THE OLD BOOK STORE: AN ANDROID BASED APPLICATION

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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 **"The Old Book Store: An Android Based Application"**, submitted by Sourov Sarker, ID No: 191-15-12504, Neela Rani Kar, ID No: 191-15-12595 and Sourov Das Mithun, ID No: 191-15-12619 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfilment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 25 January, 2023

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We hereby declare that, this project has been done by us under the supervision of **Raja Tariqul Hasan Tusher, Assistant Professor, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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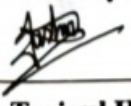

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ABSTRACT

Old Book Store is an android application and it's primarily for selling and buying. Even if they don't buy book through our app, they will can get idea about their required old books price. But they will have to sign up to get access to our application. There are basically two types of users. This application is mainly focused for old book buyer and seller needs. Both buyer and seller all needs to sign up to the application and must need to create a user profile to performing the operations. Customers can see their required book's availability list searching with book name using search bar or can post for books. Sellers can give post by taking their old books cover page picture and adding price in which they want to sell. Sellers will be able to see the notifications for total order request. After receiving the order request sellers' number will show to buyer. When buyer will click call button the number will automatically come into calling app. Then buyers and sellers can talk and bargain with price between them. After talking to each seller and each buyer, buyer can order for the lowest price books and seller can receive the order from the buyer who is willing to give the highest price for their books. After giving the books for delivery by seller they will not be able to cancel their orders. The security of this Android application ensures that no users can access any functionality they are not authorized to utilize. I believe this application will easy the old book buying and selling management to each user.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Buying new books, especially textbooks can prove to be quite expensive. Many people nowadays choose to buy over clean copies of used books. The necessity for used books has increased considerably in recent years. Human is like to read book in their free time or they read books to minimize their boredom, loneliness and depression. But there mayn't have the facilities to buy the all categories of books. Again many don't want to buy books for huge cost. These people can get their favorite books through our application and order books at a discount price. So, their willing of reading books increase day by day. They can order books through our app using online without physically going anywhere and they can receive their ordered books from anywhere and anyplace which is convenient to them. Again, Poor parents also can't buy their child new books for their new level class. They can buy books for their child at their convenient price through our app. Books in our application usually available at a discount. These can be bought for individual use or given as gifts. Due to the lower cost of used textbooks, many students also like to purchase them. These vintage books let people save a substantial sum of money. Old books are selling in some major market only. So, these are not available to every people and everywhere. These people have to go these market to buy this book which can be located at thousands miles distance. It is difficult and huge waste of time for them. That's why we make our application name "Old Book Store" to solve these problems. Since it is an android application, anyone with an android device can use it. To utilize this program, they will need to be online. We think this will easy the buying and selling process of old books and in this way, this will increase the number of readers by making interest to buy old books more.

1.2 Motivation

Many people like to read books but many of them don't want to buy books at high prices. Many poor parents can't buy new books for their children for their new level class due to

lack of money. Admission test candidates and job seeking candidates have to buy many books but it's not possible to buy all books in new edition because of high cost. So, they look for old books for their needed books. But this is not possible to get old books easily from anyone or in anywhere. So, from this experience we have motivated to build a system where user can search for their required books and find the available list of sellers of these books by their location and with discount prices. Then they will can order and receive the books. In case of outside of their location they will can receive the books from courier. Our main goal is to create a dynamic and scalable system so that seller can post their selling book information and user can easily and find and view their required books information immediately. We integrated our app with the highly security process in order to protect our user from any security flaws. There is no need for them to use a different login mechanism. User have to registration in the app and they have to login using this app. So, they don't have to use another login system.

1.3 Aims of the Project

- Exposure to a platform for online marketing
- Simplify the use of information technology
- Is eager to experimenting with new technology
- Engaged in the purchasing and selling process online

1.4 Objectives

We know that how good is the habit of reading books. So, our main objective is to make an application where people will be able to get and buy their required book with a small amount of money. It will make the desire and habit of reading more books among them and people from upper to lower class will be able to fulfil their demand of books. In our application, people can search the book which they need. Then they will see the available list for this book with the main price and discount price. Then they will can order the book from that seller who is available in their location or they will can order the book of less price. Because of having our app on one platform, we need to have a android device on our

hand. Our project is capable of handling a lot of user in real time and gives a secure environment and also give a robust performance to the users.

