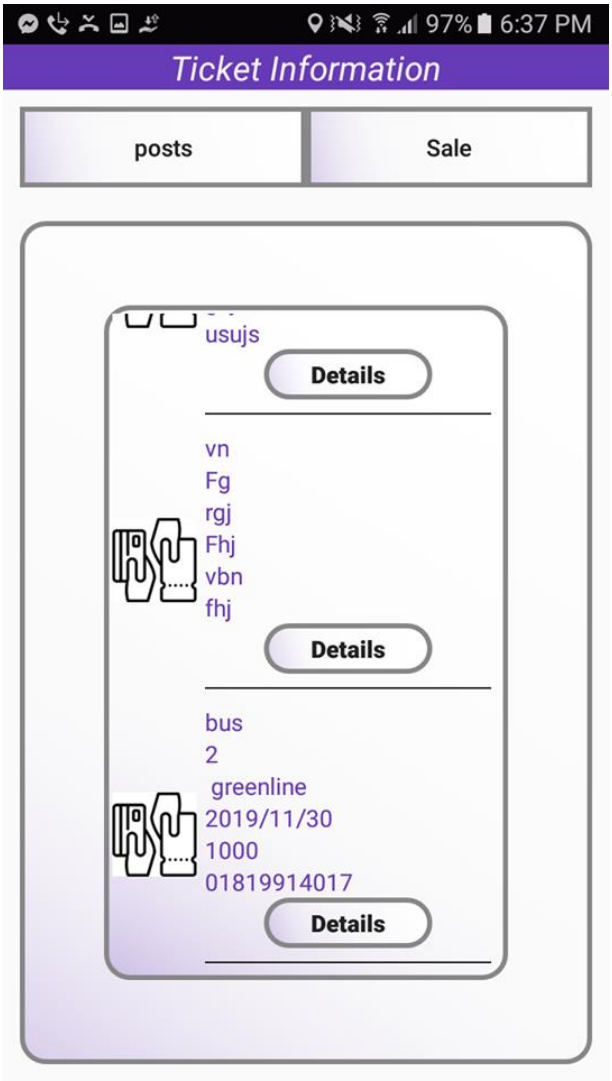

Fig 4.1.7: Ticket post button

4.1.8: Book

If we want to exchange or sale the books we will need to fill up this information. Here's the book information is book name, quantity, writer name, edition, price. Then we can post for the book exchange or sale.

