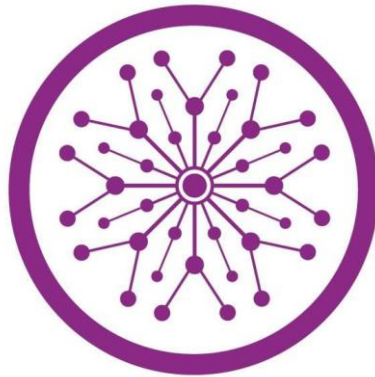


# **E-Preloved-books**

**Final Year Project**

**Session 2019-2021**

A project submitted in partial fulfillment of the degree of  
Master in Information Technology



Department of Information Technology  
Faculty of Computer Science & Information Technology  
The Superior University Lahore

Fall 2021

Type (Nature of project)	[ <input checked="" type="checkbox"/> ] Development    [ <input type="checkbox"/> ] Research    [ <input type="checkbox"/> ] R&D			
Area of specialization	Android Studio			
<b>Project Group Members</b>				
Sr.#	Reg. #	Student Name	Email ID	*Signature
(i)	MITM-f19-024	Rana Faisal Nadeem	Mitm-f19-024@superior.edu.pk	
(ii)	MITM-f19-027	Hamd Aamir	Mitm-f19-027@superior.edu.pk	
(iii)	MITM-f19-034	Farhaj Ahmed	Mitm-f19-034@superior.edu.pk	

\*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others

### Plagiarism Free Certificate

This is to certify that, I **Rana Faisal Nadeem** S/D of **Rana Nadeem Azhar** group leader of FYP under registration no **MITM-f19-024** at Information Technology Department, The Superior University, Lahore. I declare that my FYP proposal is checked by my supervisor and the similarity index is \_\_\_\_\_ that is less than 20%, an acceptable limit by HEC. Report is attached herewith as Appendix D.

Date: 13-01-2022      Name of Group Leader: **Rana Faisal Nadeem**      Signature: \_\_\_\_\_

Name of Supervisor: Muhammad Javaid Iqbal

Designation: Lecturer

Signature: \_\_\_\_\_

HOD: Dr. Asad Ali Naqvi

Signature: \_\_\_\_\_

# Project Report

## E-Preloved-Books

### Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
Rana Faisal Nadeem (L) Hamd Aamir Farhaj Ahmed	1.0	5-07-2021	Original Draft	
Rana Faisal Nadeem (L) Hamd Aamir Farhaj Ahmed	2.0		Changes Based on Feedback from Supervisor	
Rana Faisal Nadeem (L) Hamd Aamir Farhaj Ahmed	3.0		Changes Based on Feedback From Faculty	
Rana Faisal Nadeem (L) Hamd Aamir Farhaj Ahmed	4.0		Added Project Plan	
Rana Faisal Nadeem (L) Hamd Aamir Farhaj Ahmed	5.0	10-01-2022	Changes Based on Feedback from Supervisor	

## APPROVAL

---

### PROJECT SUPERVISOR

Comments: \_\_\_\_\_

---

Name: **Muhammad Javaid Iqbal**

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

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### PROJECT MANAGER

Comments: \_\_\_\_\_

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Date: \_\_\_\_\_ Signature: \_\_\_\_\_

### HEAD OF THE DEPARTMENT

Comments: \_\_\_\_\_

---

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

## Dedication

*First of all, we dedicate our project to Allah Almighty*

*And to whom the world owes its existence*

*Muhammad (Peace Be upon Him)*

*This humble effort is dedicated to*

*Our beloved parents who brought us*

*To the level of excellence where we*

*Are studying today looking for most*

*Promising and gleaming future ahead*

*For which they scarified most of the*

*Time of their life*

*&*

*To our respected and genius teachers*

*Who guided us throughout academic career!*

*And all those people*

*Who have remembered us in their prayers!*

*A lot of thanks for all my teachers!*

## Acknowledgements

Above all, I owe much tribute to the Almighty God who gave us a life worth living and I thank Him for giving us the strength to accomplish this project. The success and accomplishment of this project stems from efforts and dedication offered by many individuals whose support was either direct or indirect. I thank all of them for their devotion.

The author would like to express the sincere gratitude to their project advisor **Muhammad Javaid Iqbal** for his vigilant supervision, intellectual guidance, constructive advice and very kind attitude throughout the course of project.

Appreciate to the efforts of all our teachers whose teachings have brought us to this stage of academic zenith.

In the last but not the least, special gratitude with the deepest sense of respects to our parents whose love and affections kept us steep fast and enabled us to attain targets and goals of academic life. The authors are extremely indebted to their brothers and sisters whose constant encouragement provides us with the impetus that was necessary for attaining academic initiatives.

## Executive Summary

We create an android application for selling the books through internet. The main aim of this application is to reduce the manual work of the people. In this application all details and records are maintained database software. Books names and books prices are displayed in the application. Whenever we need data, we can easily access the database to retrieve the data that are already stored at anywhere in the world. The prices will be updated weekly. The records are frequently updated by the admin of the application. It provides a simple user interface to the users. The working method of users is designed very simple. The prices will be updated periodically. The updating of prices is very easy in this application. Using of this application user can view the book prices at anywhere. The application needs one-time updates per week. The simple clicking options improve the interface of the app. It shows some categories of the books to the users. User can view the categories of the books like university, school, college. Moreover, we can add the books in categories, change prices, add and remove different type of books according to the availability as if we expand our business. The price of the books is periodically updated by the admin or head of local market members.

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# Chapter 1

## **Introduction**

# Chapter 1: Introduction

We create an android application for monitoring the books through internet. The main aim of this application is to reduce the manual work of the people. In this application all details and records are maintained database software. Book names and book prices are displayed in the application. Whenever we need data, we can easily access the database to retrieve the data that are already stored at anywhere in the world. The prices will be updated periodically weekly. The records are frequently updated by the admin of the application. It provides simple user interface to the users. The working method of users is designed very simple. The retrieval of book prices is very fast in this application and it also easy to the users. It reduces the manual work of the market members. The users get quick update about the prices of books in the market. The prices will be updated periodically. The updating of prices is very easy in this application. Using of this application user can view the book prices at anywhere. The application needs one-time updates per week. The simple clicking options improve the interface of the app.

## 1.1 Background

- There are many E-book apps in Pakistan which do not use a proper management system to save their data and so far, no such app works in Pakistan. They still don't have any old books.
- With this app, everyone will be able to download their own choice books at home on their mobile or laptop. The world is becoming more and more digitalized each day, the main idea behind is to display all the Books in a mobile app. It is beneficial for both students and teachers and also for book lovers in diseases like corona virus.
- This app is for universities, colleges and for schools use and also for other users. The main information that is being displayed is book name with its price and origin. The project has been implemented in android platform.

- By clicking the user all the information of that book, availability and much more user can view. And user can also categorize according to the requirements. Because we want to give an opportunity for users, we use Java language for development of our application and it's an Android based application.

## 1.2 Motivations and Challenges

- 2 Before there is no android application is available for selling old and new books in market.
- 3 Our team analyzed many apps in Pakistan and derived that they needed serious updating because they still old ways to store their data and use old-fashioned ways to manage their other activities which causes data inconsistency,
- 4 Even if there is an app, it is used by children's not for professional use. Nor are the apps updated, but the same old ways People are tired of using them. We make an official app so that everyone can benefit from the same app.
- 5 Less security for data.
- 6 User can not view prices at anywhere and anytime by using the existing systems.

## 1.3 Goals and Objectives

- 2 The goal of E-book is to save as much old books as possible and to provide suitable platform for users to use so that they can manage their activities more effectively and efficiently.
- 3 E-book is developed keeping the old books of the world in mind because our main objective is to provide supreme customer satisfaction so that our application can reach to as many users as possible.

### General efficiency:

1. To increase efficiency and services to the customers through better application of technology in daily operation.
2. To be able to stand out from competitors in the markets.

## 1.4 Literature Review/Existing Solutions

- 4 There have been many applications and sites available on the internet but they are not designed for professional use and not for old books. In our existing system, all the transaction of books are done manually, so taking more time for a transition like borrowing a book or returning a book and also for searching of books. Another major disadvantage is that preparing the list of books borrowed and the available books borrowed and the available books in the library will take more time, currently a one-day process for verifying all records. So, after conducting the feasibility study we decide to make a computerized library management system and an online book shop.

OUR SOLUTION	PRE-EXISTING SOLUTION
Team E-book will do proper marketing of E-book.	Those apps lack awareness in Pakistan.
Books are According to the Local demand of Pakistan.	Existing E-book apps are not designed for professional users.

## 1.5 Gap Analysis

- 2 There have been many applications and sites available on the internet but they are not designed for the professional users like book lovers and not for teachers of Pakistan and local schools, universities of Pakistan are unaware of such websites that provide subject related online book services. Those online book apps and sites are not that easy to use that's why not many people know about it.

OUR SOLUTION	PRE-EXISTING SOLUTION
Team E-book will do proper marketing of App.	Those apps lack awareness in Pakistan.

E-book is According to the Local demand of Pakistan.	Existing E-book apps are not designed for professional users.
Any user across Pakistan can use it.	Most of them focus on a specific category of books.
Easy to use for everyone.	Not easy to use for non-technical person.

## .6 Proposed Solution

The main purpose of this app to provide easy and faster solution in new style in all the cities.

We create an android application for selling the books through internet.

- The main aim of this application is to reduce the manual work of the people.
- The records are frequently updated by the admin of the application. It provides simple user interface to the users.
- The working method of users are designed very simple.
- The retrieval of books is very fast in this application and it also easy to the users.
- The users get quick update about the prices of books in the market.
- The prices will be updated periodically. The updating of prices is very easy in this application.
- Using of this application user can view the books and prices at anywhere.
- The application needs one-time updates per week.
- The simple clicking options improve the interface of the app.

## 1.7 Project Plan

Table 1: project plan

Phase One	Planning	5-7-2021
Phase Two	Designing phase	14-10-2021
Phase Three	Final Documentation	1-12-2021

Table 2: Activity

ACTIVITY	IMPLEMENTATION TIME			RESPONSIBILITY
	Month 1	Month 2	Month 3	
1.Design and implement training program for project management.	5-07-2021	2	Month 3	Program Manager (PM)
1.1. Conduct needs assessment		18-08-2021		consultant
1.2. Design training modules			17-09-2021	consultant
1.3. Conduct training			27-10-2021	consultant

Table

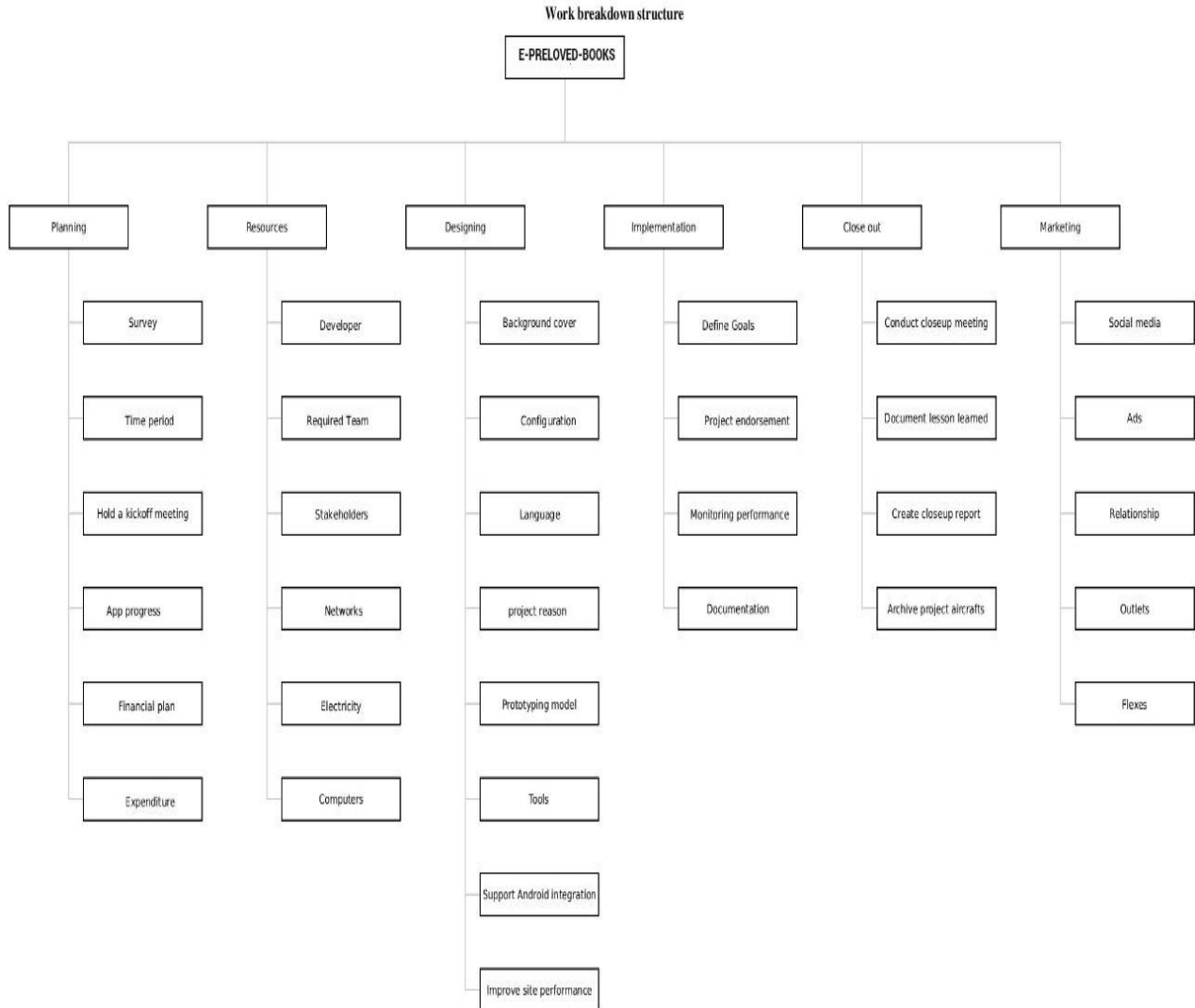
Table 3: Activity

Phases	Budget Description of Work	Start and End Dates
Phase One	Planning	5-07-2021
Phase Two	Design	14-10-2021
Phase Three	Working	1-12-2021
<b>All</b>	<b>Total</b>	<b>PRs 30,000 to 40,000</b>

➤ Our Quality plane will be measured by the following parameters:

- User satisfaction regarding the service
- App Response Time
- User Service Time
- Security of personal Data

## 1.8 Work Breakdown Structure



### Level 1- Overall project Definition

- Highest level entry corresponds to the overall project deliverables e.g. Software Deliverable Project.

### Level 2- Identify and define all deliverables

- Create User Interface.

### Level 3- Decompose deliverables into High-level activities

- What needs to be done to complete the deliverables

### Level 4- Break down activities into more granular with Sub-Activities.

- Break Down to measurable level of detail.

**Scope-Out:**

- User Registration
- User Login
- Home Screen
- Rate Us
- About Us
- Contact us
- My orders
- Log Out

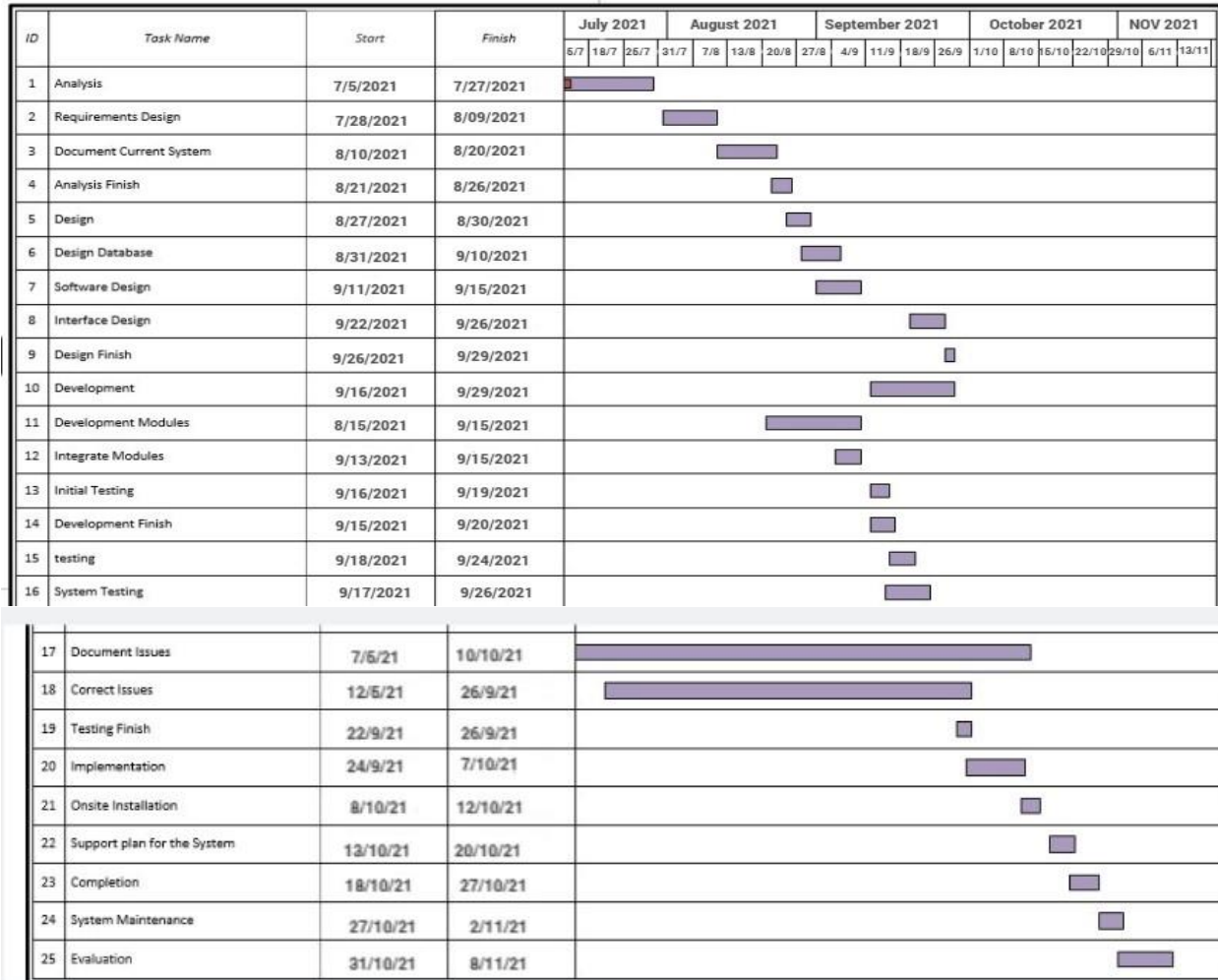
**1.9 Roles & Responsibility Matrix**

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1	Requirement gathering	1	Technical specification Restricted areas Available solutions.	15 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
2	Analysis	2		10 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
3	Architecture	3		20 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
4	Designing	4		15 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed

5	Implementation & development	5		90 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
6	Database Module	6		20 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
7	Final testing	7		5 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed
8	Documentation	8		25 Days	Rana Faisal Nadeem Hamd Aamir Farhaj Ahmed

Table 1: Role &amp; Responsibility Matrix

### 1.9.1 Gantt Chart



### 1.10 Report Outline

#### Report Outline

- The Requirement was gathered in about 15 Days.
- The Documentation was made in a 4months.
- The coding and data were implanted in almost 4 months.
- The Test were made, and errors were debugged after and through the coding period.
- Validation and finalization in added golden days.

# Chapter 2

## **Software Requirement Specifications**

# Chapter 2: Software Requirement Specifications

## Introduction

### 2.1 Purpose

This mobile application is used for selling old books. Recycling of books will lead to less paper production which will make less trees to cut. The application performance should be optimized, and response time should be minimized. This app will recycle old books and sell them to people. People can also buy new as well as old books from their homes.