1.5 Feasibility Study

Feasibility is the test of the system. The program's viability is given to the test. The viability of the system is examined. It helps determine whether the project can be finished. The system is examined to see if it should be developed in a feasibility study. In layman's terms, the feasibility study examines whether or not the project is practical by putting the system to the test and evaluating whether it passes or fails. Feasibility have four solid dimensions:

- Technology
- Finance
- Time and
- Resources

The feasibility of the system "Old Book Store" is viewed with the help of these four dimensions.

Technology: The system development of old book store was done with the intention of using the most simple and accessible technology. This solution is built for phone's user interface. Java is the programming language used to construct this system. XML for design and MySQL for the database.

Finance: This factor assesses the system in terms of money, or money. This factor decides whether or not it will be beneficial to invest the required funds in the system. This idea uses straightforward technology that is relatively simple to install, therefore there are no financial issues. The hardware requirements for this system are quite low because it was designed for a solitary computer. It takes only extremely minimal hardware and readily available technologies to design and deploy this system correctly, and all of these prerequisites are inexpensive.

Time: One of the most principal factors is time. This project places a high value on timing, and the system will be installed on schedule. This program is not that much huge; thus, it will be done by the required amount of time. Time is an important consideration; thus, we can conclude that this system can be constructed in the required amount of time.

Resources:

The resources needed to construct the system are considered in this dimension. Basic hardware and an operating system that is compatible are all that are needed for this system, which has very low resource requirements that may be met.

We can assess the program's viability and decide whether to move forward with this project with the aid of this complete dimension. We can state that this program is viable from all of these dimension points of view and that the project can move forward if we take into account the dimensions and their roles in this specific system.

1.6 Expected Outcome

The expected result of this project is straight-forward. This system helps the buyer to buy the fresh used book copies at their convenient price and it helps the seller to sell their old books to refresh their collection. Buyer can find and order the book by searching or posting for a book if this not found in application where seller can also post the information about their selling books. Buyer will be able to see the available list for searched books and buyers also get notifications about the order for their books. Buyer can order the required books as their location. Our application overcomes the limitation of the similar existing project.

1.7 Project Management and Finance

If any further feature needed to update our application, we all the team members will change this. Our app requires a backend server; hence money must be spent to cover the cost. Despite the cost being relatively low, the app's efficient design minimizes the need for remote dependence. The finance of this app will be handled by ourself.

1.8 Report Layout

This system eventually gives thorough whole things of our system, along with any similar tasks & concepts. We recently researched related initiatives to determine whether there was room to advance the current project further. We also talk about the definition of requirements and try to summarize user requirements. Below is a quick summary of each chapter:

- **Chapter 1:** Outlines the old book store's introduction, the motivation, the goals and objectives, the feasibility study, the anticipated outcome, project management and finance, and the report format.
- **Chapter 2:** Explanation of the background, preliminaries, the related works, Comparative Studies, scope of the problem and Challenges of the old book store. The difficulties we encountered and the issues we ran into were covered in this chapter.
- **Chapter 3:** Explanation of the Android Studio, System requirements, XAMPP.
- **Chapter 4:** Explanation of the Block diagram, Description of program, Use case modeling and description, System architecture, E-R diagram and description.
- **Chapter 5:** Explanation of the implementation of the front-end design, the back-end design, the name of the data table, the architecture of the data type, the MySQL database, the structure of the database tables, the testing methodology, the functional testing, the unit testing, the compatibility testing, and the results.

Chapter four and five describes the problem we addressed and the tools we employed to carry out the project.

- **Chapter 6:** Describes the impact of the project on society and environment, sustainability of the project and its ethical aspects.
- **Chapter 7:** Describes the conclusion, limitation and future scope. We've come to a conclusion with a few findings and some suggestions for additional study.

CHAPTER 2

BACKGROUND

2.1 Preliminaries

Most of the people like to read book. These people buy books for self-reading or to gift others. Some of them buy books from store and some of them buy books on online through different applications. In the rest of people many of them are like to read books but they don't want books for high cost. Because the price of new books always high. Students must buy their textbooks, guides etc. But many of them can't effort to buy new books for poverty. In all of these case, one solution to them which is buy old books. Because, old books are selling at low price. But old books are not available every time in every place. So, as a need some application has developed different times so that people can buy old books from anywhere and anytime through the application using internet. People can now buy old books through these applications at a low price. But these applications have different lack of functionalities. In order to acquire a comprehensive understanding of the issue at hand and ensure that we can deliver the best results for our project, we will be making plans to address each of these issues and researching other pertinent works.

2.2 Related Works

On the internet, few projects dedicated to the sale of old books. However, the difficulty is that they are insufficient to address all problems. If one trait is present, another is absent. And some of these are match with our project in some ways. But, the issue is that these are lacking in some functionality. Our aim is to resolve these problems by creating a new application that will assist buyers and dealers. In this application we have included some new thing such one of them is the option to order books by convenient location.