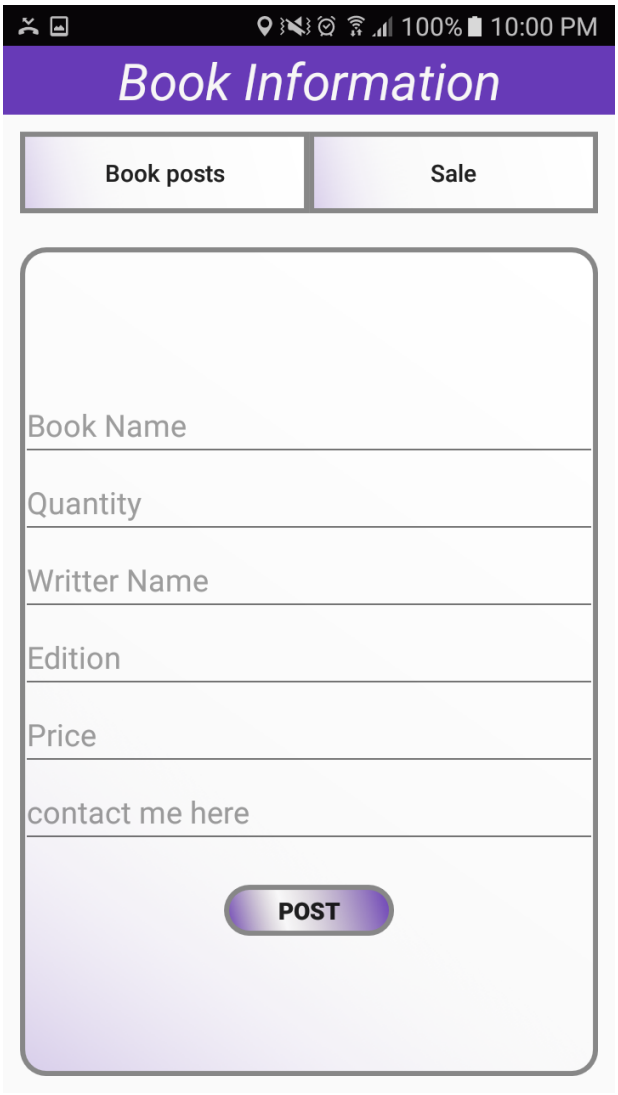

Fig 4.1.8 : Book information

4.1.9: Post

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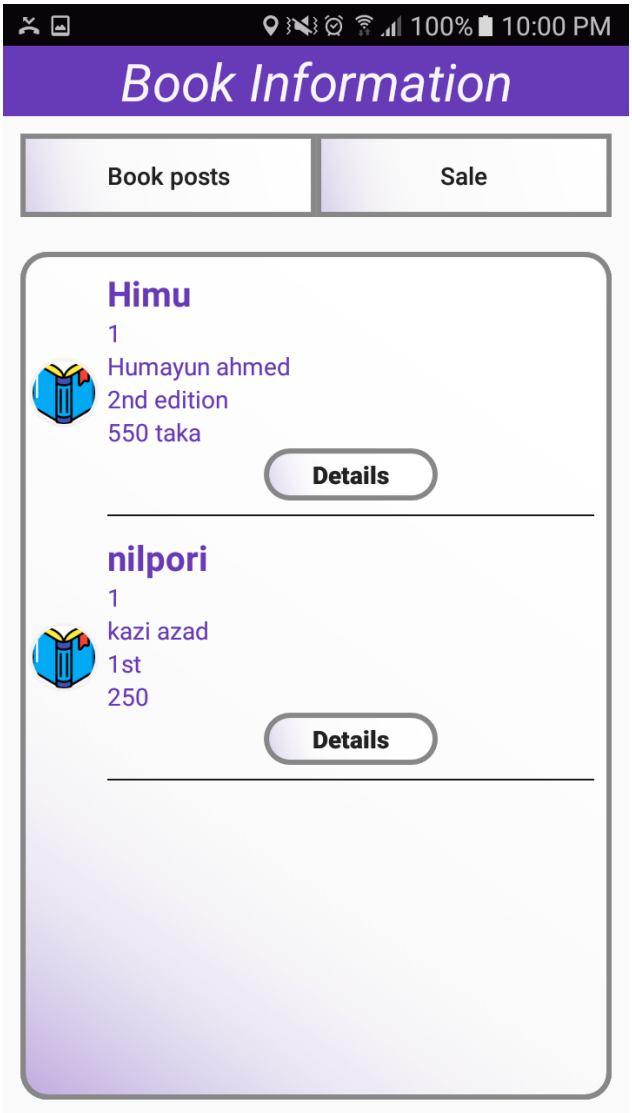

Figure 4.1.9: post

4.1.10: Details

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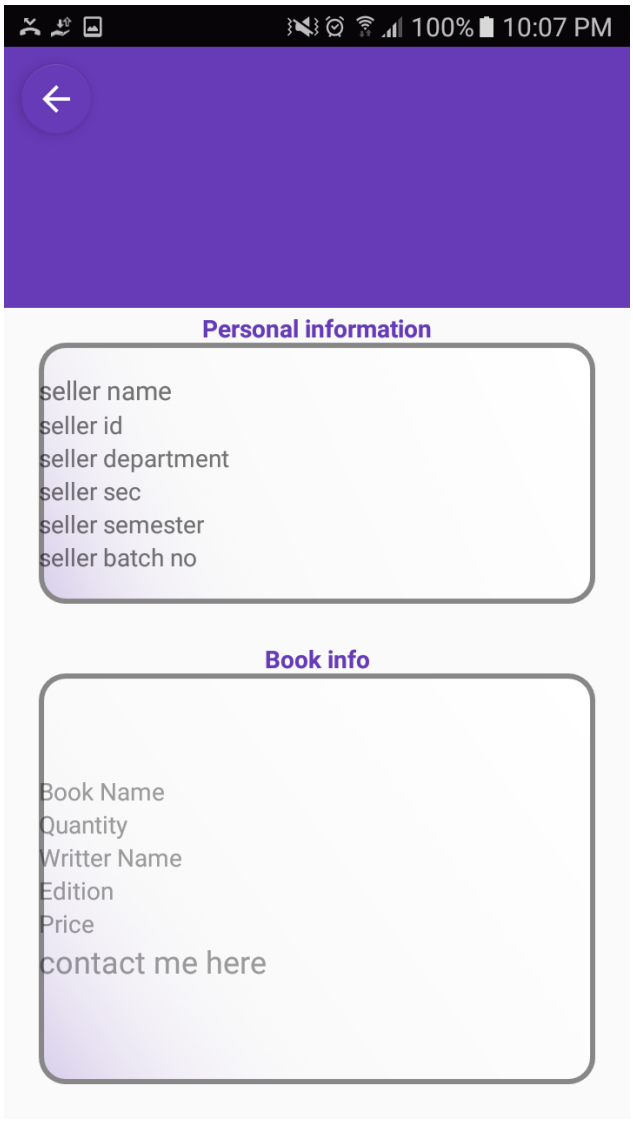