### 2.2 Document Conventions

This record is. Its degree is to portray the necessities of the Advertisement Management System and its affiliations. This report has been composed after the AMS and consider that future changes to this program ought to be incorporated into this prerequisites determination record for keeping up its helpful part. To the extent the program usage is concerned while it's not been actualized, this record can be utilized as manual for improvement of framework. CSS, VCSS property, descriptor, and pseudo-class names are specify by single quotes. Values are specifying by single quotes. Document language element names are in upper case Letters. Document language attribute names are in lower case letters and specify by Double quotes.

### 2.3 Intended Audience and Reading Suggestions

The intended audience/customer for E-book is the local user of Pakistan. It is being especially designed for the local users of Pakistan along with some customized options according to their need. This application highly scalable. Its purpose is to enable a sense of solidarity in the community. The app has a societal impact since its aim is to close the gap between the less fortunate people and the more unfortunate in terms of quality of life.

## 2.4 Product Scope

Eprelovedbooks, originally designed for selling books on small and large scale the product aims at satisfying the requirements of students, children over the net. The application shall ask the user/buyer to register his/her details into the system and then he/she can login and buy books. Similarly, peoples can register in the system and buy books as per requirement. Also, a buyer can view the list of its ongoing orders as well as complete orders. The main objectives of the proposed application include reduction in wastage of old books & paper, production of paper, availability of books to poor which will also inculcate values of sharing and sensitivity among people.

## 2.5 References

We have used these references for the sake of getting help in our application development. Moreover we have read many articles and research papers.

[Available Online] <https://www.slideshare.net/ParveenJaat/online-bookshop>. Accessed by 19 Jan, 2022

[Available Online]

[https://www.academia.edu/30503188/ONLINE\\_BOOKSTORE\\_MANAGEMENT\\_SYSTEM](https://www.academia.edu/30503188/ONLINE_BOOKSTORE_MANAGEMENT_SYSTEM).

Accessed by 19 Jan, 2022

[Available Online] [https://en.wikipedia.org/wiki/Bookshop\\_\(company\)](https://en.wikipedia.org/wiki/Bookshop_(company)). Accessed by 19 Jan, 2022

[Available Online] <https://www.easybib.com/guides/citation-guides/apa-format/e-book/>.

Accessed by 19 Jan, 2022

## 2.6 Overall Description

### 2.6.1 Product Perspective

The main aim of this application is to reduce the paper production by recycling books and manual work of the people. In this application all details and records are maintained database software. book names and prices are displayed in the application. Whenever we need data, we can easily access the database to retrieve the data that are already stored at anywhere in the world. The prices will be updated periodically day by day. The records are frequently updated

by the admin of the application. It provides a simple user interface to the users. The working method of users are designed very simple.

### **2.6.2 Product Functions**

The buyer performs operations like Registration and Login into the System. He can also view books for buying old or new and view all ongoing orders and complete orders. The admin can also monitor and update the database. The Admin and Buyer both can view books price. The buyer can edit its information and upload profile picture as well. Buyer can share the application and contact us too. Buyer can add items to its cart and delete them too from cart. Admin can add and delete books and adjust its price as well.

Every single modulo has a separate unit of process. In this android application every single page is called modulo. We are creating the number of modules that are described as below: -

- User Registration
- User Login
- Home Screen
- Rate Us
- About Us
- Contact us
- ON Going order
- Complete Order
- My Cart
- Share
- Log Out

### **2.6.3 User Classes and Characteristics**

There is the following user of our system

Administrators:

- The administrators have complete control over all the activities that can be performed.
- They verify the user after he/she registers.

- They must provide rules for the Login.
- They must maintain the application and update the same making necessary changes at times.
- They must take care of the security issues involved in the login.
- They must update the prices of books and can add or delete books.

Users/Buyer:

- They are the registered members of the system. They can view all the features.
- User should be familiar with the terms like login, register etc.
- User have the access to view the specific features whereas, admin can view, update or add the features.
- They are able to see the ongoing orders or completed orders.
- They are the registered members of the system. They can view all the features.
- User should be familiar with the terms like login, register etc.
- They can view all the features.
- User should be familiar with the terms like login, register etc.
- They can share application or contact us or rate us.
- They can save books in cart and delete them too.

#### **2.6.4 Operating Environment**

This system will operate in browsers like Mozilla, Firefox, and Opera and Android 5.0 or greater for their different version also.

- It can be open on windows and android.
- The processor should be core 2 duo or above.

- The processor's speed should be 2.8 GHz or greater.
- Ram should be or greater than 2 Gb.
- Operating system required for this application is Android Version 5.0 or any other higher version.

### **2.6.5 Design and Implementation Constraints**

There are the following design and implementation constraints that we should keep in our mind during developing of the application.

- This system is working for single server
- Sketch, proto.io or MS Visio for prototyping the system
- Firebase used for manage the database specification
- Operating system required for this application is windows 10,11 or 5.0 android or any other higher version.

### **2.6.6 User Documentation**

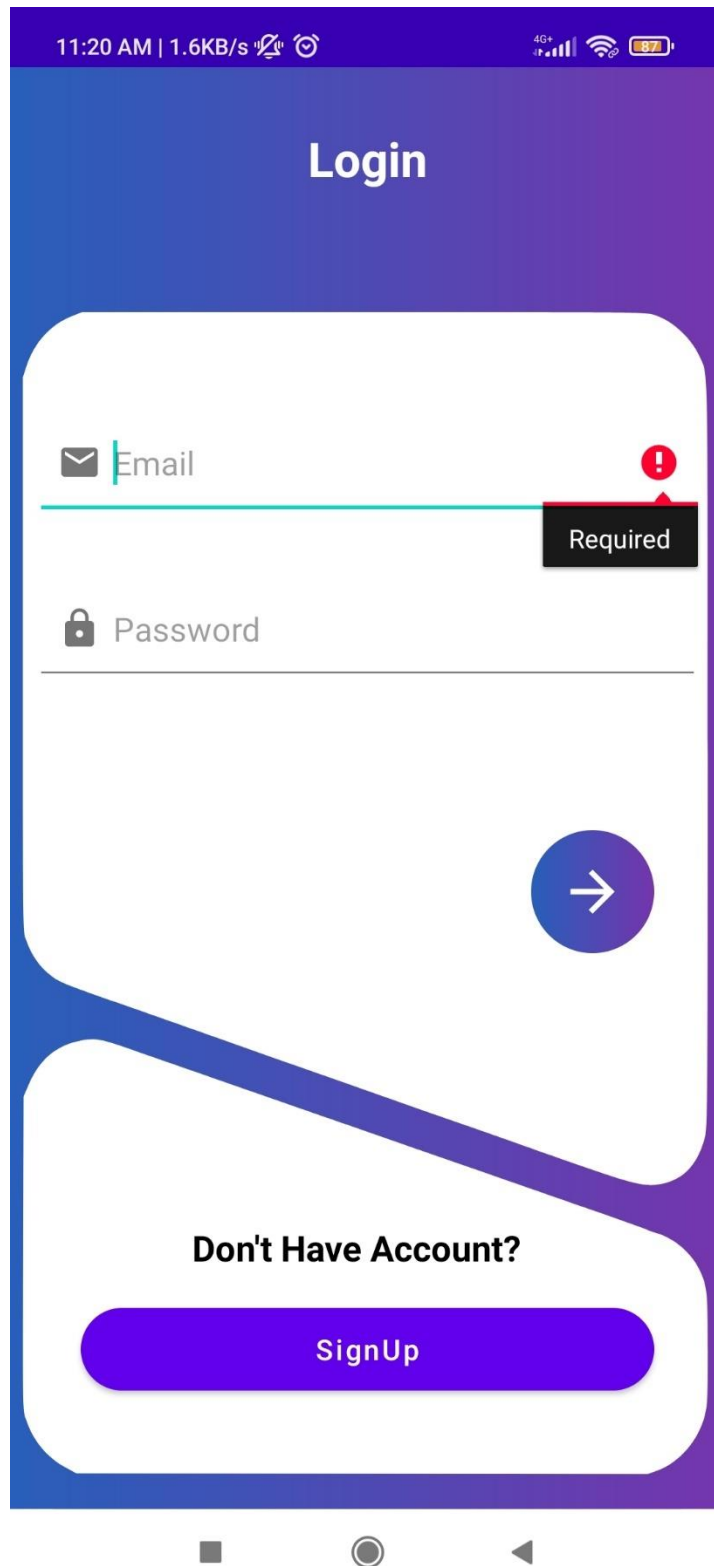
Latterly, the uses of mobile devices and wireless network applications became more and more widespread. Project has solved the issue that people go to book shops manually by visiting multiple book shops number of times. It provides single platform for buyer to buy books on android device and without visiting manually.

### **2.6.7 Assumptions and Dependencies**

There are assumptions and dependencies that should be fulfilled for use of this application:

- User should have basic knowledge of English language and computer and smart phone usage.
- Users have basic understanding on how to operate Android and Android Software.
- User have basic understanding on how to operate computer and computer software.