2.3 Comparative Analysis

There have some book selling application in Bangladesh which are not for old book selling. In these app people can see the book list, choose their books and order the books. Order is received by site and book is delivered to customer after a time. Here, customer can't get

books at a discount price without sale in the specific time of a year. People also can't bargain with price. Therefore, all of these problems that other projects don't address will be handled by our application. We have developed our project in which people will get old books at a discount price in the full year. Using this app customer will can talk to different seller by chat and will can bargain with price also. Then they will can buy the book from the seller with the lowest price. In the same way seller will can talk to different customer and will can sell their books to the customer who are willing to give high price. We know today almost every people has android phone. As a result, we created our system as an Android application to ensure that everyone may utilize it. So that it enables universal access to our application.

2.4 Scope of the problem

Our main goal is to build the system and solve the issue associated with purchasing and selling used books. The project is initially primarily intended for purchasing and selling. However, it will be created in a way that makes it adaptable and accessible in different ways, such as- borrowing for a specific period of time, exchanging old books with new books etc. We believe that the old book shop will be the quickest and simplest Android-based mobile application for both buyer and seller, but there is a chance that the user who use iOS and Microsoft-operated mobile phones will experience issues. They are therefore prevented from utilizing this application. A certain group of persons are prohibited from utilizing this internet-based program. To use this program, must need internet connection. To keep the system from halting, responses to user failures and undesirable situations have been taken care of. Codes for proper error handling are included with the codes.

2.5 Challenges

There are some used book sales applications both domestically and abroad and people also interested with these. It is therefore evident that there is a growing market for used books. Although there is a growing number of projects in this area, people are still searching for better user-friendly methods. Challenging task is designing an interactive user interface. Another challenge for us is deliver our application to every people in every level adjusting

to customer needs and preserving an efficient online environment. It was difficult to interact with the database and receive data from it. The most crucial element of our system was the set of assumptions we chose. The majority of people, according to our claims, use Android smartphones. To support our assumptions, we have tried to understand the needs of the target users and have concentrated on android users. Our aim in creating the Old Book Store application is to give the users a safe and convenient environment. One of the most difficult aspects of the task was to agree on appointments and meet ups. However, we learned quite a bit from this process about the importance of being well structured and well planned.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Android Studio

The official Integrated Development Environment (IDE) for Google's Android working framework is named Android Studio. It was developed exclusively for Android development and is depends on JetBrains IntelliJ IDEA program. It can be downloaded for Windows and macOS and working frameworks based on Linux. It works as a replacement for the Eclipse Android Development Tools (ADT), which are a necessary IDE for the development of local Android applications.

At the Google I/O conference on May 16, 2013, Android Studio was introduced. It went through beta stage with adaption 0.8, which was released in June 2014, after being in early access see organize from version 0.1 in May 2013. From version 1.0, the first stable version was released in December 2014. The most recent stable version, 3.0, was released in October 2017. (2)

The process by which new applications for the Android operating system framework are developed is known as Android software development. Applications are much of the time created utilizing the Android Software Development Kit and the Java programming language. Android applications are made using ADT (Android Development Tools). It primarily consists of Eclipse IDE, a multi-dialect Integrated advancement condition (IDE) with a base workspace and an extendable module framework for customizing the planet.

The ADT module is preconfigured and supplied to the IDE with the most recent version. When all of the necessary parts are checked, this is how the IDE looks. The appropriate channels for communication between particular product segments are established by the application programming interface (API). Typically, an API is a library with sections for factors, schedules, information structures, and question classes.

A Microsoft Windows API detail, vendor documentation, a programming language's libraries, the Standard Template Library in C++, the Java API, or an International Standard like POSIX are just a few examples of the different shapes that an API detail might take.

Google's website for developer tools, APIs, and special resource is Google Code, where Google APIs can be downloaded. Software developers can create applications that read and compose data from Google administrations thanks to the Google Data API. These include APIs for Google Apps, Google Analytics, Blogger, Google Base, Google Book Search, Google Calendar, Google Code, Search, Google Earth, Google Spreadsheets, Google Notebook, and Picasa Web Albums at the moment.