Fig 4.1.10: Details

4.1.11: Sheet

If we want to exchange or sale the sheet we will need to fill up this information. Here's the sheet information is sheet name, quantity, topic, price. Then we can post for the book exchange or sale.

Fig 4.1.11 : Sheet information

4.1.12: Sheet post button

This layout will be visible when we click the post button.

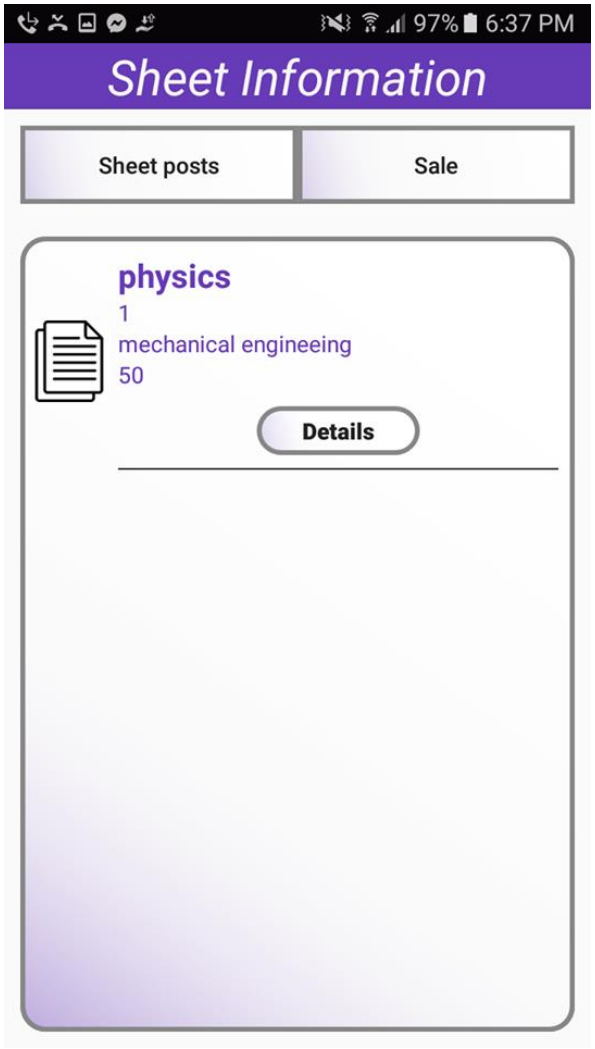

Fig 4.1.12: Sheet post button

4.1.13: Emergency help

If someone has a problem, they can post here. Help type, quantity, build no, floor, all the information needed to post for the any kind of help.