## 2.6.8 External Interface Requirements



## 2.6.9 User Interfaces

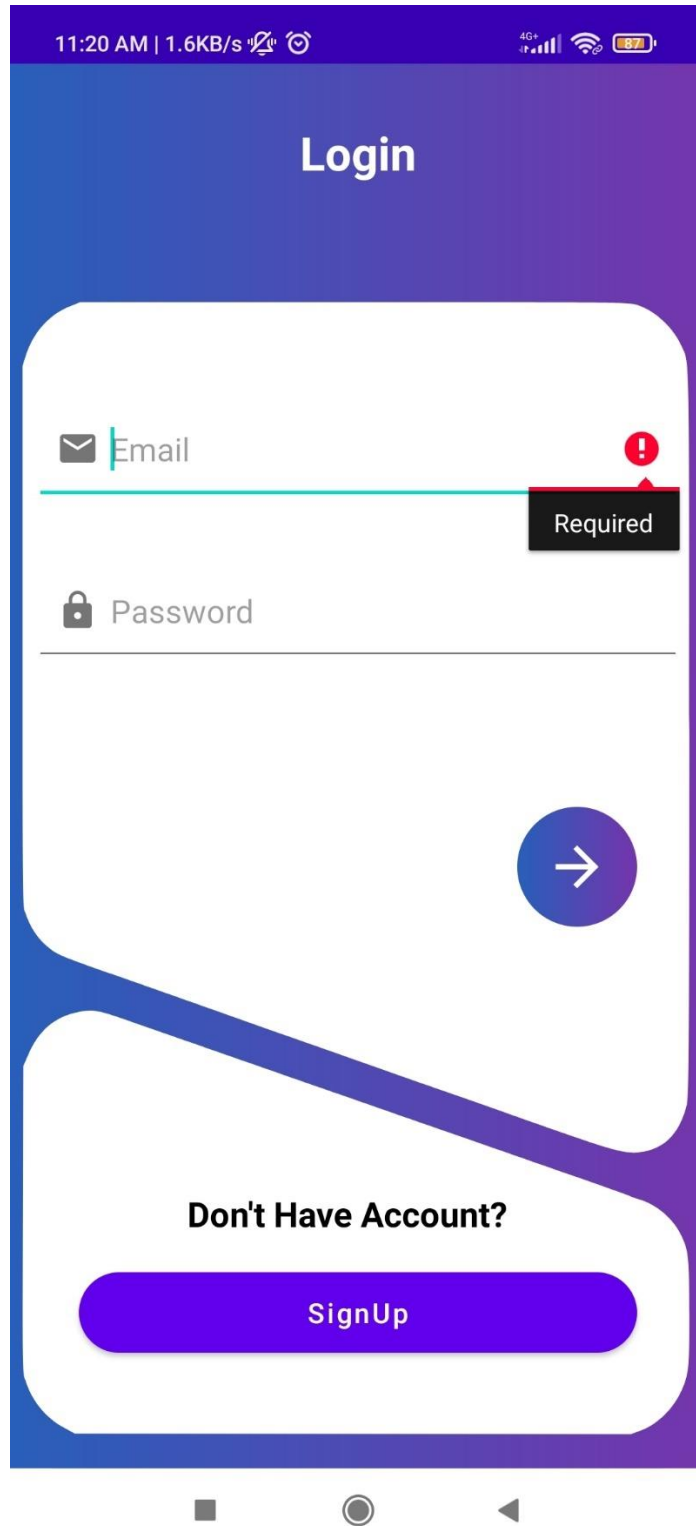


Figure 1:: Login Interface

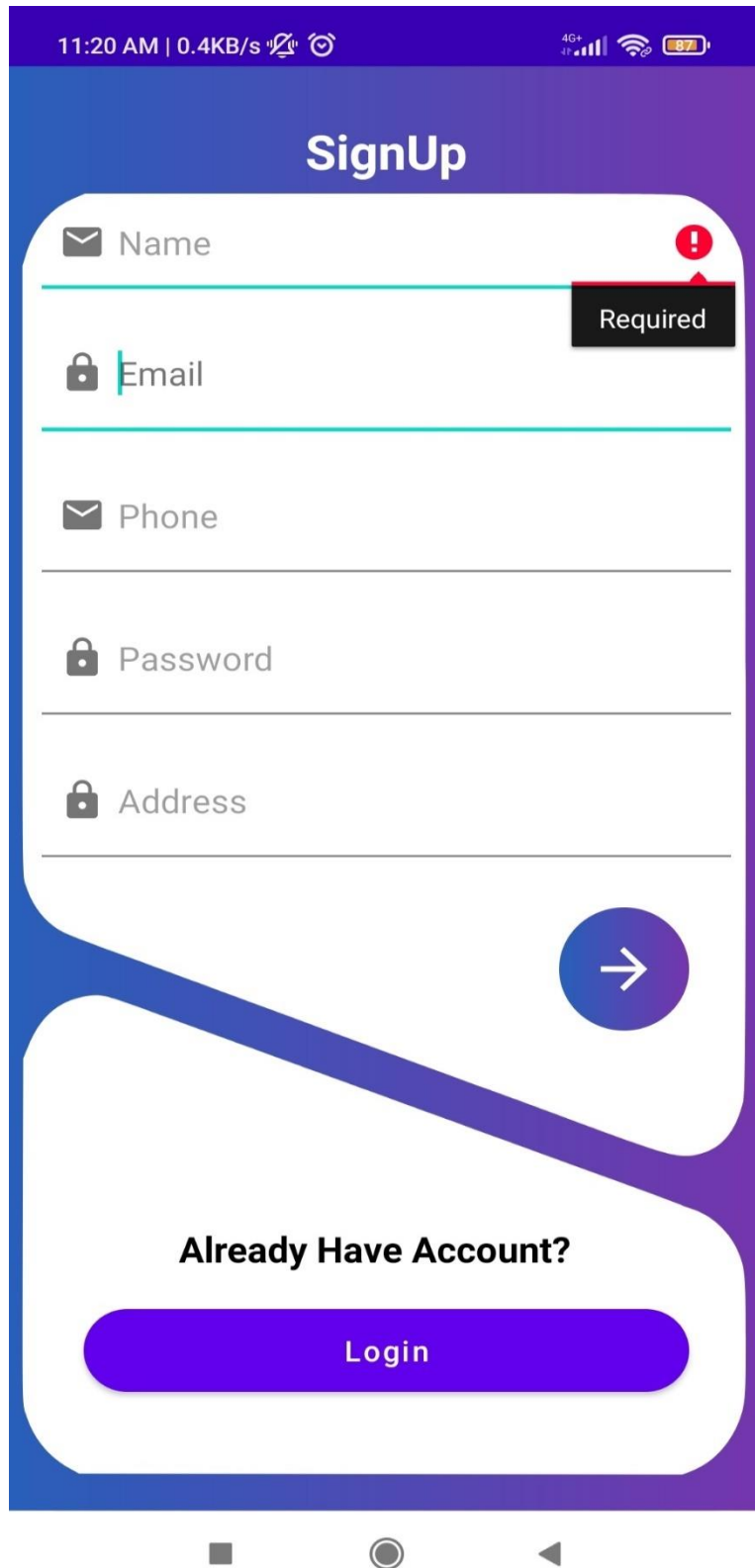


Figure 2: Sign up interface

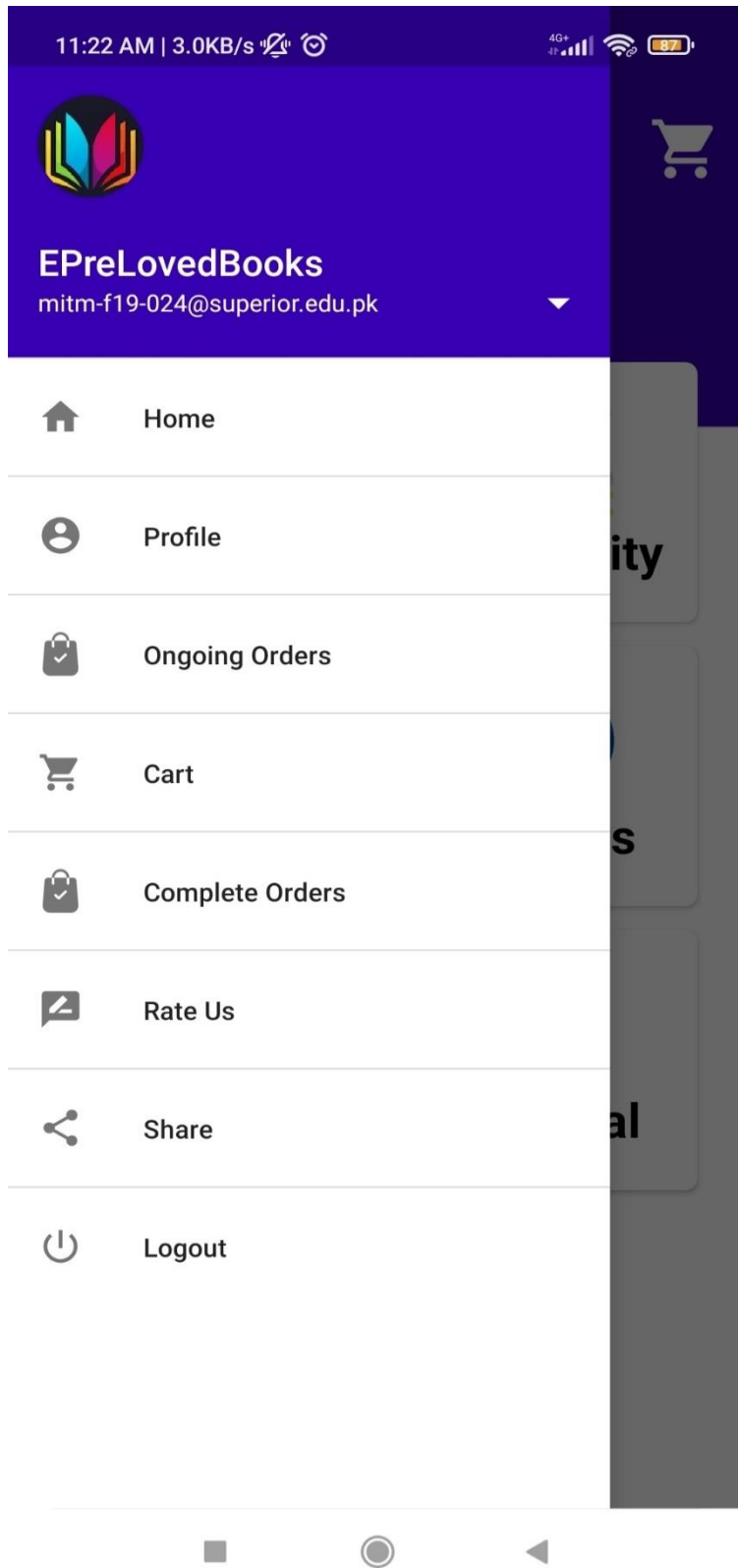


Figure 3: Interface for functionalities

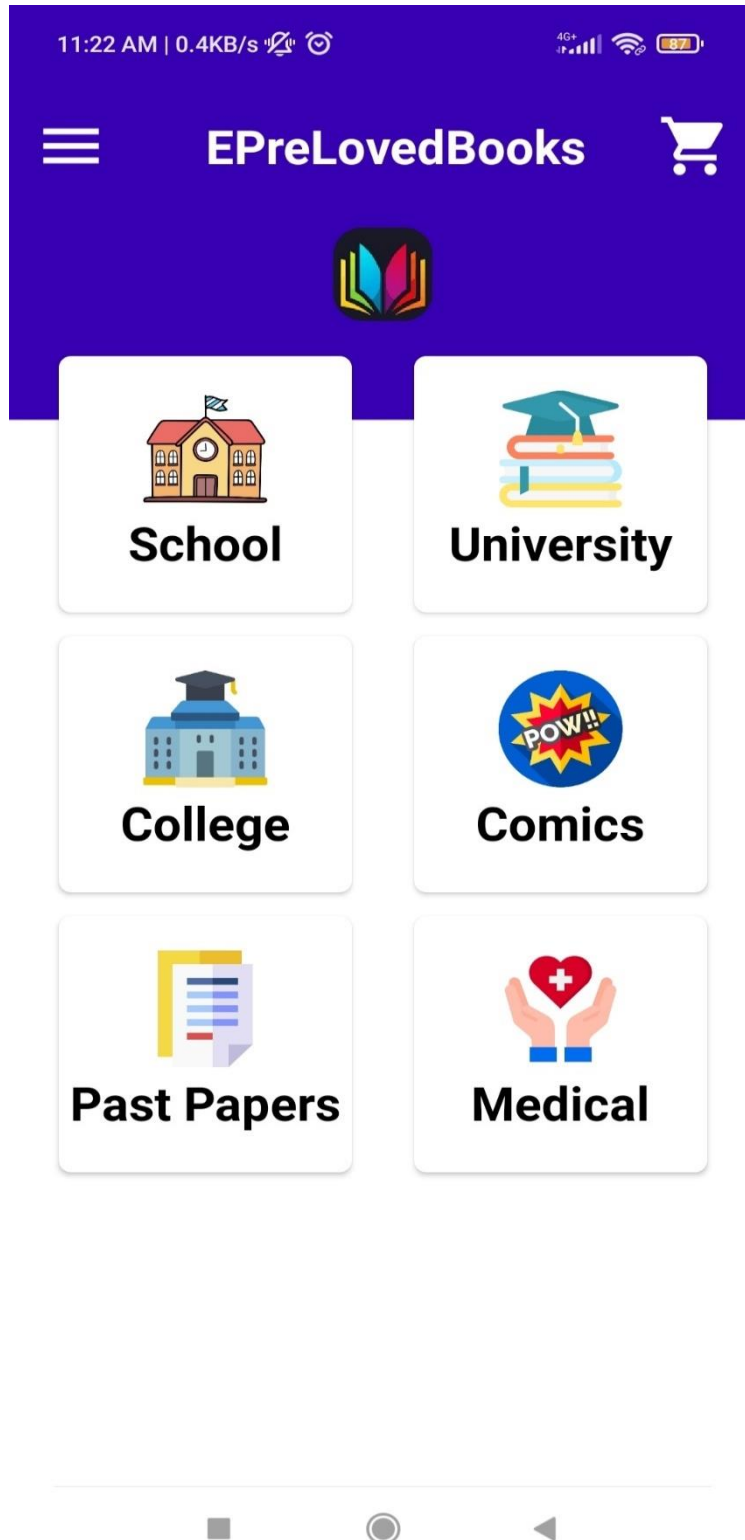


Figure 4 : User dashboard

## 2.6.10 Hardware Interfaces

This is an online system so the hardware interface that are going to be used are the hardware components that are required for the internet access. These have been mentioned in the following table.

WLAN	Android Device	LAN	Ethernet cross-cable	Modem	Router
------	-------------------	-----	-------------------------	-------	--------

*Table 2 : Hardware Interfaces*

## 2.6.11 Software Interfaces

- **External machine interfaces**
- External Machine interface is not required since computation will be done on Windows OS and Android OS.
- **External system interfaces**
- This will only include the Firebase database for the products.
- **Human interface**
- The software will use a Graphical User Interface coded in XML.

## Communications Interfaces

Web Browser is used to establish communication. An android device is also required.

## 2.6.12 System Features

### System Features

The system is going to consist of multiple modules, each separately developed with their own features.

### Register Account

Description and Priority

If customer/user wants to buy the product then he/she must be registered, unregistered user can't able to use. For this purpose, user/customer will register to the system.

### Stimulus/Response Sequences

- User first clicks on the button for registration process.
- System prompts the user to fill out his/her first name, last name, address, email address, and their password.
- User enters fields.
- System validates the user's information.
- System creates a new account for the user.

### **Functional Requirements**

REQ-SF1-1: System must be able to verify and validate information.

REQ-SF1-2: The system must encrypt the password of the user to provide security.

### **Login/Logout Account**

#### **Description and Priority**

This feature used by the user to login into system. A user must login with his user name and password to the system after registration. If they are invalid, the user not allowed entering the system

#### **Stimulus/Response Sequences**

- User clicks on the button or link to initiate the login process.
- System prompts the user for his/her email and password.
- System verifies the information.
- System displays account home page to the user.
- User clicks the button or link in order to initiate logout process.

### **Functional Requirements**

#### **For users**

REQ-SF2-1: Username and password will be provided after user registration is confirmed.

- REQ-SF2-2: Password should be hidden from others while typing it in the field.
- The user will be able to register to System.
- The user will be able to login to System.
- The user will be able to view books.
- The user will be able to view ongoing order.
- The user will be able to view complete order.
- The user will be able to Rate.
- The user will be able to contact us.
- The user will be able to view about us.
- The user will be able to share application.

**Admin:**

- App management (Admin should be able to manage different books. Like create, update and delete rate list and books)
- Admin should update application.
- Customer should be able to see rate list and books.

Administrator login manage member, manage list of products, manage category, manage price, view reports.

Customer login place order, view account, cancel order, view complete order, view ongoing order, share, give feedback, edit profile.

**REQ-SF1-1:** The user shall be able to view and click on Login Link.

**REQ-SF1-2:** The user shall be able to enter the username and password

**REQ-SF1-3:** The database shall be able to validate username and password.

**REQ-SF1-4:** The user shall be able to view and click on the books.

**REQ-SF1-5:** The user shall be able to view the activities associated with each product.

## 2.6.12 Other Nonfunctional Requirements

### Performance Requirements

- **Response time:** The home page loaded in 3-5 seconds.
- **Availability:** The site will available 99.99% of the time.
- **Throughput:** Page hits per second or orders per hour.
- **Capacity:** Maximum throughput that can be achieved with acceptable response time and availability.

### Safety Requirements

- Once admin delete record or data of that user can't be retrieved. To handle this problem system gives warning before delete the record.
- Safety disclaimers will be given.

If any user has some problem while using the application, so he can contact via mail to website maintainer

### Security Requirements

Security is one of the major concerns of these days. Our system is based on following security parameters which are given below:

- This software keeps the information of user.
- User will be registered after verification of user data.
- Secure login and logout. If renter forget his account credential than he has to get new credential through his sign-up e-mail.
- Admin area will be secured.

### Software Quality Attributes

- **Usability:** This application should be easy to use and easy to learn how to operate.
- **Portability:** This product can be used on different devices like tablets, mobiles, laptops etc.

- **Robustness:** This software can handle many problems itself like if user forgets his password so system gives it option to re-write name and user password.
- **Flexibility:** The functionality of this software can be increased after development because documentation is available.
- **Reliability:** This software is reliable.
- **Maintainability:** Admin of the application will maintain the working of this software.
- **Security:** This software is secure enough to use. This software keeps the information of users safe.

#### **Business Rules**

- If user want to perform some crud operation than he/she has to first sign up.
- User has to follow terms and conditions of application.

# Chapter 3

## Use Case Analysis

## Chapter 3: System Analysis

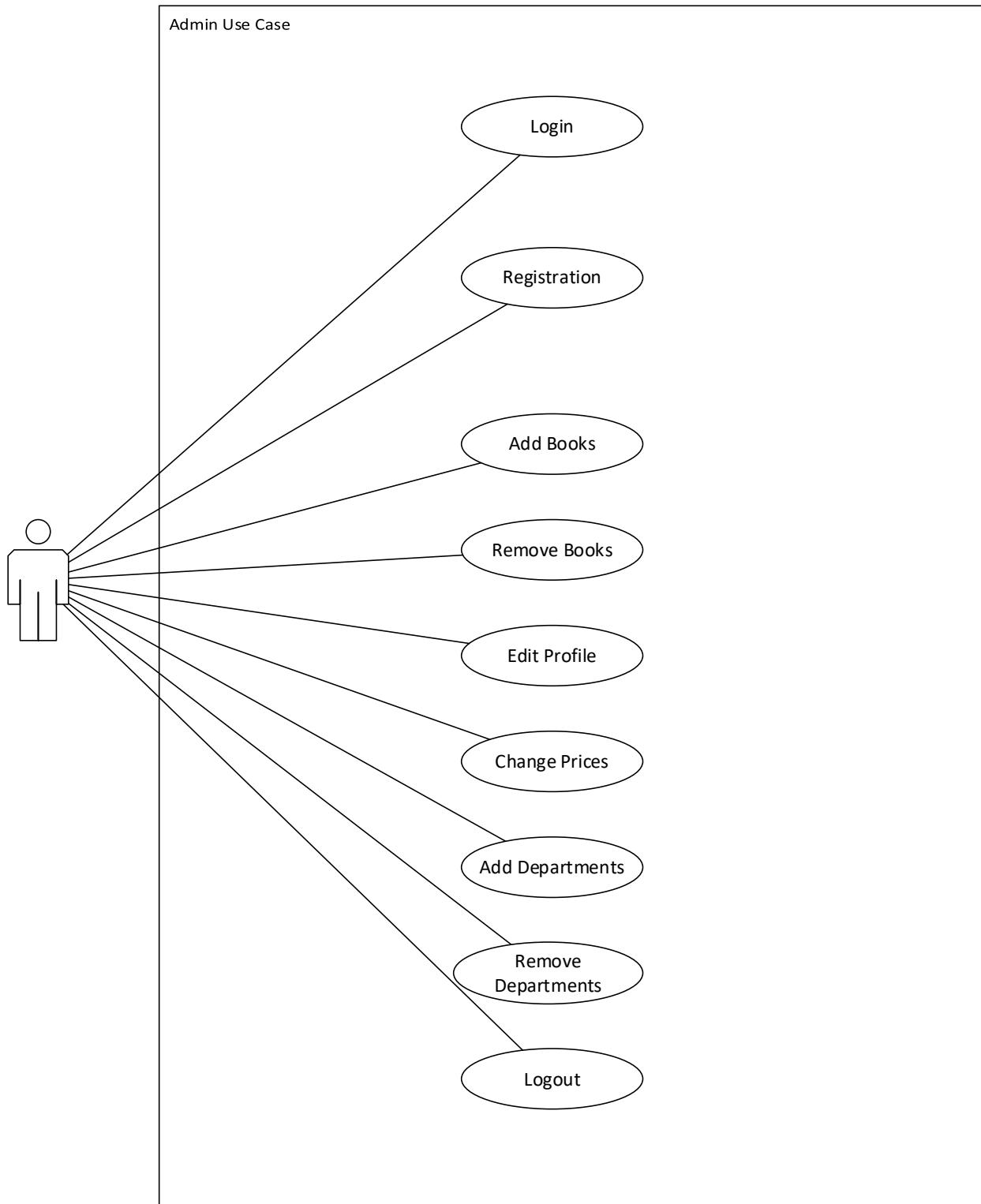
This chapter describe about system use cases and how the different actors are interacting with the system. This system is all about use case of system and role we assign and categorize the user of solution. We describe the all terms about the use case model and use case diagram of every role.at the end we make a proper dressed use case model of our project.

Use case analysis is a technique used to identify the requirements of a system and the information used to both define processes and classes (which are a collection of actors and processes) which will be used both in the use case diagram and the overall use case.

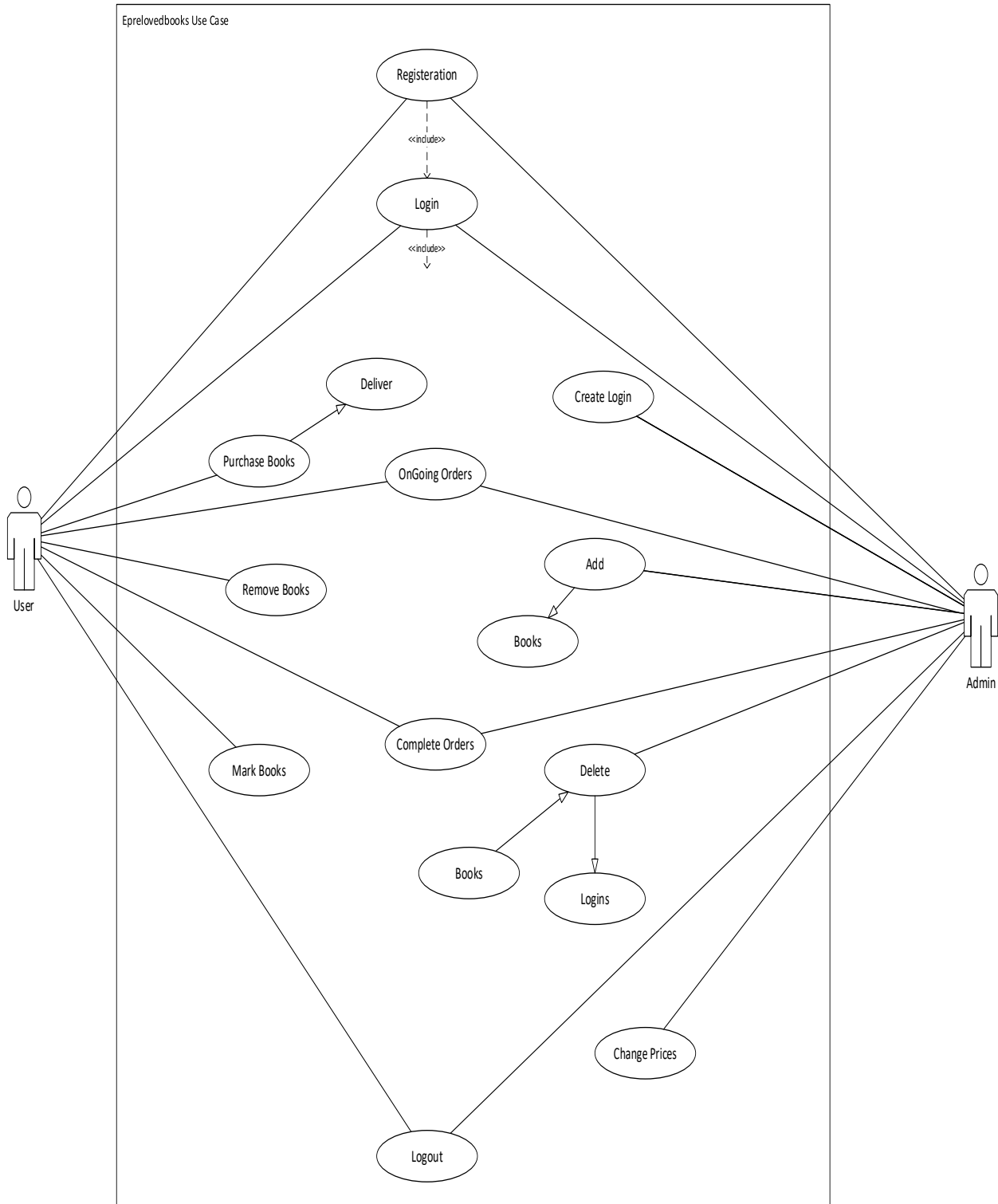
### 3.1. Use Case Model

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses.

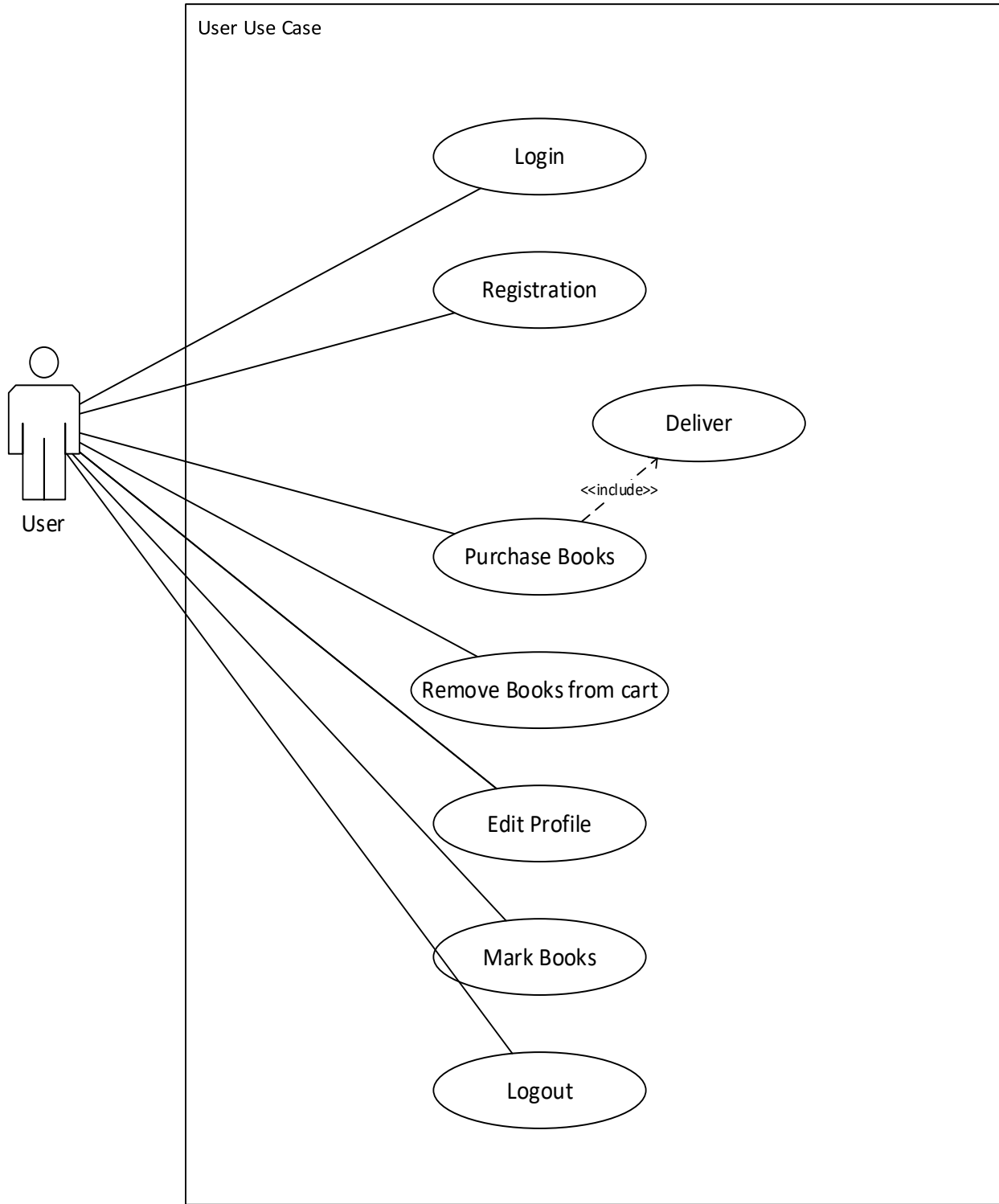
## Use case model for Admin:



## **Fully dressed use case**



**User Use case:**



### 3.2. Use Case Descriptions

Use cases add value because they help explain how the system should behave and, in the process, they also help brainstorm what could go wrong. They provide a list of goals and this list can be used to establish the cost and complexity of the system. Project teams can then negotiate which functions become requirements.