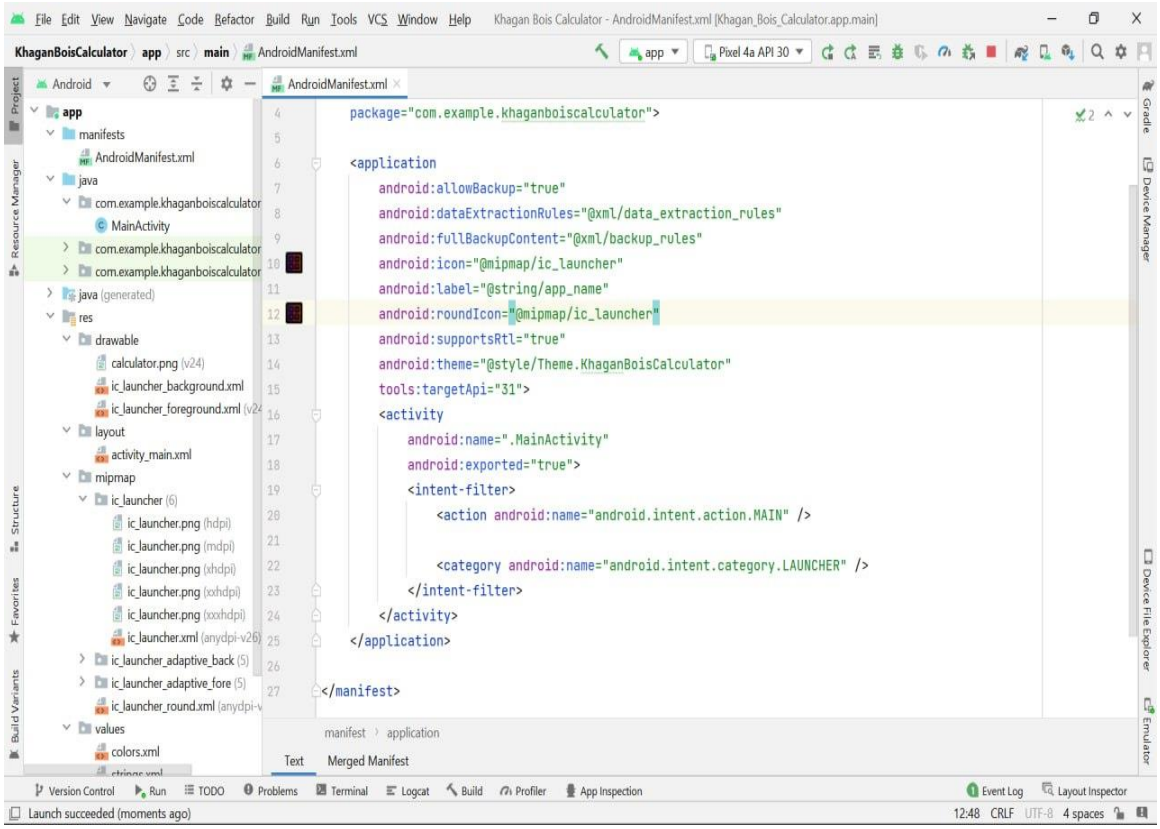

Figure 3.1: Interface of Android Studio

Software progressive Kits, also known as "Devkits," are typically a collection of development tools for programming that consider the creation of uses for a particular software package, programming framework, hardware stage, PC framework, computer game comfort, working framework, or comparable development stage. It could be as

simple as an application programming interface (API) with a few records to interface to a certain programming language or contain cutting-edge technology to communicate with a particular embedded framework. Basic tools include research aids and various utilities that are frequently exhibited in a coordinated development condition (IDE). The Android SDK is now included in the IDE when you unfasten and stack the IDE in the most recent version of ADT. The SDK Manager enables us to download and use Google APIs.