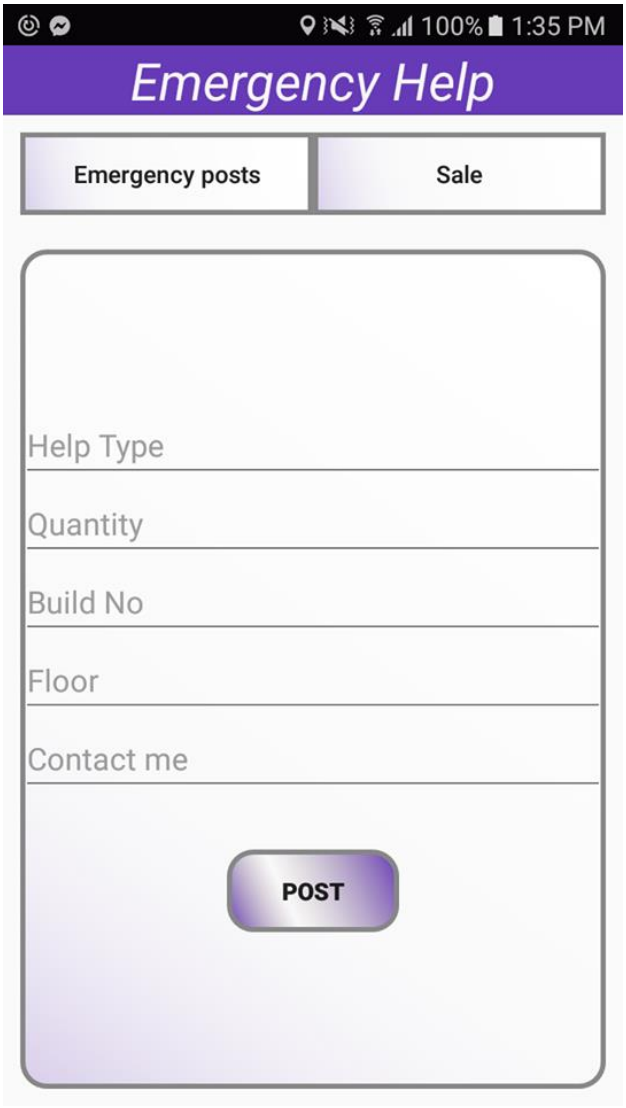

Fig 4.1.13 : Emergency help

4.1.14: Emergency help post button

This layout will be visible when we click the post button.

4.1.14: Emergency help post button

4.2 Back-end Design

We use java for back-end design. All of our back-end code is written by java. We use Firebase authentication to register user. We can ensure that our back-end become enough strong which will secure student data. Firebase real time database become used for stored data which is Cloud hosted database become use for store data. This server is much secure. We have also use firebase for user authentication.

4.3 Interaction Design and UX

UX design is very important for any application. We made our UX design as simple as we can. When we research on various site we could found out that more engagement depend on simple UX design. Because the success of application depends on user choices. If we can't give user what they need, what they went, then user don't use our application. So we made it simple thinking about people requirement and mind. User satisfaction is important to us.

4.4 Implementation Requirements

For making this application we need to learn many things. For applying some feature faces lot problems. To solve this problem we learn a lot. For proper implementation we had to work a lot. We had to learn various type of programming language java. We had to think about the UX design. We needed to huge time to make a proper and simple design. We use JDK, android studio, firebase real-time database and firebase server.

CHAPTER 5
Implementation and Testing

5.1 Implementation of Database

We gave our best effort on database because an apps security and handling depend on its database. We make our database using google firebase database which is fast to response. We hope that we make a secure database. Gradually we will make it more secure.

5.2 Implementation of Front-end Design

The frond-end has been designed using XML. In front end design we basically focused on UI design. Here we use UI design tools. We use SDK s to access device characters. We also use Cross-platform accommodations.

5.2.1 Manifest

Each android should have manifest file. It's give necessary information to android system. It's works as a unique identifier and it describe the component of the application. The manifest declare the permission.

5.2.2 Permission overview

Permission overview represent the privacy. Permission of system must grand to operante for apps. Permission become granted when customer install an apps. Overall its protect the privacy.

5.2.3 Build gradle file

Build gradle file use for Building tool, it also work as build source code. At the same time works as a dependency set.

5.3 Implementation of Interactions

In our project we call all data from database than we transfer it to the apps. For this reason our apps become lighter. In diu exchange user can get post from apps with is basically controlled by students.

5.4 Testing Implementation

After completing at task, we tasted our project and it’s successful. It transfer data property. Our testing result is satisfactory but we will working hard to make it more accurate.

5.5 Test Results and Reports

Test result is 97% which is satisfactory to us. We are hoping that we will make in more satisfactory.

CHAPTER 6

Conclusion and Future Scope

6.1 Discussion and Conclusion

This project will make our life comfortable in university. We have to face many problem in the university because of so many problem. As all most students become so much busy on their different work. So we help any one with this app easily. We can also easily post for any kind of help within the same university. If we do not need a book, we can easily exchange the book, or we can sell the book. Similarly if we do not need a any bus or train ticket, we can easily exchange the ticket, or we can sell the ticket. This app reducing the any kind of problem within the same university. So it is very help full for the university students. As day by day students are increasing, so we hope that our apps will run well. At 1st stage we want to work in our country especially in Dhaka city gradually we want to spread it all over world.

6.2 Scope for Further Developments

We have many scope to develop our project in future. Scope of the project is written below:

1. We will work on international level.
2. We will provide our own security system.
3. We will create our own database system for user.
4. Students of our apps will get opportunity to chat via our apps.

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