<b>Name</b>	Register
<b>Brief Description</b>	A user of the System creates an account
<b>Actor(s)</b>	Admin
<b>Flow of Events</b>	
<b>Basic Flow</b>	
<p>This use case starts when a system user is not logged in to the system and goes to the login page.</p> <ol style="list-style-type: none"> <li>1. The System prompts the user for a username and password or register new account.</li> <li>2. The user selects registration option.</li> <li>3. The System prompts user for registration information, Username, password, etc</li> <li>4. The user enters in their information.</li> <li>5. System verifies information and creates account.</li> <li>6. The use case ends.</li> </ol>	
<b>Alternate Flows</b>	
<b>Title</b>	<b>Description</b>
Cancel Registration	<ol style="list-style-type: none"> <li>1. The user selects the cancel option.</li> <li>2. The system returns the user to the home page without the user being logged in and any information entered has been erased.</li> </ol>

Invalid Information Entered	<ol style="list-style-type: none"> <li>1. User clicks submit after entering information system asked for.</li> <li>2. System displays information with appropriate message to correct invalid information.</li> <li>3. User re-enters information.</li> </ol>
<b>Pre-Conditions</b>	
<b>Title</b>	<b>Description</b>
System	To logged in to the system the user must have the System
Internet	To logged in to the system the user must have the network on the System.
<b>Post-Conditions</b>	
<b>Title</b>	<b>Description</b>
Success	The user entered successful information and is returned to the home page as a Logged In User
Failure	User is unable to log in for one or more reasons and is returned to the home page as a Guest.
<b>Extension Points</b>	
If the User is unable to log in for one or more reasons the user must once check the internet Connection.	

Table 3 :User case of register

<b>Name</b>	Log In
<b>Brief Description</b>	The System user logs in to the System.
<b>Actor(s)</b>	Logged In User
<b>Flow of Events</b>	

<b>Basic Flow</b>	
<p>This use case starts when a system user is not logged in to the system and goes to the login page.</p> <ol style="list-style-type: none"> <li>1. The System prompts the user for a username and password or register new account</li> <li>2. The user enters his/her username and password.</li> <li>3. The system validates the entered username and password, making sure that the entered username is a valid username in the System, and that the required password is entered for the entered username.</li> <li>4. The user is signed in and returned to the home page as a Logged In User.</li> <li>5. The use case ends.</li> </ol>	
<b>Alternate Flows</b>	
<b>Title</b>	<b>Description</b>
User Fails Authentication	<p>If the User entered an invalid username and/or password, the following occurs:</p> <ol style="list-style-type: none"> <li>1. The system describes the reasons why the User failed authentication.</li> <li>2. The system presents the User with suggestions for changes necessary to allow the User to pass authentication.</li> <li>3. The system prompts the User to re-enter the valid information.</li> <li>4. The Basic Flow continues where the User enters new information.</li> </ol>
<b>Pre-Conditions</b>	
<b>Title</b>	<b>Description</b>
Register	A user of the System creates an account

Post-Conditions	
Title	Description
Success	The User is authenticated and the system displays a home page based on the user type.
Failure	User is unable to log in for one or more reasons.
Extension Points	
The user must making sure that the entered username is a valid username in the System or entered password is a valid password.	

Table 4: User case of login

# Chapter 4

## System Design

## Chapter 4: System Design

The Chapter is all about how the software is going to work and how will the processes be executed as we see we have several diagrams that shows how really is the system performing and what will be the requirements to perform the operations required tasks as well as the diagrams and data clearly describes the process and shows a great help in understanding.

### 4.1. Architecture Diagram

Following Architecture Diagram of e donation is a graphical representation to understand, clarify, and communicate ideas about the game structure and the user requirements that the game must support.

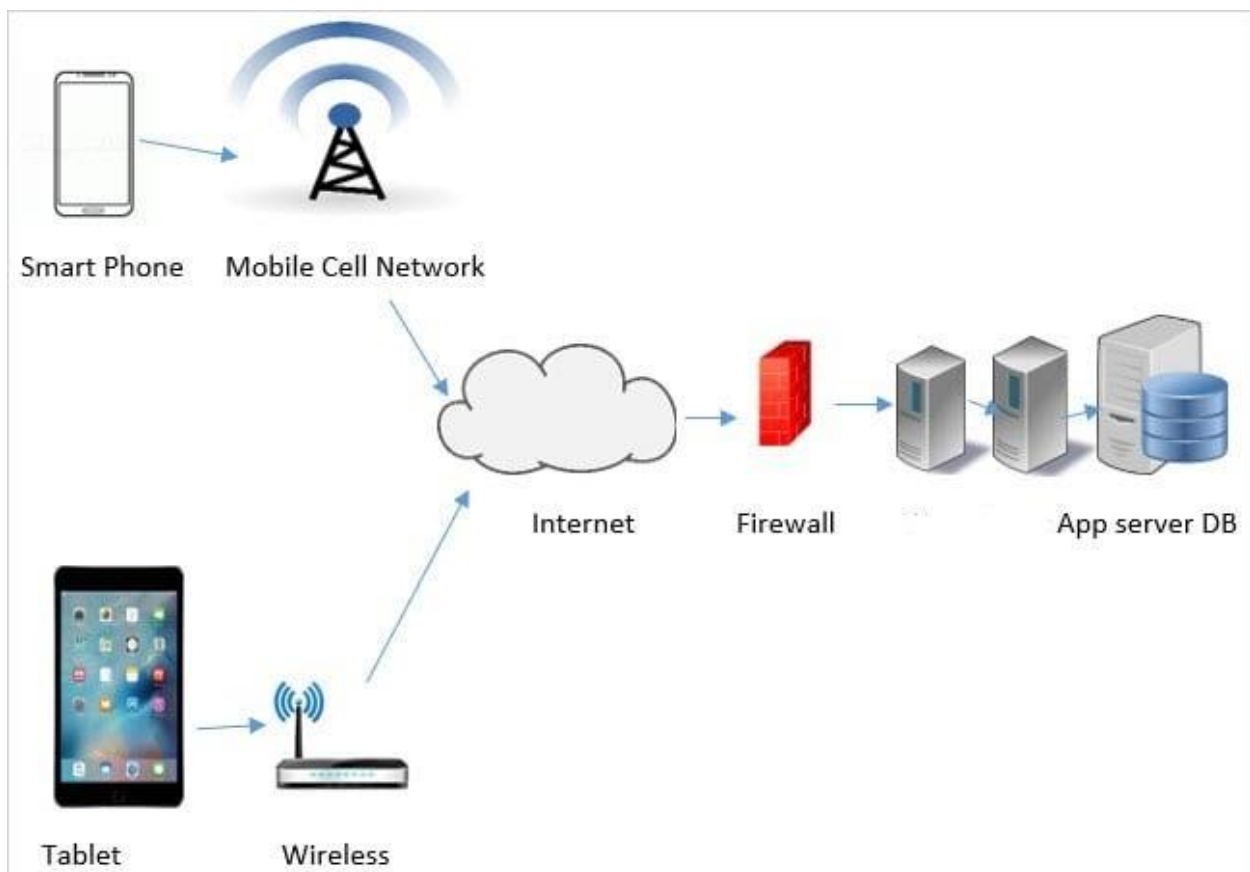
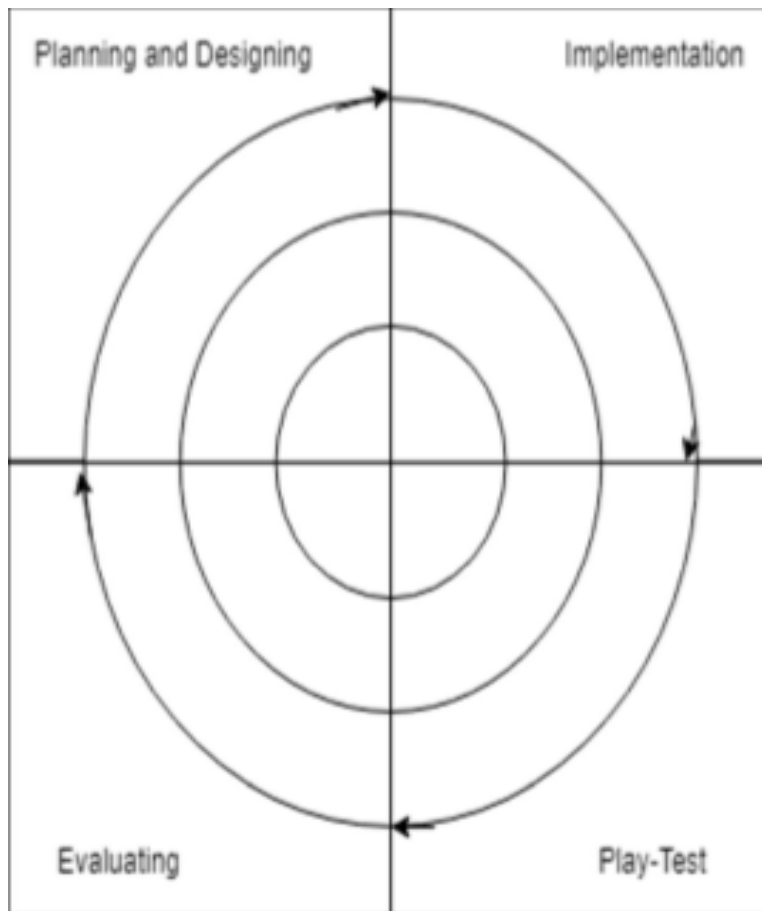


Figure 4. 1 Architecture Diagram

## 4.2. Domain Model

4. A domain model is a formal representation of a knowledge domain with concepts, roles, datatypes, individuals, and rules, typically grounded in a description logic in fth following figure we use spiral model
5. **Spiral model** in software engineering is also a step-by-step procedure to develop new software. It is mainly used when there is a dependency between the models. Each phase in the spiral model begins with design and ends with the client reviewing the process
6. . planning and designing
7. Implementation
8. Play test
9. evaluating

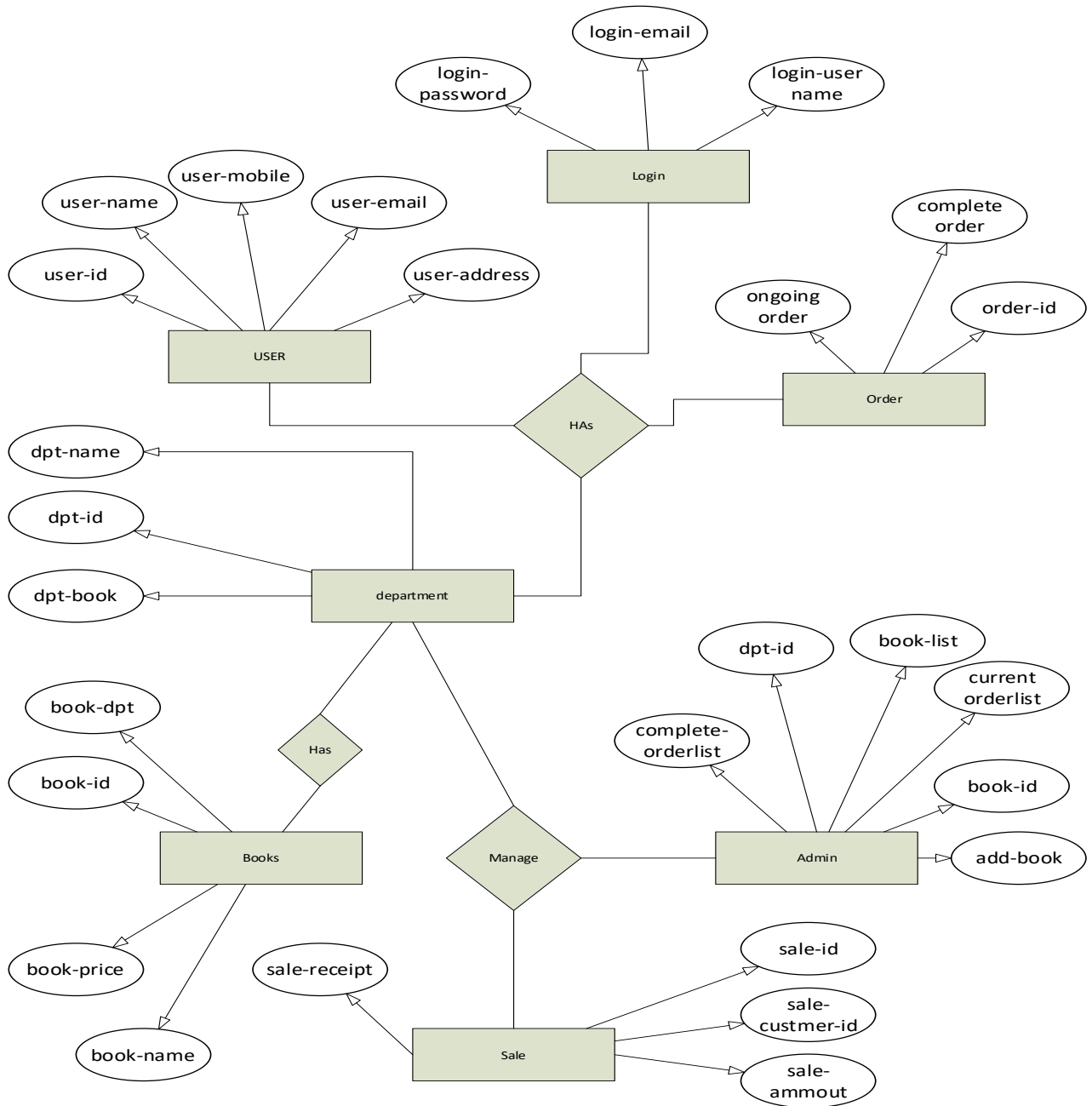


**Figure 4. 2** Domain Model

### 4.1. Entity Relationship Diagram

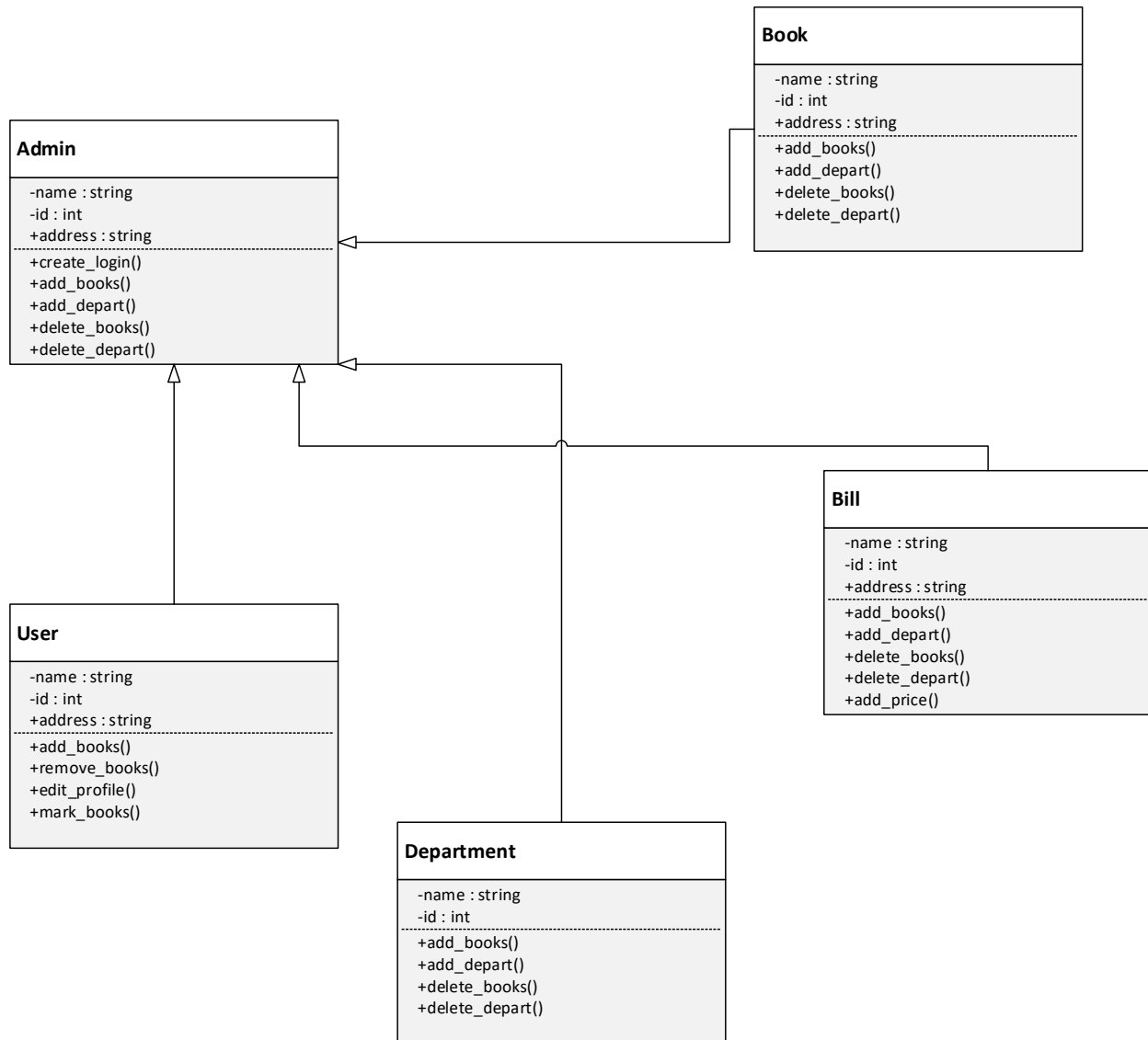
An entity-relationship diagram (ERD) is a data modeling technique that graphically illustrates an information system’s entities and the relationships between those entities.

ERD Diagram



## 4.2. Class Diagram

The following Class Diagram of our project gives an overview of e donation system by displaying its classes, attributes and operations:



### 4.3. Sequence / Collaboration Diagram

The following Sequence Diagram shows system's objects interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the system