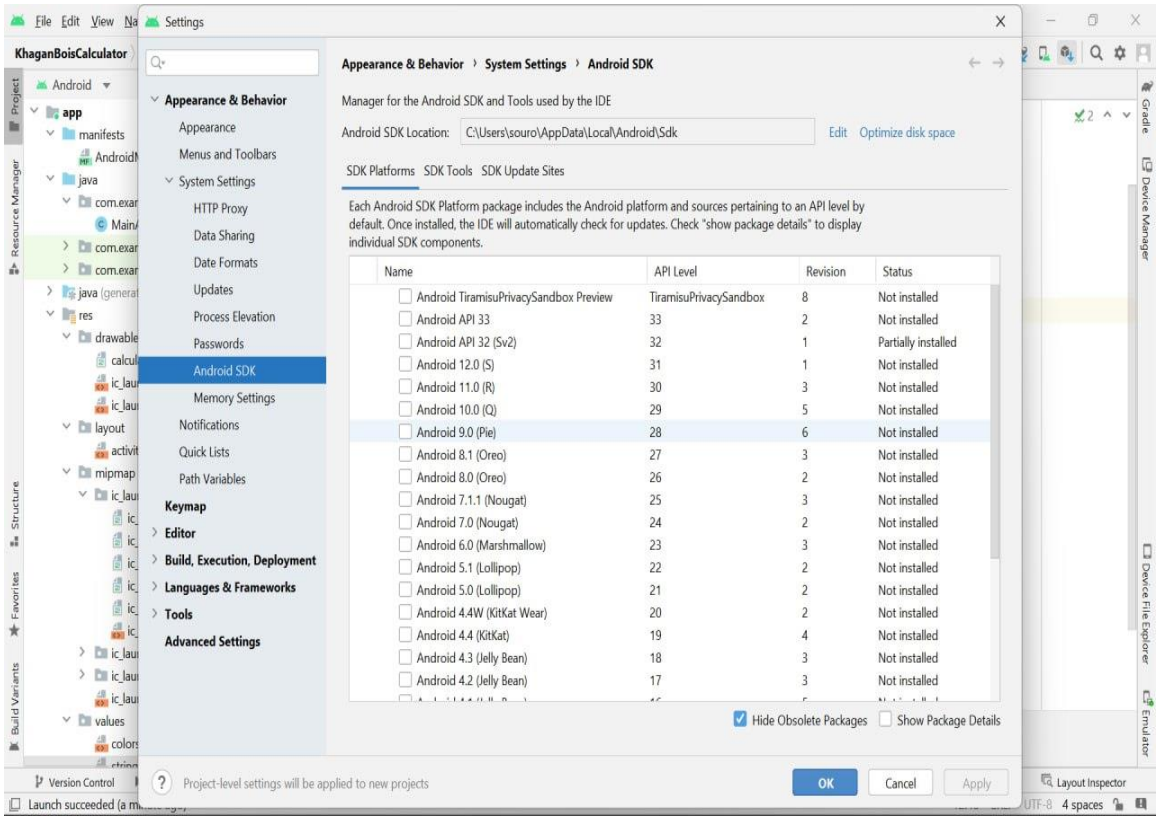

Figure 3.2: Android Studio SDK Manager

3.1.1 System Requirements

Table 3.1 Requirements

Criterion	Description
OS version	Microsoft® Windows® 7/8/10 (32-bit or 64-bit) Mac® OS X® 10.10 (Yosemite) or higher, up to 10.13 (macOS High Sierra) GNOME or KDE desktop Linux (64 bit capable of running 32-bit applications) (GNU C Library (glibc) 2.19+)
Ram	3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator
Disk space	2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
Java Version	Java Development Kit (JDK) 8
Screen resolution	1280×800 minimum screen resolution

3.2 XAMPP

An open-source web server package called XAMPP deals with several stages. It's actually an acronym, with X denoting the "cross" stage, A denoting the Apache HTTP server, M denoting MySQL, P denoting PHP, and P denoting Perl. XAMPP was created with the intention of assisting web designers, programmers, software engineers, and planners in checking & auditing their task on their computers even when they are not connected to the internet. In this way, XAMPP can essentially be used to maintain web pages even when not connected to the internet. Additionally, it may be used to create and design databases that are written in SQLite and MySQL. Additionally, because XAMPP is designed to be a cross-platform server bundle, it may be used with a variety of operating systems and platforms, including Microsoft Windows**.** (1)

3.2.1 Usage

Formally, the designers of XAMPP intended it to be used only as a development tool, allowing web engineer's and software developers to test their task independently on computers without 20 Daffodil International University (DIU) access to Internet. Numerous crucial security features are automatically disabled in order to make this as simple as is reasonably possible given the conditions. XAMPP has the ability to serve web pages. The most important components of the package are watchword secured using an exceptional device.

CHAPTER 4

PROPOSED MODEL AND DESIGN

4.1 Block Diagram

Block diagram offers the summary of applications & their fundamental interactions. The block diagram is shown here. The figure is provided below:

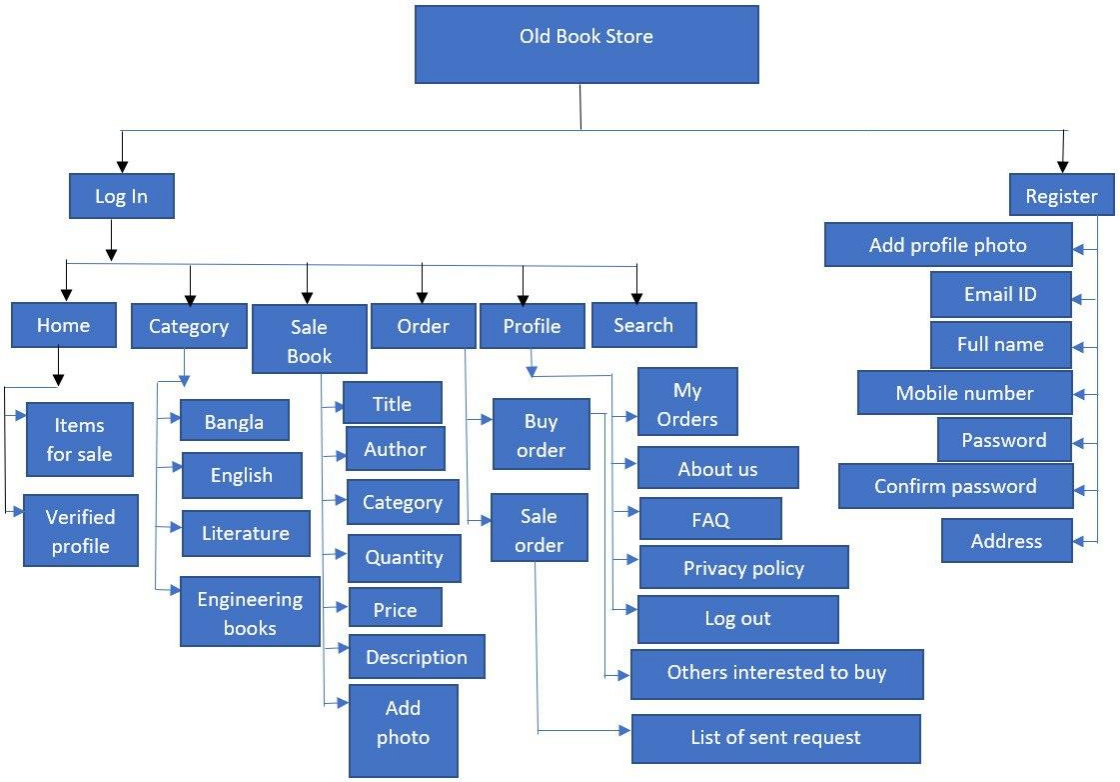

Figure 4.1: Block Diagram

4.2 Description of Application

Log In: During the process of logging in, an individual user can access our program by identifying and authenticating themselves.

Register: Signing up is used to create an account and to give some basic user data that will be saved in a database.

Home: There are list of books where user can buy & send request for books.

Category: Where different subjects of books are listed that user can choose for search.

Sell Books: In this section, user can provide their books information for sell.

Order: In this section, user can buy & see in the information of other user books and send request and see the list of send request.

Profile: In this section, user can see their orders and about the application information & log out.

Search: Where user can search their specific books.