#### 4.5.1. Login

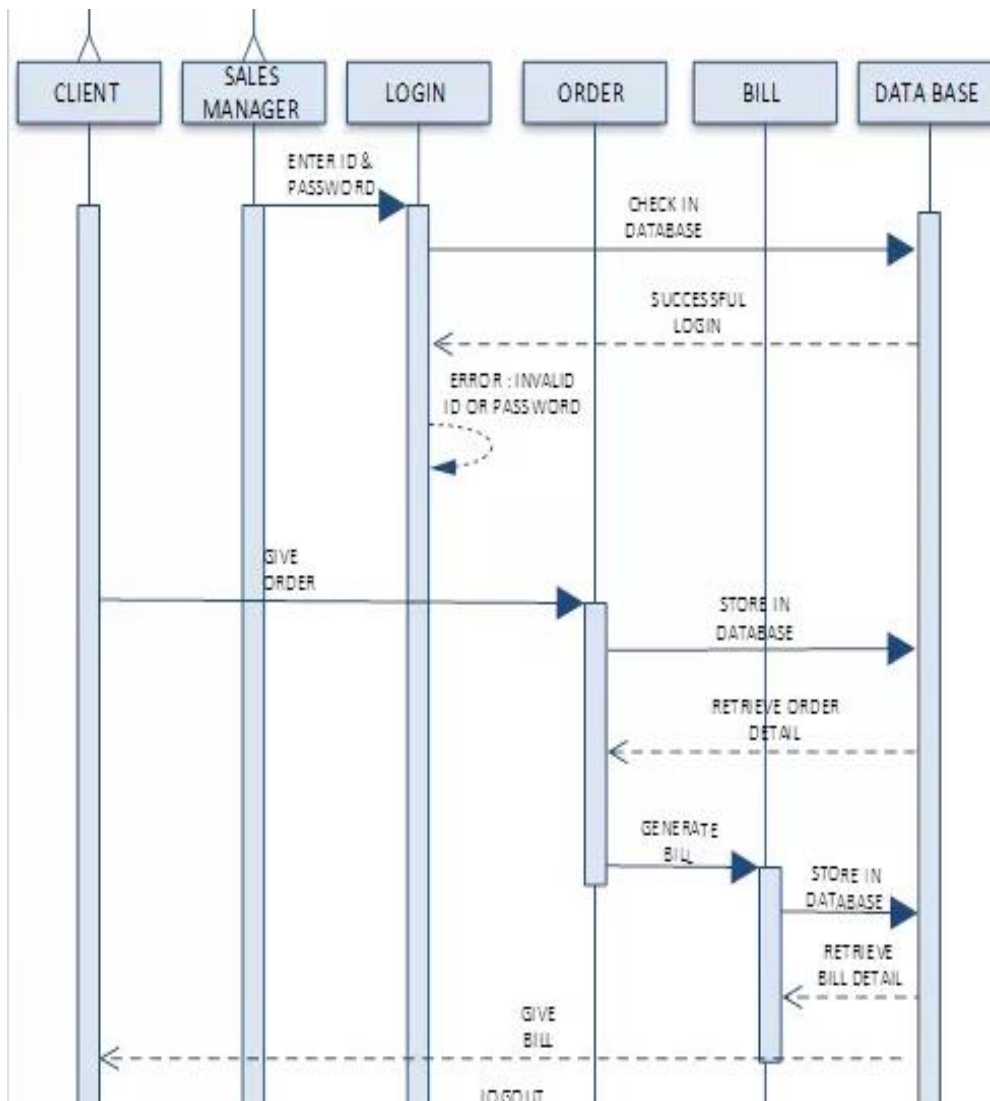


Figure 4.5. 1 Login

#### 4.5.2. User Registration

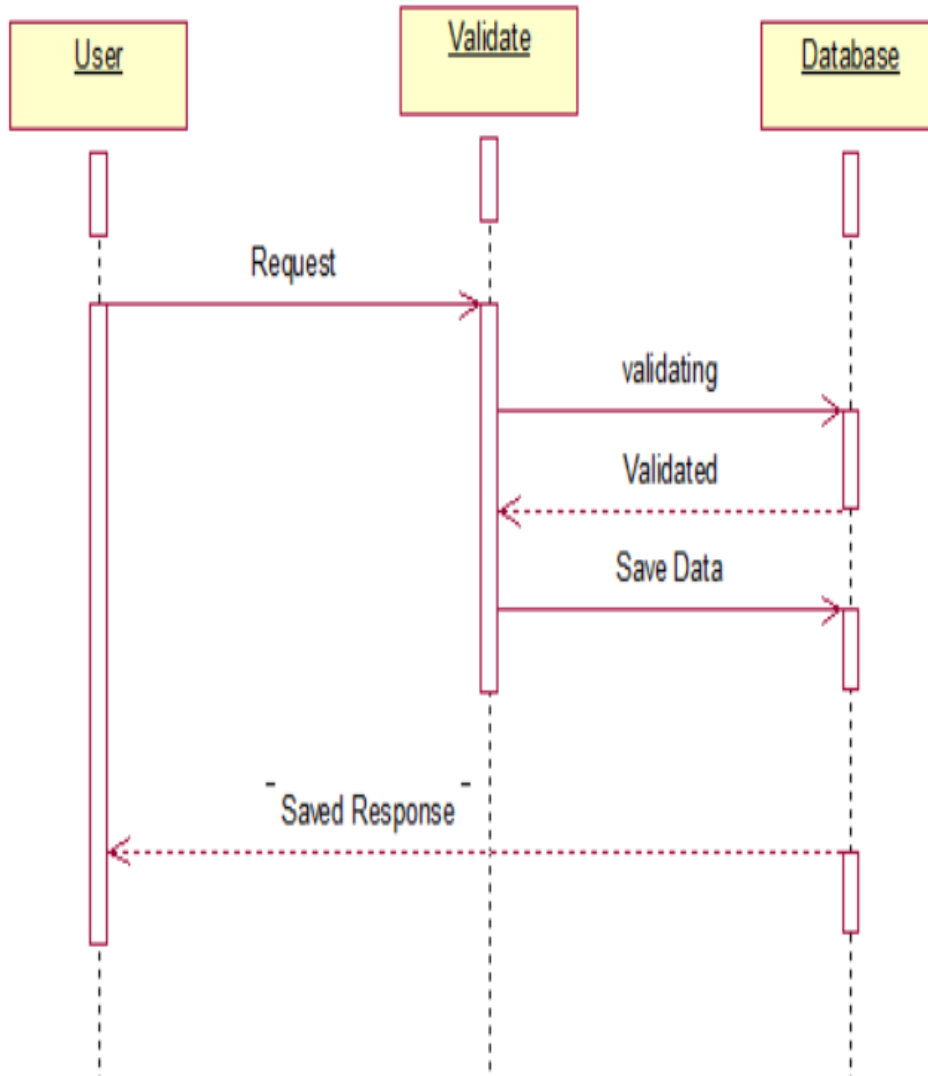


Figure 4.5. 2 Registration

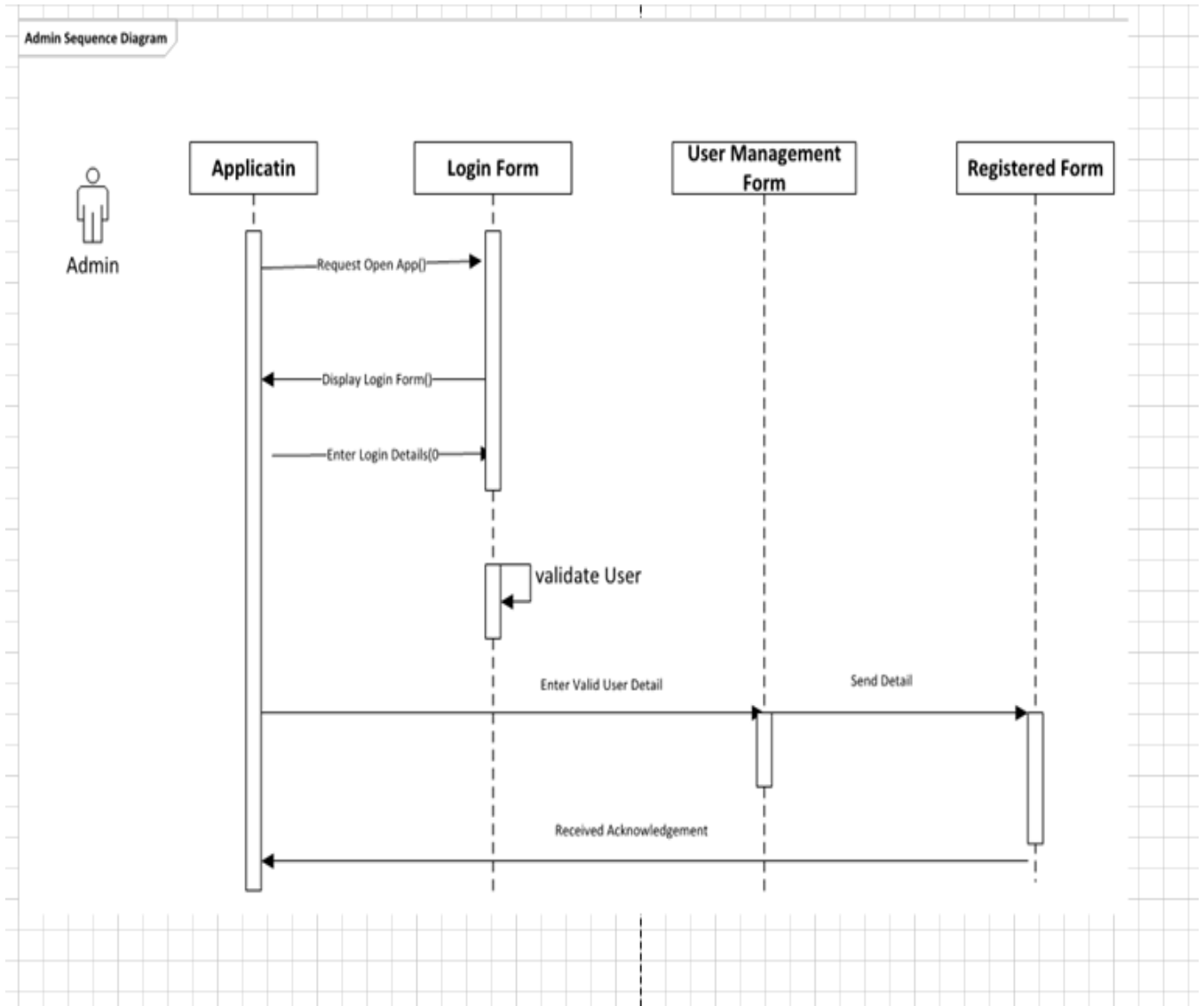
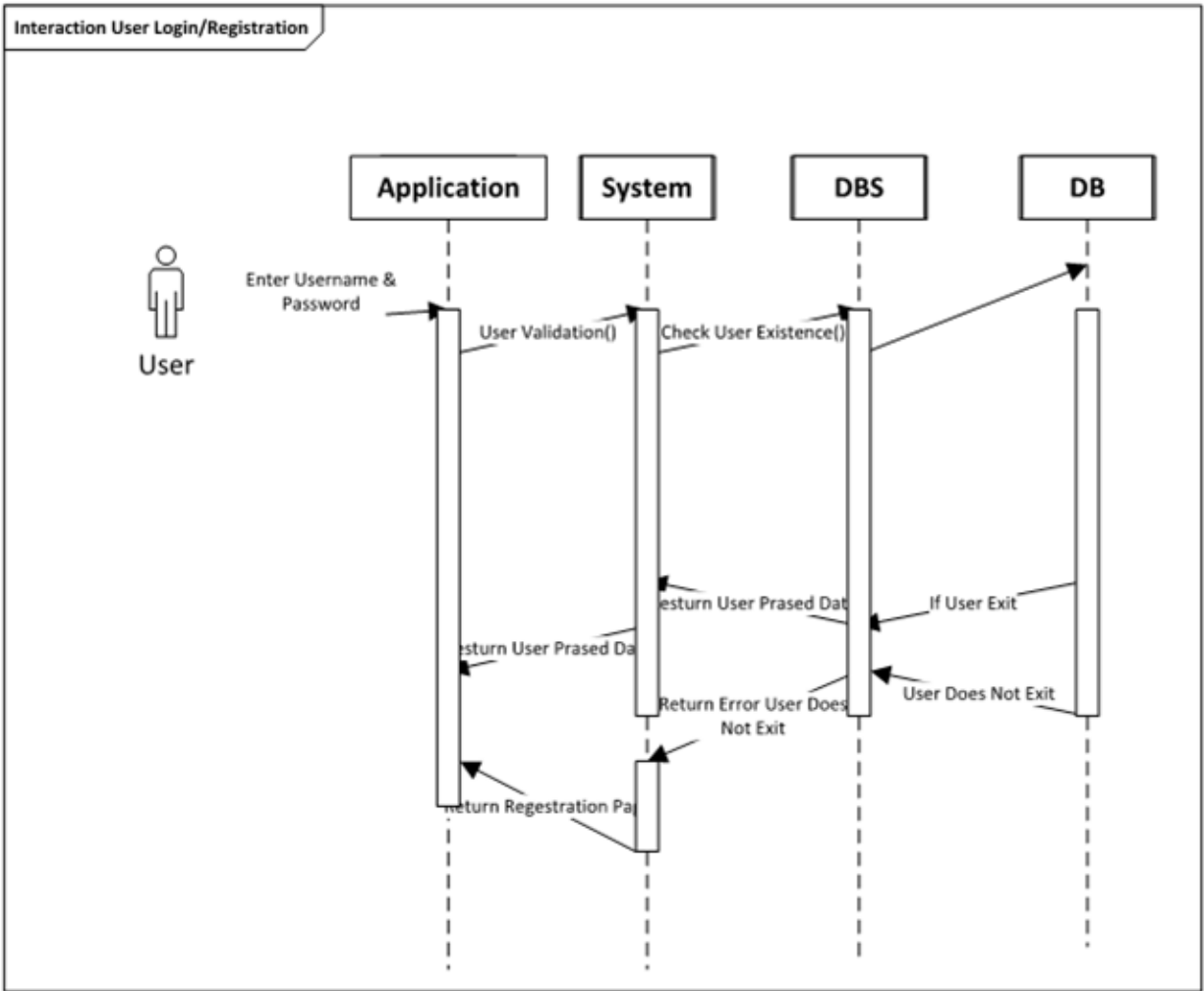


Figure 5: sequence diagram of admin



## 4.4. Operation contracts

### 4.6.1 Login

- **Operation Name:**
  - Login (Email, Password)
- **Cross Reference:**
  - Use Case: Login
- **Pre-Condition:**
  - Firstly, stakeholder will have login interface.
- **Post Condition**
  - Handle functionality according to their backend functionality.
  - (Email, Password)

### 4.6.2 User Registration

- **Operation Name:**
  - Registration (Email, Password)
- **Cross Reference:**
  - Use Case: App Registration, Web Registration.
- **Pre-Condition:**
  - Registration profile interface with fields of email and password.
- **Post Condition**
  - According to their respective level in database profile of academy is created and display.

### 4.6.3 Admin Registration

- **Operation Name:**
  - Registration (Email, Password)
- **Cross Reference:**
  - Use Case: Admin Registration, App Registration.

➤ **Pre-Condition:**

- Admin registration interfaces with fields like password email and confirm password and register into the specific App with key.

➤ **Post Condition**

- According to their respective level in database profile of person will display with App and specific details.

## 4.5. Activity Diagram

Activity diagrams are graphical representations of workflows of stepwise activities and action with support for choice, iteration and concurrency in following diagrams we present the graphical image of the system

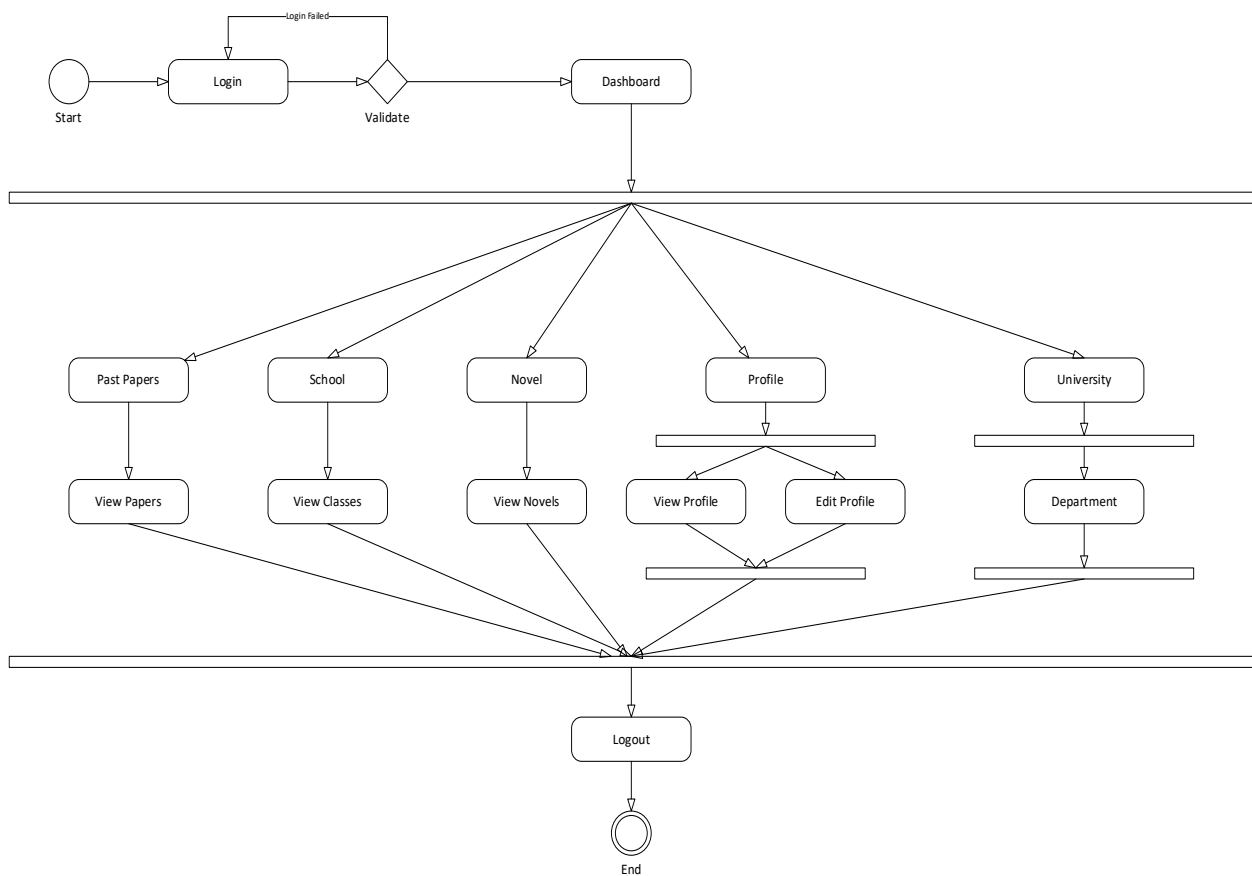
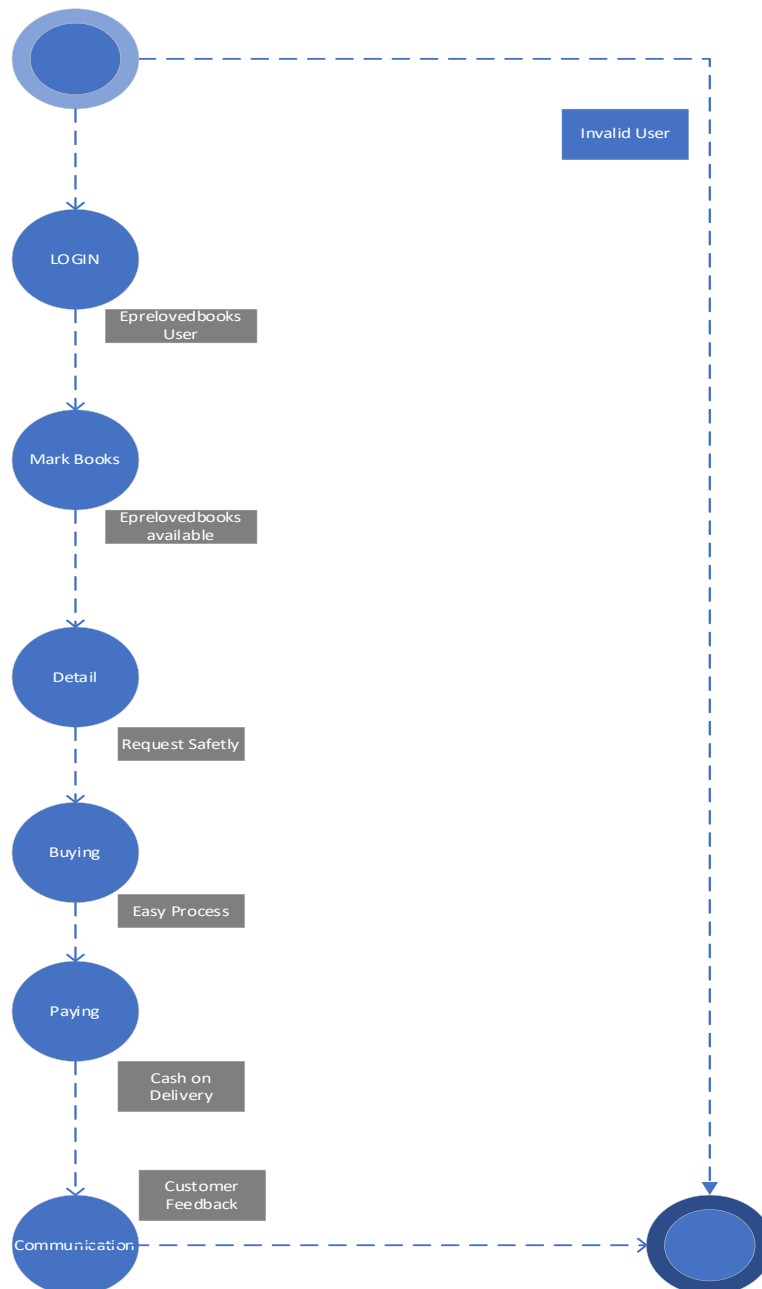


Figure 4.7. Activity Diagram

## 4.6. State Transition Diagram

A diagram consisting of circles to represent state and directed line segments to represent transitions between the states. One or more actions (outputs) may be associated with each transition. The diagram represents the proper state of eprelovedbooks system



## 4.7. Deployment Diagram

A Deployment diagram is a diagram that shows the configuration of run time processing nodes and the components that live on them. Deployment diagrams is a kind of structure diagram used in modeling the physical aspects of an object-oriented system