4.3 Use Case Modeling

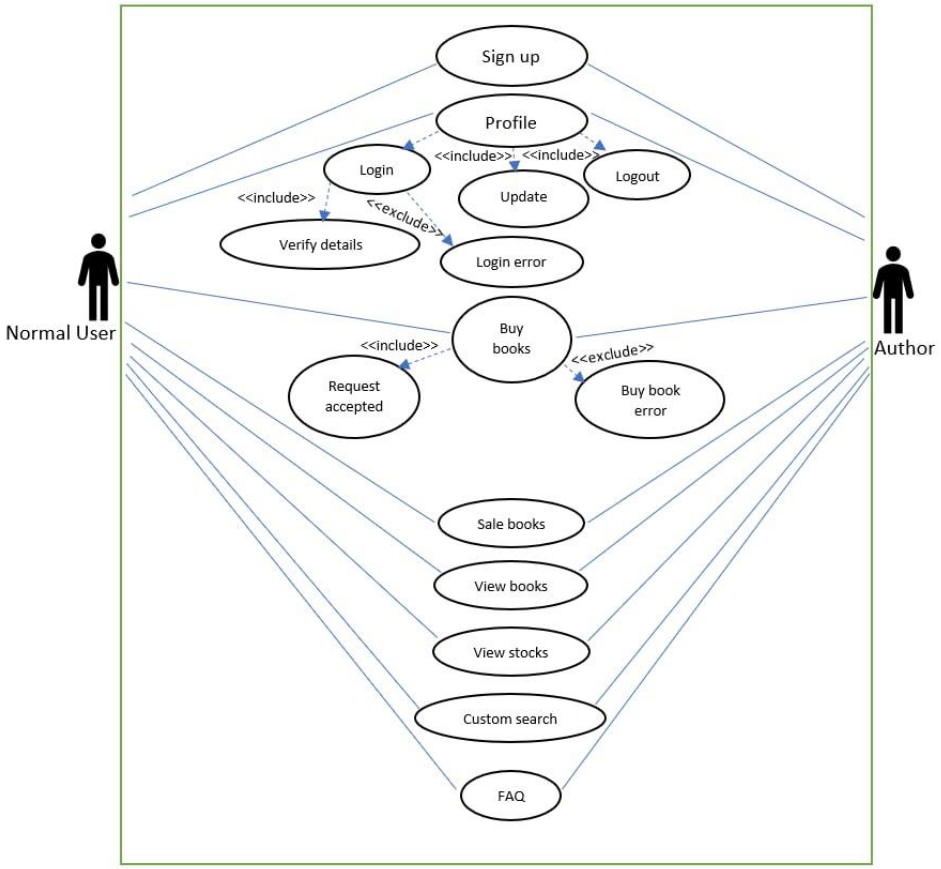

Figure 4.2: Use Case Diagram

Table 4.1 Use Case Analysis

Use Case: Sign up **Actors**: Normal user & Author **Type**: Primary **Description**: To sign up for this application, both the Normal user and the author must provide valid information, such as an email address, mobile phone number, and password. **Uses**: Log in **Extended by**: None **Extends**: None
Use Case: Log in **Actors**: Normal user and Author **Type**: Primary **Description**: To log in for this application, both the Normal user and the author must provide valid information, such as an email address & password. **Uses**: Profile **Extended by**: None **Extends**: None
Use Case: Profile **Actors**: Normal user and Author **Type**: Primary **Description**: Authors and normal users each have their own profile; They are able to modify and delete their data. **Uses**: Normal user and Author **Extended by**: None **Extends**: Update, delete and log out.
Use Case: Buy books **Actors**: Normal user and Author **Type**: Primary **Description**: Normal user and author buy their books. **Uses**: Normal user and Author

Extended by: None **Extends**: Request for their books
Use Case: Sale books **Actors**: Normal user and Author **Type**: Primary **Description**: Normal user and author sell their books. **Uses**: Normal user and Author **Extended by**: None **Extends**: See received requests
Use Case: View stocks **Actors**: Normal user and Author **Type**: Primary **Description**: Normal user and author can view books as a post. **Uses**: Normal user and Author **Extended by**: None **Extends**: None
Use Case: Stocks books **Actors**: Normal user and Author **Type**: Primary **Description**: Normal user and author can view stock books. **Uses**: Normal user and Author **Extended** by: None **Extends**: Out of stock
Use Case: Custom search **Actors**: Normal user and Author **Type**: Primary **Description**: Normal user and author can search their desired books. **Uses**: Normal user and Author **Extended by**: None **Extends**: None