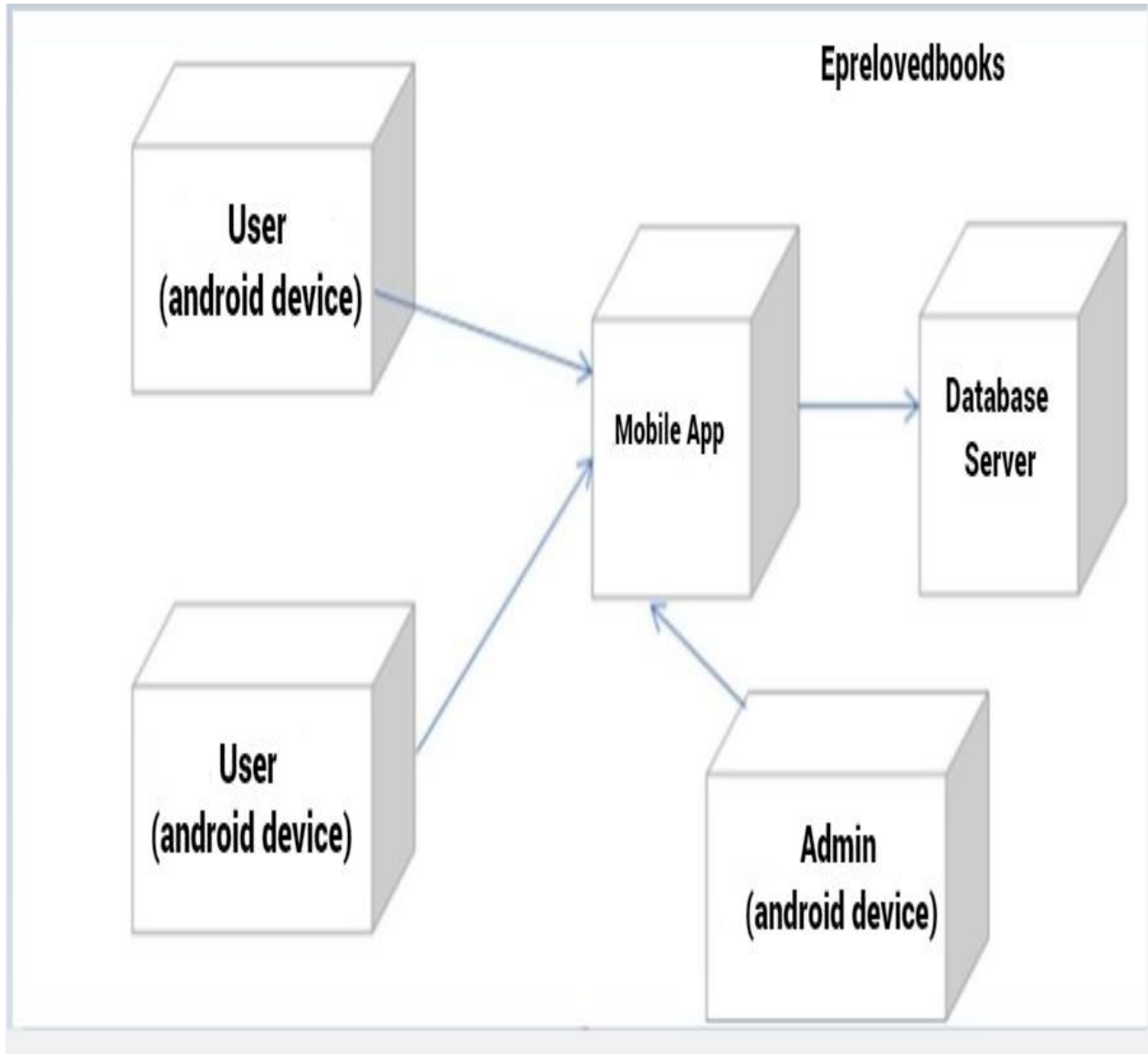
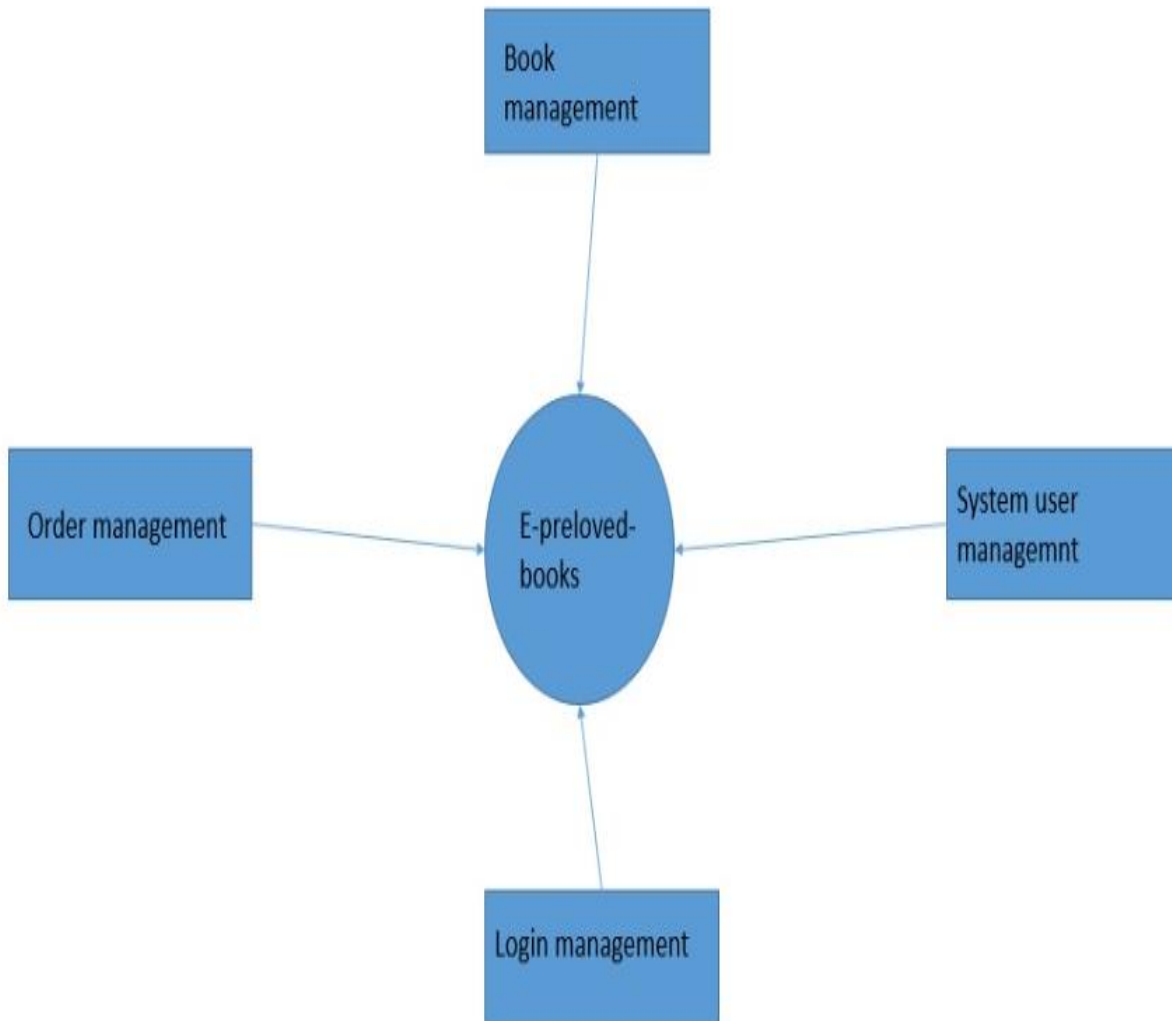


Figure 6: Deployment Diagram

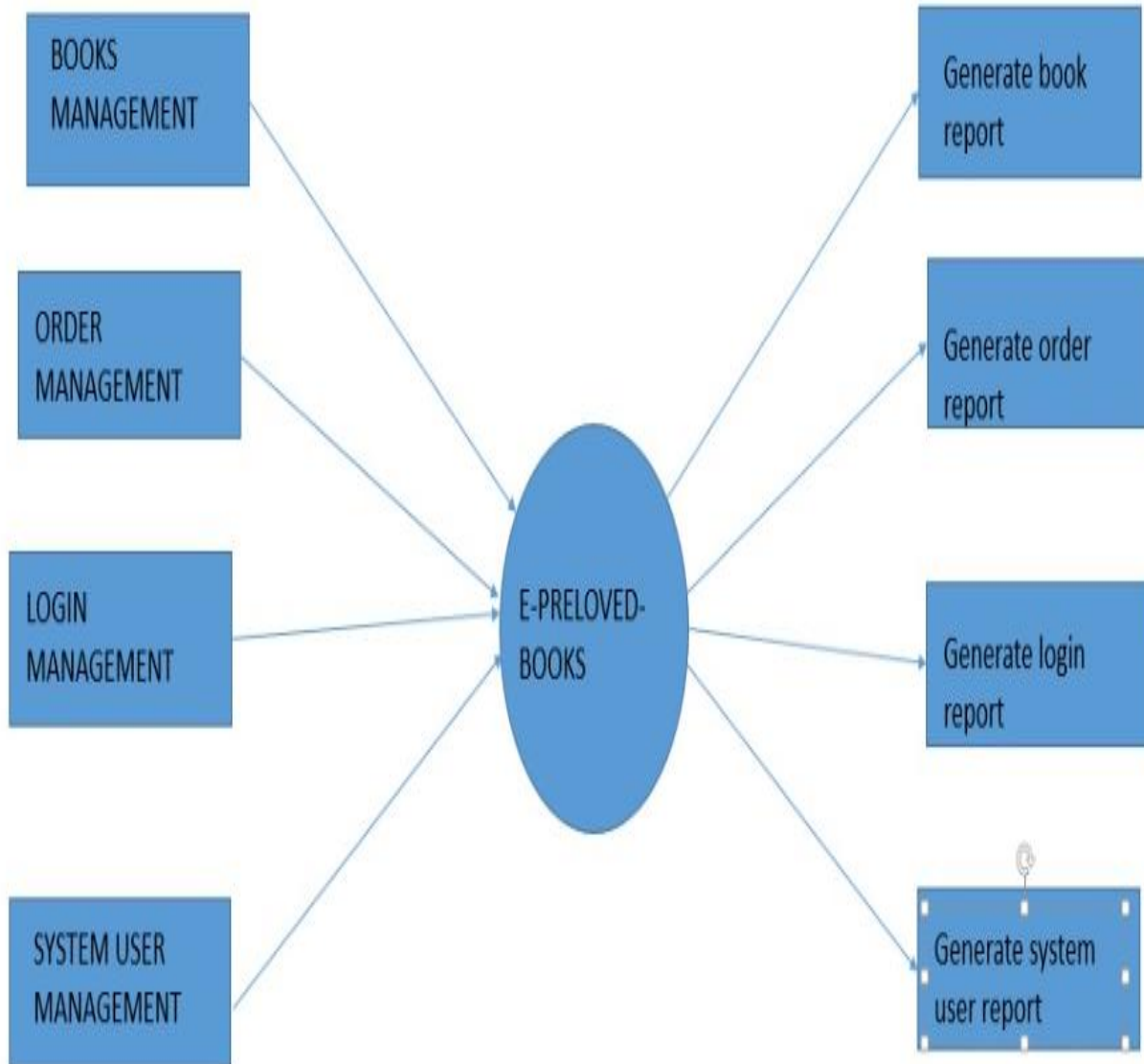
## 4.8. Data Flow diagram

A data-flow-diagram (DFD) is a way of representing a flow of a data of a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself.

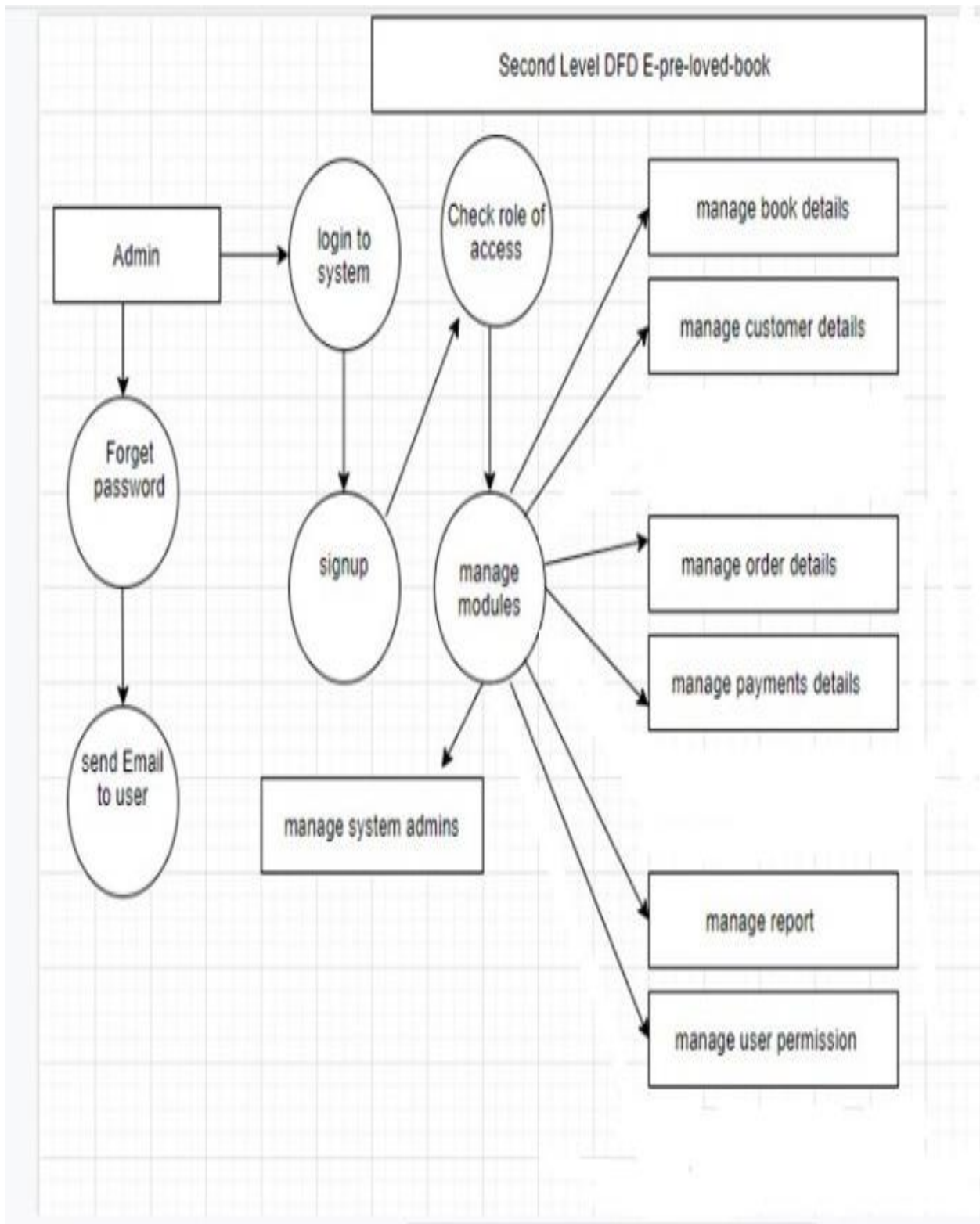
### LEVEL 0



## First Level DFD

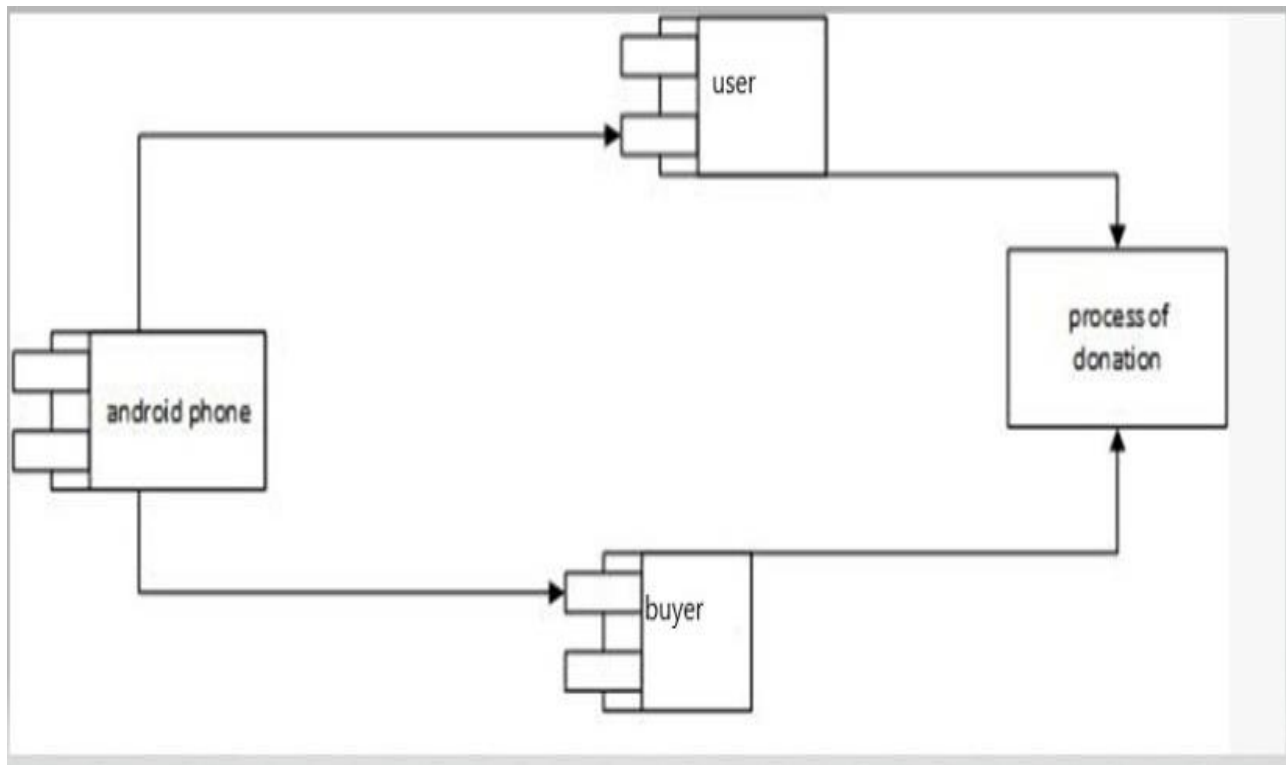


**Second Level DFD:**



## Context Diagram

A component diagram allows verification that a system's required functionality is acceptable. These diagrams are presenting the flow and verification system



# Chapter 5

## Implementation

## Chapter 5: Implementation

There are so many modules available in this app such as creating account, login, home page view products, search, view profile, add to cart.

This chapter will walk through or talk about every fundamental or module to visualize the flow or advancing towards the mobile based application.

### 5.1. Important Flow Control/Pseudo codes

Services that this application will provide are the following: ☐

1. User can Login, Register.
2. User can mark books.
3. User can add book to cart and delete them too.
4. User can view ongoing orders.
5. User can view complete orders.
6. Admin can add or remove books.
7. Admin can add, update prices of books.
8. Admin can view ongoing orders.
9. Admin can view complete orders.

### 5.2. Components, Libraries

- Bumptech.Glide from github is a fast and efficient open-source media management and image loading framework for Android.
- Github.gabriel-TheCode: AestheticDialogs Use for dialogs for android.
- Mikepenz:materialdrawer is from drawer in android.
- Github.dhaval2404: imagepicker for image picking in android
- Universal Image Loader

### 5.3. Deployment Environment

In Deployment environment we work on android studio for build our android based application.

### 5.4. Tools and Techniques

4. Tool	Android Studio 5.0
Languages	JAVA, XML
Data base	Firebase

*Table 5 : tool and technique*

### 5.1. Best Practices / Coding Standards

- User friendly interface design
- Simple coding method
- Feedback of User
- Testing on android studio
- Use java language
- Use xml language

### 5.2. Version Control

Now we just working on version 1 after the passage of time we changed the version. From the start of the project number of versions updated and finalized now version 1.5 mentioned here.

# Chapter 6

## Testing and Evaluation

## Chapter 6: Testing and Evaluation

This testing phase will use a number of testing techniques. The decision as to which technique(s) to use for any given unit of code will reside with the team leader responsible for signing-off on the Module.

### 6.1. Use Case Testing

After making application we have to ensure that every aspect of our application's features working properly or not so we apply manual testing for application to check working of the application.

#### 6.1.1.

Test Suite ID	TS001
Test Case ID	TC001
Test Case Summary	To verify that by clicking Signup button username, password, email, phone# and address store in users detail in database.
Related Requirement	RSoo1: User should able to Sign up.
Prerequisites	No
Test Procedure	<ol style="list-style-type: none"> <li>1. Select fields in Signup form.</li> <li>2. Enter user data in fields.</li> <li>3. Click Signup button.</li> </ol>
Test Data	Valid username: Iqra, IQRA Invalid username: 12 iqra ./iqra ,iqra %^3

	Valid password: 123Abc@5, Abc567\$%9 Invalid password: 1_2iqra, _iqra12 Valid email: ali@gmail.com, 12ali@yahoo.com Invalid email: ali.com, iqra@yahoo Valid phone# :03123456578 Invalid phone: @56rfgf7999, 2wstyyA
Expected Result	<ol style="list-style-type: none"> <li>1. If username, password, email and phone# are valid then store user data by clicking signup button.</li> <li>2. If given inputs are invalid then display error message.</li> <li>3. If fields are empty then show warning message.</li> </ol>
Actual Result	<ol style="list-style-type: none"> <li>1. If name is valid, the result is as expected.</li> <li>2. If name is not valid then invalid message displayed.</li> <li>3. If fields are empty then warning message displayed.</li> </ol>
Status	Pass
Remarks	This test case is simple and easy.
Created By	Farhaj Ahmed
Date of Creation	04/10/21
Executed By	Rabia Saleem
Date of Execution	04/10/21
Text Environment	OS: Android Studio Version 5.0

Table 6 : Use case of Sign up

**6.1.2:**

Test Suite ID	TS001
Test Case ID	TC002
Test Case Summary	To verify Authentication or Login.
Related Requirement	RS002: User should able to Login.
Prerequisites	User should Signup first.
Test Procedure	<ol style="list-style-type: none"> <li>1. Select Username field and enter username.</li> <li>2. Select Password field and enter password.</li> <li>3. Click Login button.</li> </ol>
Test Data	Valid username: Iqra,iqra Invalid username: 1iqra, ./iqra , iqra%^3 Valid password: 123Aabc@, abMc567\$% Invalid password: 1_2iqra, _iqra12
Expected Result	<ol style="list-style-type: none"> <li>1. If username and password are valid then clicking the Login button user successfully login.</li> <li>2. If username and password are invalid then clicking the Login button invalid message display.</li> <li>3. If fields are empty then display warning message</li> </ol>
Actual Result	<ol style="list-style-type: none"> <li>1. If fields are valid, the result is as expected.</li> <li>2. If fields are not valid then invalid message displayed.</li> </ol>

	3. If fields are empty then warning message displayed.
Status	Pass
Remarks	This test case is simple and easy.
Created By	Farhaj Ahmed
Date of Creation	04/10/21
Executed By	Farhaj Ahmed
Date of Execution	04/10/21
Text Environment	OS: Android Studio Version 5.0

*Table 7 : use case of login*

### 6.1.3:

Test Suite ID	TS001
Test Case ID	TC003
Test Case Summary	To verify that wedding halls, restaurants, volunteer, consumer and non-profit organization once signup if they are forgot password then they can update it by email.
Related Requirement	RS003: user should able to update data.
Prerequisites	user should login.

Test Procedure	<ol style="list-style-type: none"> <li>1. Select fields.</li> <li>2. Enter data in fields.</li> <li>3. Click forgot password button.</li> </ol>
Test Data	04/10/21
Expected Result	<ol style="list-style-type: none"> <li>1. If enter data is valid then update data by clicking update button</li> <li>2. If given inputs are invalid then display error message.</li> <li>3. If fields are empty then display warning message.</li> </ol>
Actual Result	<ol style="list-style-type: none"> <li>1. If fields are valid, the result is as expected.</li> <li>2. If fields are not valid then invalid message displayed.</li> <li>3. If fields are empty then warning message displayed.</li> </ol>
Status	Pass
Remarks	This test case is simple and easy.
Created By	Farhaj Ahmed
Date of Creation	04/10/21
Executed By	Farhaj Ahmed
Date of Execution	04/10/21
Text Environment	OS: Android Studio Version 5.0

Table 8 : use case of update profile

**6.1.4:**

Test Suite ID	TS002
Test Case ID	TC004
Test Case Summary	To verify that wedding halls, restaurants, volunteer, consumer and non-profit organization once signup if they are deleted in database by performing crud operation by clicking Delete button.
Related Requirement	RS004: Admin can delete data.
Prerequisites	Admin should login.
Test Procedure	Click delete button.
Expected Result	If data is deleted by click button then message will appear
Actual Result	If action is valid, the result is as expected.
Status	Pass
Remarks	This test case is simple and easy.
Created By	Farhaj Ahmed

Date of Creation	04/10/21
Executed By	Farhaj Ahmed
Date of Execution	04/10/21
Text Environment	OS: Android Studio Version 5.0

Table 9 : use case of delete data

**6.1.5:**

Test Suite ID	TS002
Test Case ID	TC006
Test Case Summary	To verify that record is display.
Related Requirement	RS006: User should be able to view data.
Prerequisites	User should login.
Test Procedure	<ol style="list-style-type: none"> <li>1. Enter name in fields.</li> <li>2. Click View button.</li> </ol>
Expected Result	<ol style="list-style-type: none"> <li>1. If name is valid then show detail.</li> <li>2. If name is invalid then display error message.</li> <li>3. If field is empty then display warning message.</li> </ol>

Actual Result	1. If name is valid, the result is as expected. 2. If name is not valid then invalid message displayed. 3. If fields are empty then warning message displayed.
Status	Pass
Remarks	This test case is simple and easy.
Created By	Farhaj Ahmed
Date of Creation	04/10/121
Executed By	Farhaj Ahmed
Date of Execution	04/10/21
Text Environment	OS: Android Studio Version 5.0

Table 10 : use case of record to display

## 6.2. Equivalence partitioning

1	User name is alphabetic.	valid
2	User name is not alphabetic.	invalid
3	Password is equal to 10 or greater than 15 characters in length.	valid
4	Password is 2 to 16 characters in length.	invalid
5	Password include one uppercase letter & one lowercase letter.	valid
6	Password include ' _'.	invalid
7	Email without '@' and '.com'.	invalid
8	Email with '@' and '.com'.	valid
9	Price only be numeric.	valid
10	Price is alphabetic.	invalid

### 6.3. Boundary value analysis

Sr.		Partition 1	Partition 2	Partition 3
1.	Password	Less than 8 character	1 – 8 character	9 – 12
2.	Phone	<=0	1 - 11	9 – 12

*Table 11: boundary analysis*

### 6.4. Data flow testing

The relationship between one entity and another while performing a specific task in during data flow. Such as between the sign up and registration process etc.

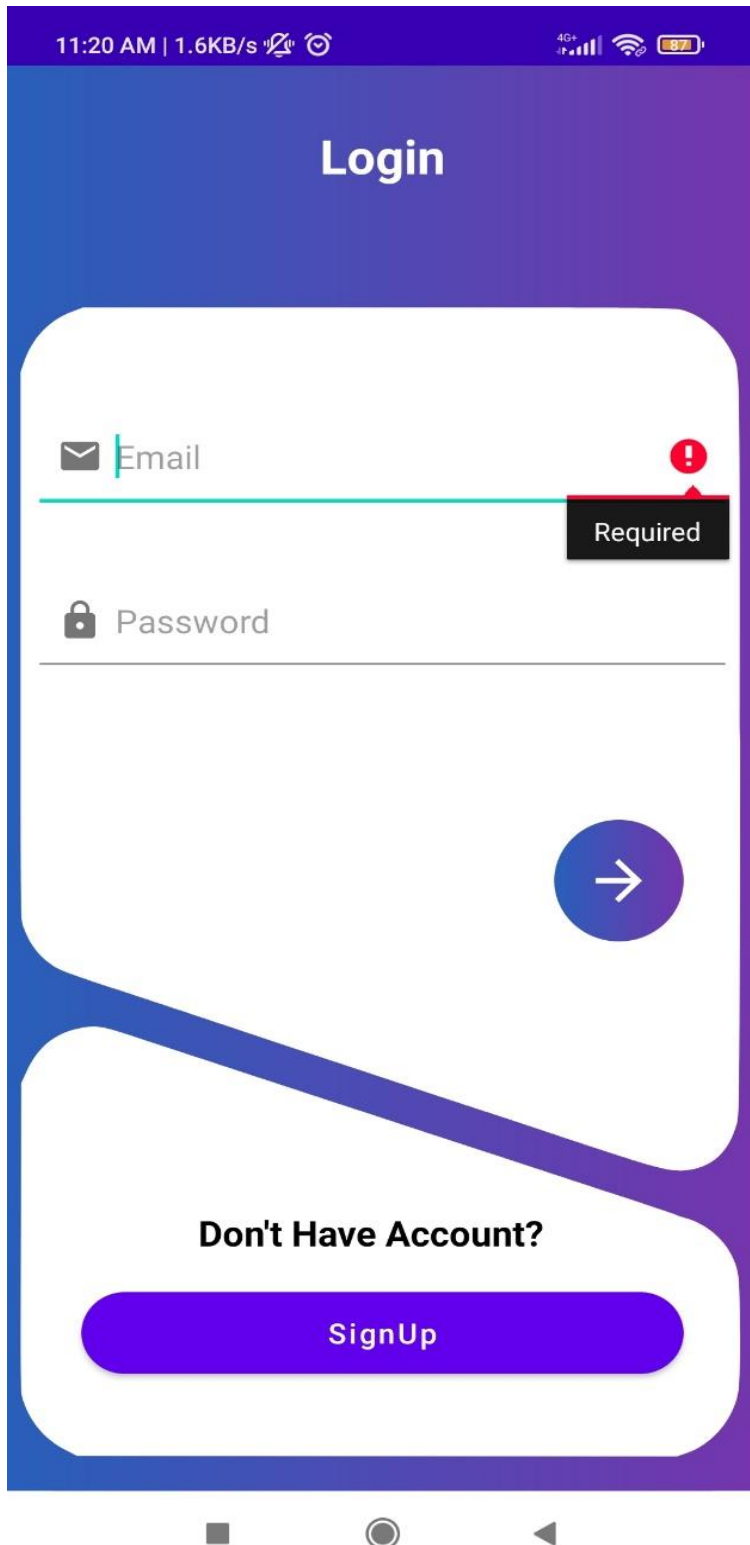
### 6.5. Unit testing

In unit testing we have testified our different panel codes individually by performing different tests and by executing them individually, separately on different computers and they were successfully executed and they performed well.

### 6.6. Performance testing

In performance testing a particular certain situation is given to the website let's just say a 100 users try to register at the same time so how the system recovers back gracefully with complete results. So according to our extracted results, around 100+ people were able to register in our application.

## Interface for Login



# Chapter 7

## **Summary, Conclusion and Future Enhancements**

## **Chapter 7: Summary, Conclusion & Future Enhancements**

### **7.1. Project Summary**

Now that the project Eprelovedbooks is completed so that I can explain the purpose of the app it is basically a mobile app. The main purpose of this app is to control book and paper wastage and forward this to people who cant afford expensive books.

We create an android application for selling the books through internet. The main aim of this application is to reduce the wastage of books and manual work of the people. In this application all details and records are maintained database software. Book names and book prices are displayed in the application. Whenever we need data, we can easily access the database to retrieve the data that are already stored at anywhere in the world. The prices will be updated weekly.

### **7.2. Achievements and Improvements**

The biggest achievements here are that we were able to enhance our skills to the professional extend that we learned in four years of studying and apply it to this project. We learned software architecture design techniques, UML modeling, project management, testing and much more, and were able to apply it all in this project.

The next big achievement is the things we learnt during this project. New languages, frameworks, libraries, different software's for diagrams Database. All that will be useful for us in our futures. We learn Creative thinking.

### **7.3. Critical Review**

The critical element of our system is: Is our system is fast moving, give user friendly interface, not very costly, fulfill the specific requirements of the users at a runtime, has all the features which any organizations can require. To manage all these aspects, it took lot of time and hard work.

### **7.4. Lessons Learnt**

We absorb very much from this project. This project sharpens our skills in xml and android studio many other tools and many management concepts as well as how to deal with a problem and how to stick for finding the solution of any problem until you fond. As well as technical skills this project also enhances our personal development skills such as team working, dedication.

## **7.5. Future Enhancements/Recommendations**

As it has been already said, there is always room for further improvement. And since we plan to launch this application as our own startup, enhancements will keep coming.

The system has been built on react native, but at some point, we work on its efficiency, accessibility, flexibility, we are definitely going to scale it up which we believe ours is eventually going to become. We make it more user-friendly interface.

# Appendices

## Appendix A: User Manual

In this appendix section we describe the different phases of user interface and also describe how user can use our project

### Appendix A: E-donation

#### A.1. Login

User can login by entering name and password.

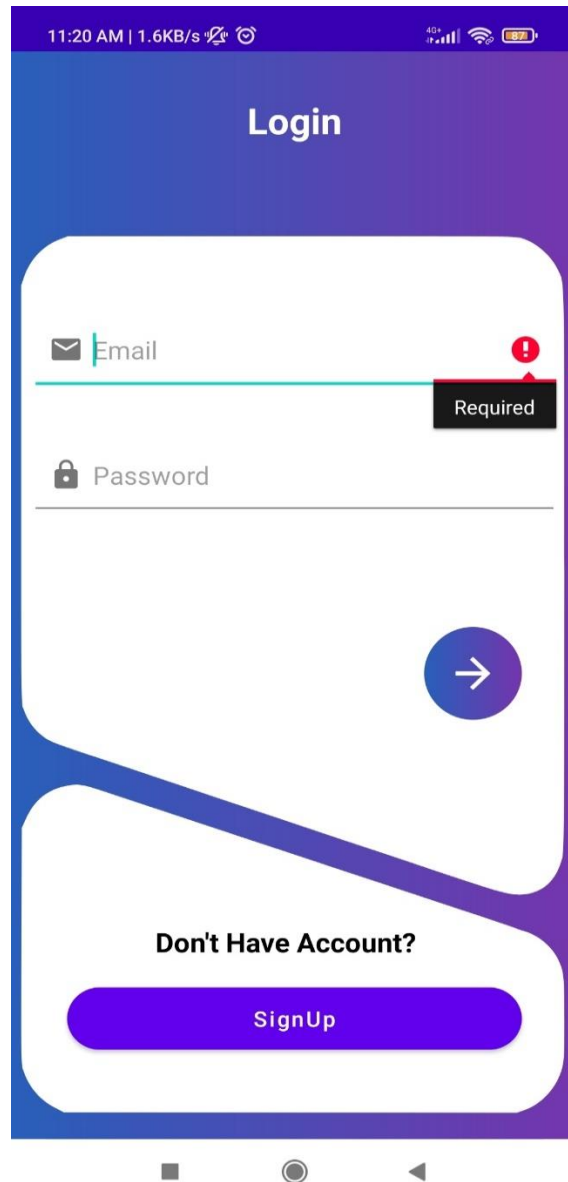


Figure 7: interface of login

## A.1.2 Signup

User fills the registration form. In case if ser is not valid aur enter wrong name and password it will show a authentication warning

The image shows a mobile application interface for signing up. The title is "SignUp". The form contains five input fields: "Name", "Email", "Phone", "Password", and "Address". A red exclamation mark icon is positioned above the "Name" field, and a black tooltip with the text "Required" is visible next to it. Below the form is a blue circular button with a white right-pointing arrow. At the bottom of the screen, there is a section titled "Already Have Account?" with a blue rounded rectangular button labeled "Login". The status bar at the top shows the time as 11:20 AM, data usage as 0.4KB/s, and battery level at 97%.

Figure 8: interface of sign up

### A.1.3 Select functionalities

User selects the functionalities which he wants in LMS.

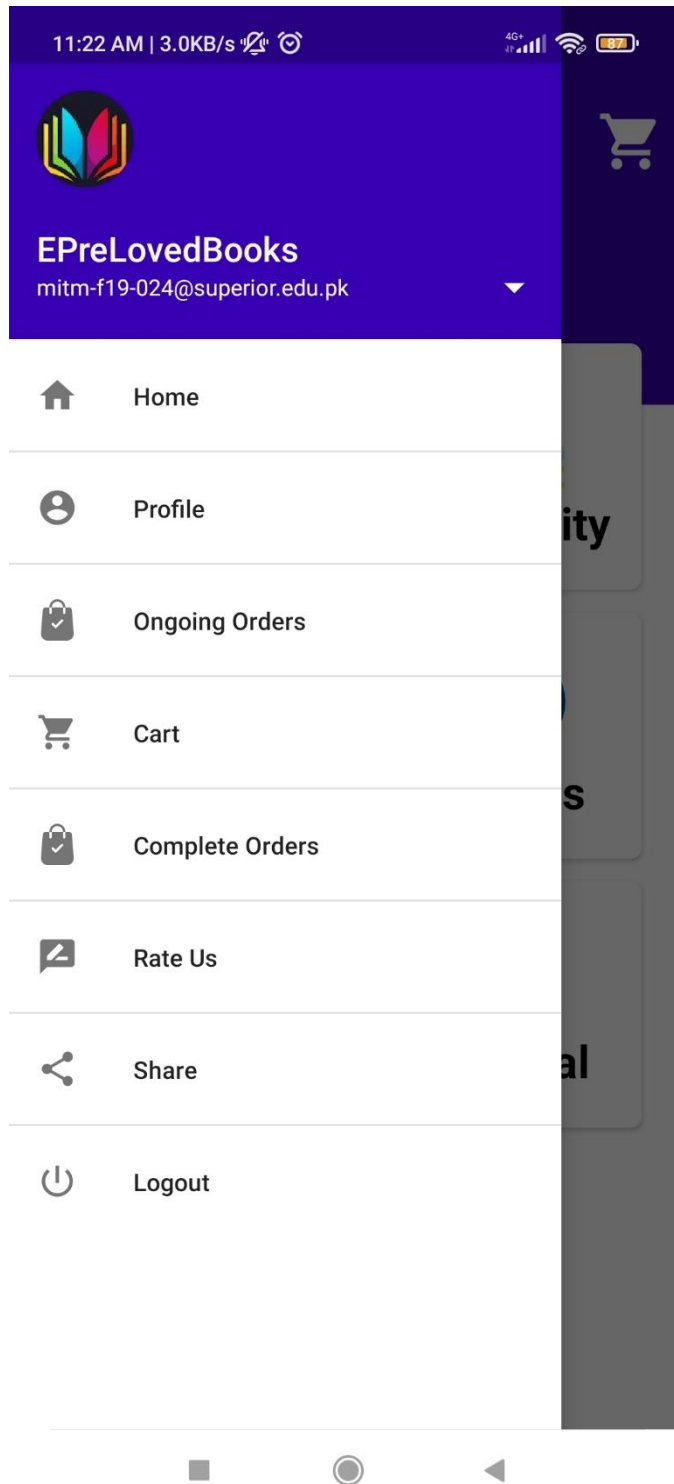


Figure 9: interface of functionalities

## Appendix B: Administrator Manual

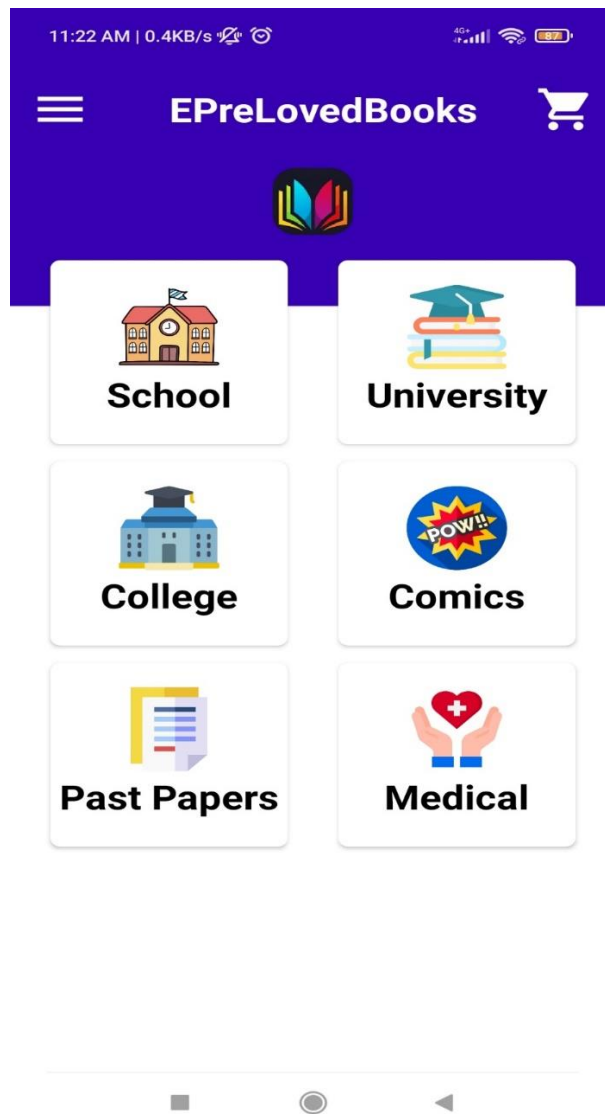
In this appendix section we describe the different phases of admin interface and also describe how admin can manage the system.

### B.1. Login

User can login by entering the password and username.

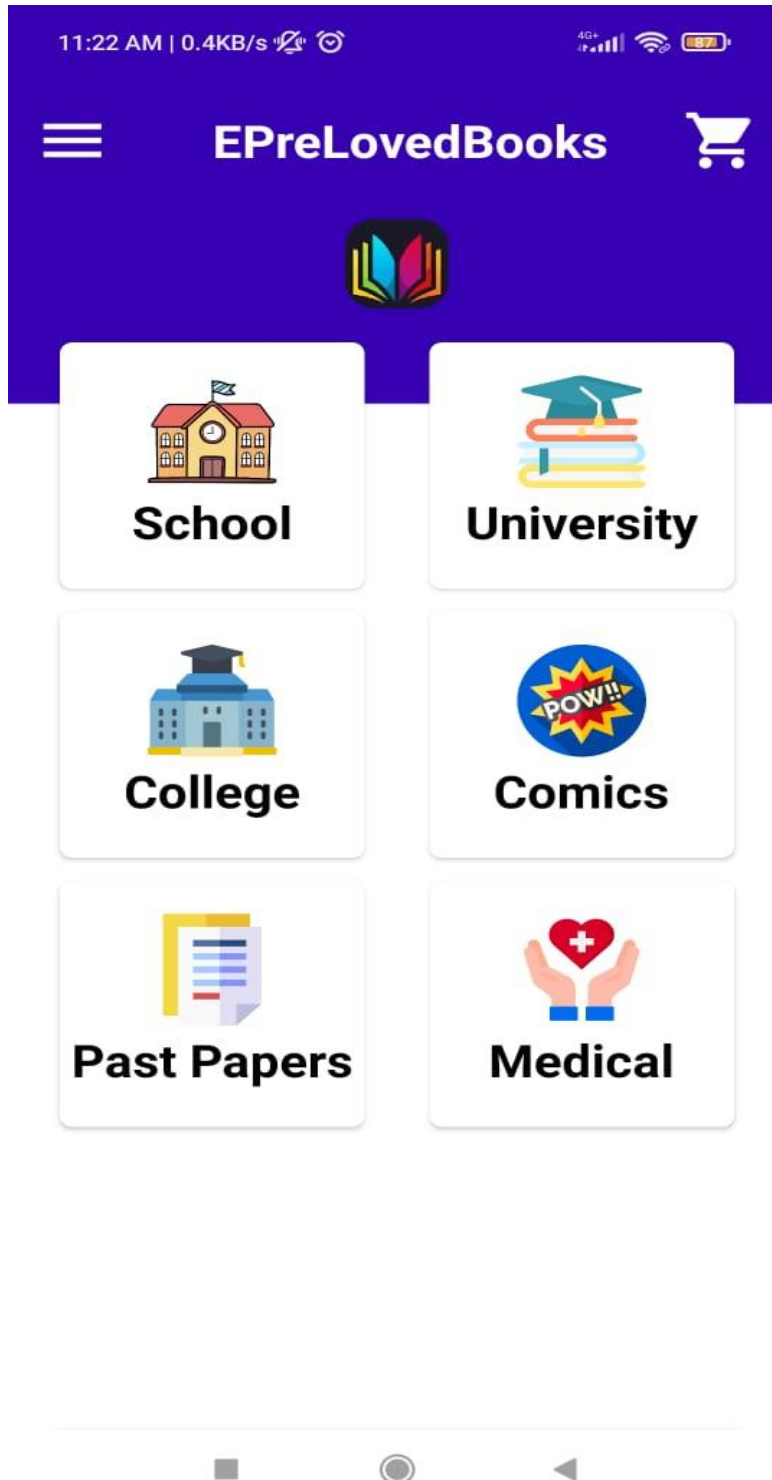
#### B.1.1. Manage User Panel

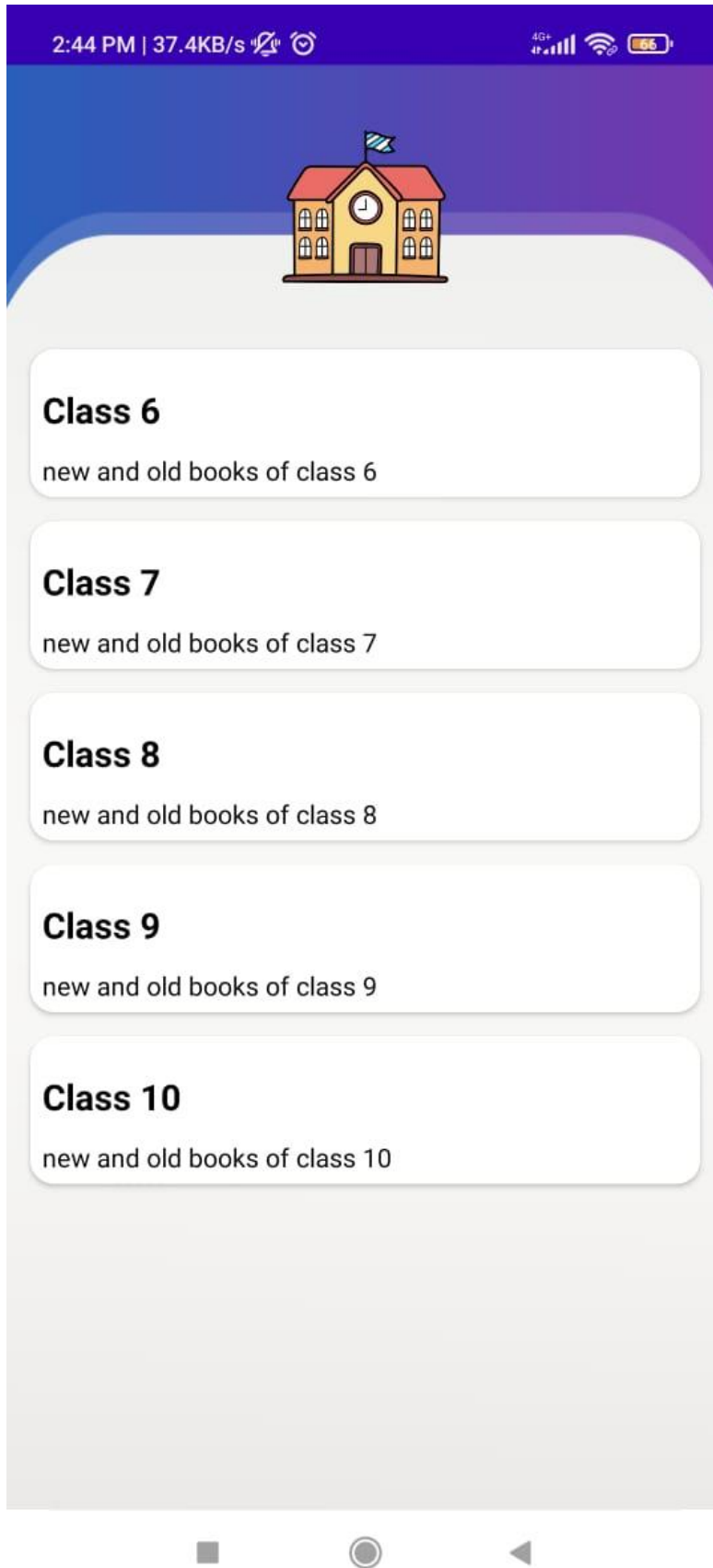
Admin can have a full access of and record.

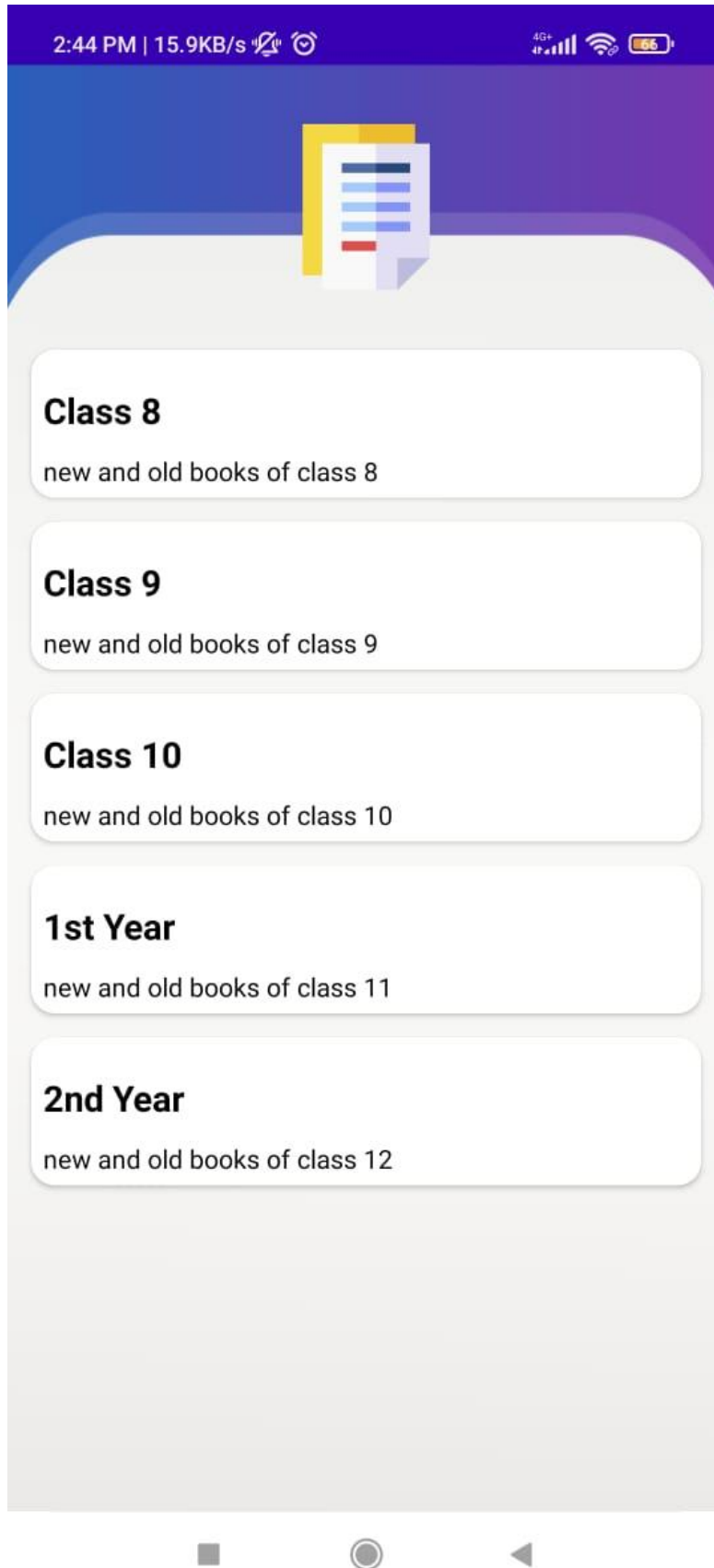


## Appendix C: Information

In Appendix we add promotional material about our application and application. We add these for promote our application



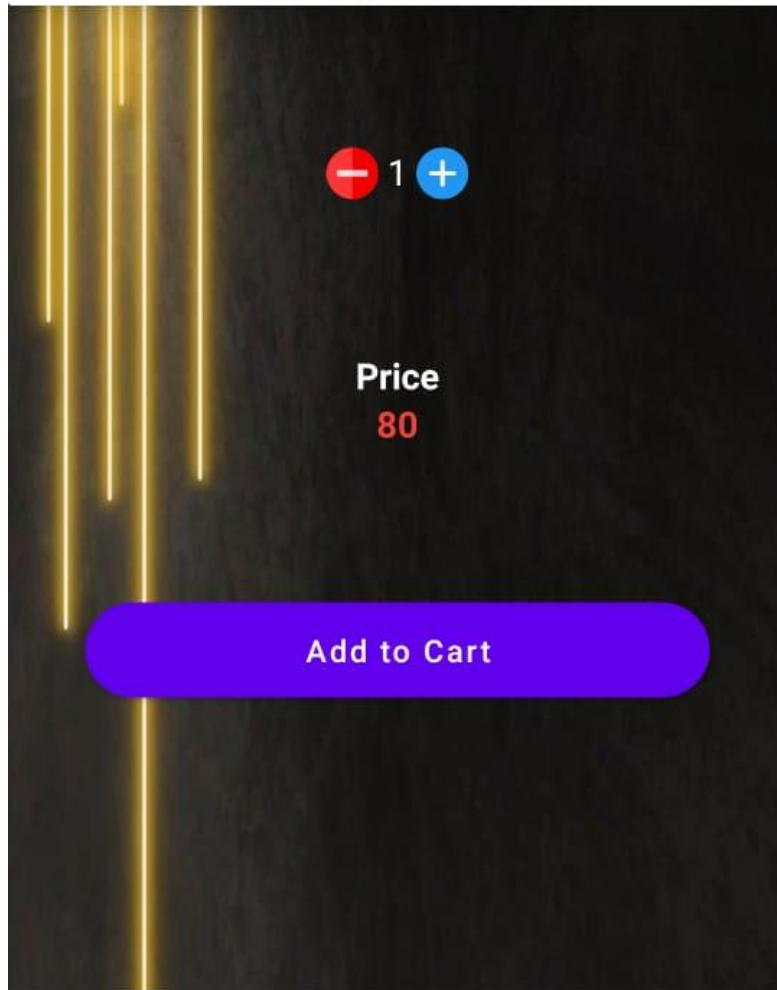


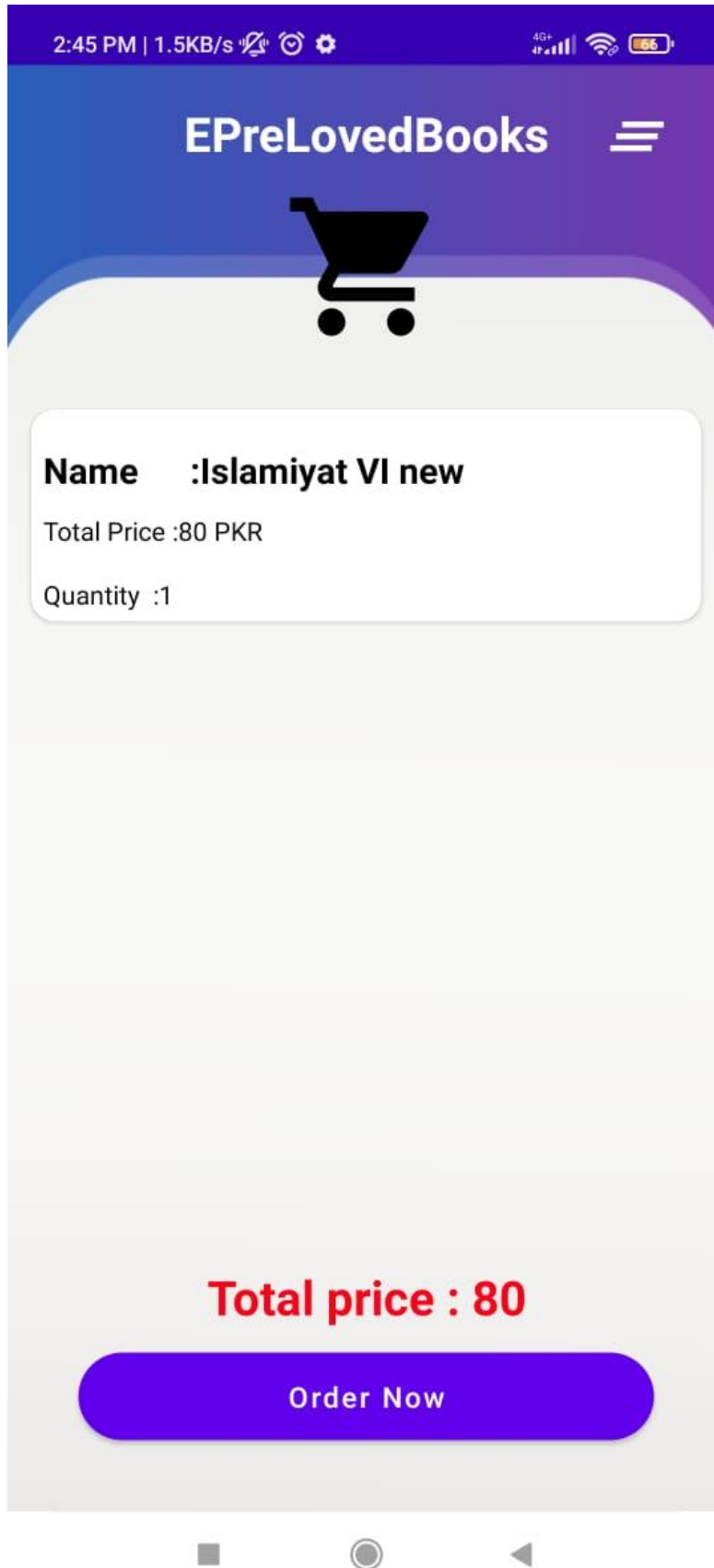


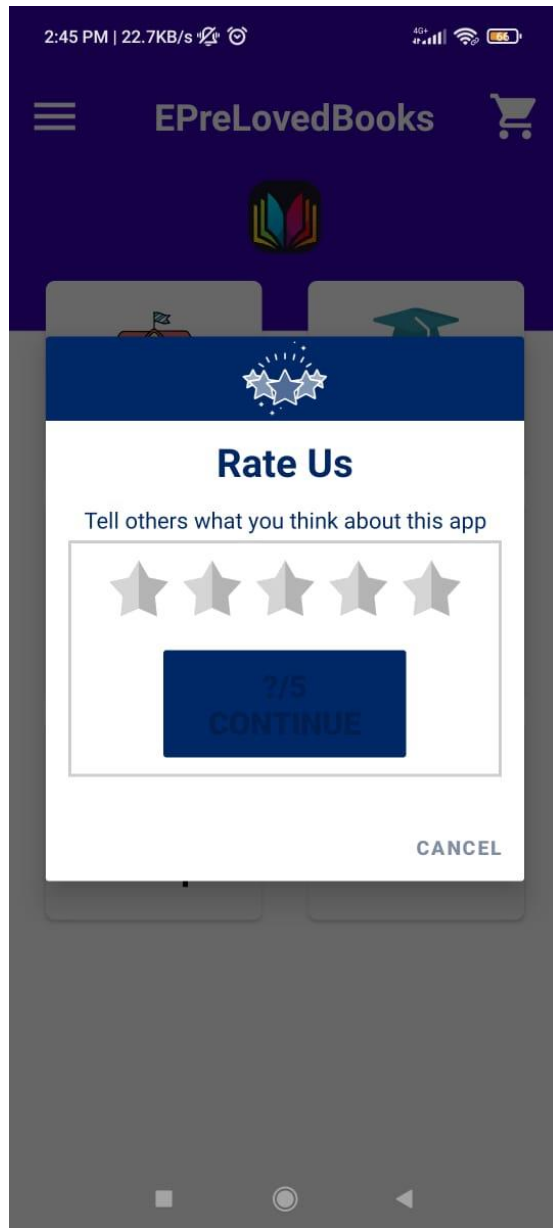




### Islamiyat VI new







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