4.4 System Architecture

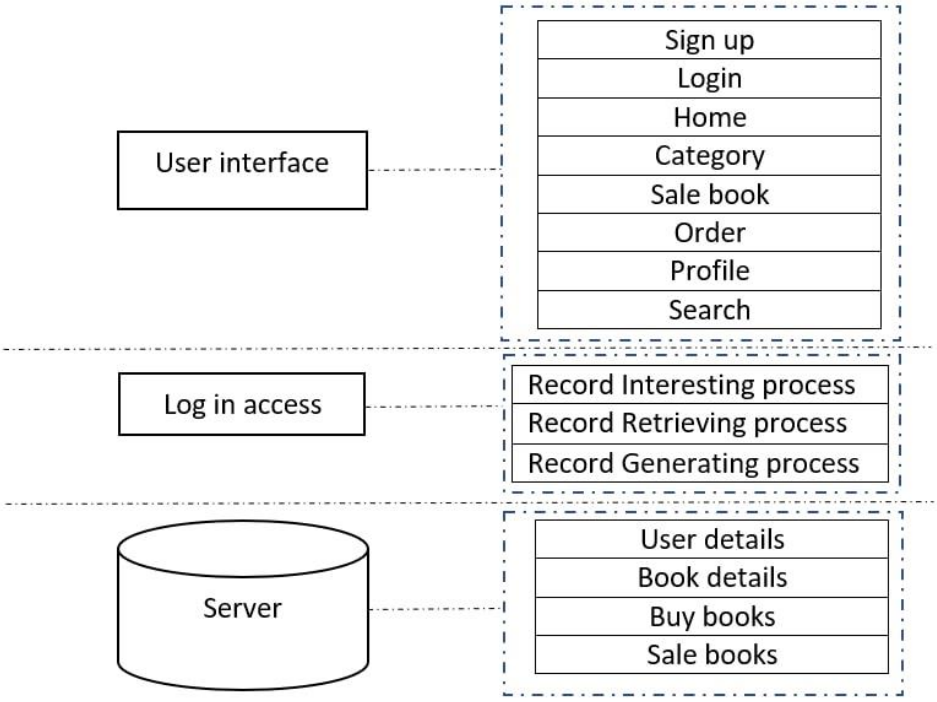

Figure 4.3: System Architecture

4.5 E-R Diagram & Description

Old book store database have eight tables. Users, books, categories, orders, personal_access_tokens, migration, failed_jobs & password_resets these are the eight tables.

In users, there are fourteen fields. They are id, name, email, phone, email_varified_at, image, address, lat, lon, password, is_system_shop, remember_token, created_at, updated_at. Id is the primary key. Shown in figure 4.4.

In books table there are fourteen fields. They are id, title, author_name, category_id, image_1, image_2, image_3, image_4, description, qty, price, user_id, created_at, updated _at. Id is the primary key. Shown in figure 4.4.

In category table there four fields. There are id, title, created_at, updated_at. Id is the primary key. Shown in figure 4.4.

In orders table, there are nine fields. They are the id, book_id, buyer_id, seller_id, qty, price, is_accepted, created_at, updated_at. Id is the primary key. Shown in figure 4.4.

In personal_access_tokens table there are nine fields. They are the id, tokenable_type, tokenable_id, name, token, abilities, last_used_at, created_at, updated_at. Id is the primary key. Shown in figure 4.4.

In migrations table there are three fields. They are the id, migration & batch. Id is the primary key. Shown in figure 4.4.

In failed_jobs table there are seven tables. They are the id, uuid, connection, queue, payload, exception & failed_at. Id is the primary key. Shown in figure 4.4.

In password_resets table there are three fields. They are the email, token & created_at.

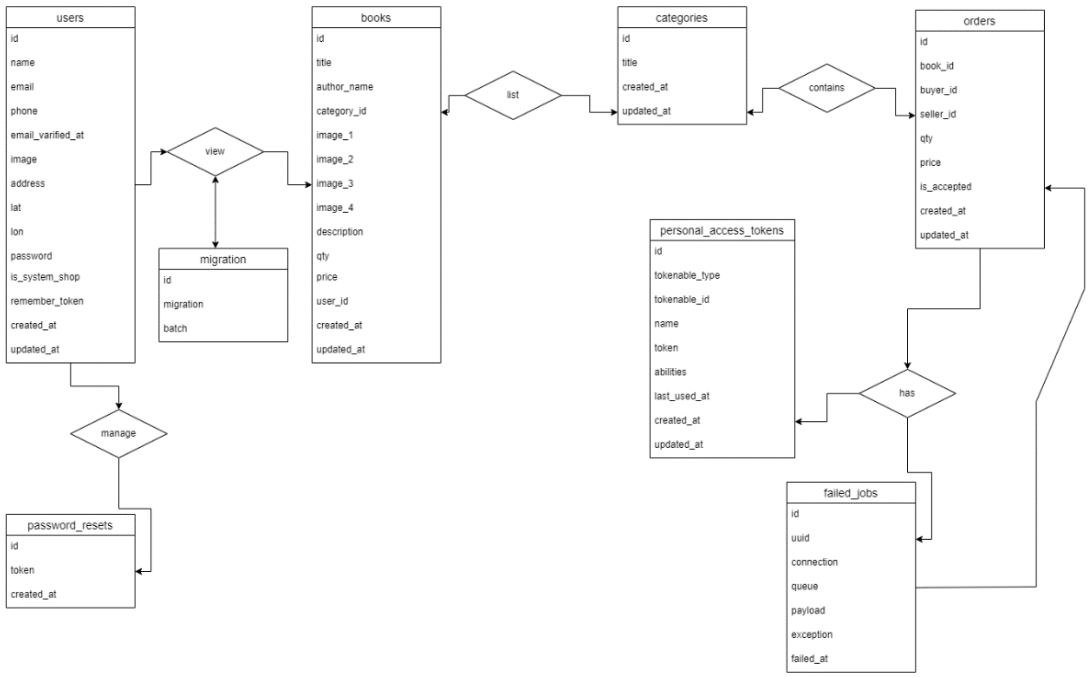

Figure 4.4: E-R diagram

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Front-End Design

The screenshots below depict the main project view. The images that you see are from mobile screen and we describe how to use it.

Log in Page: In the old book store home activity we have three options.

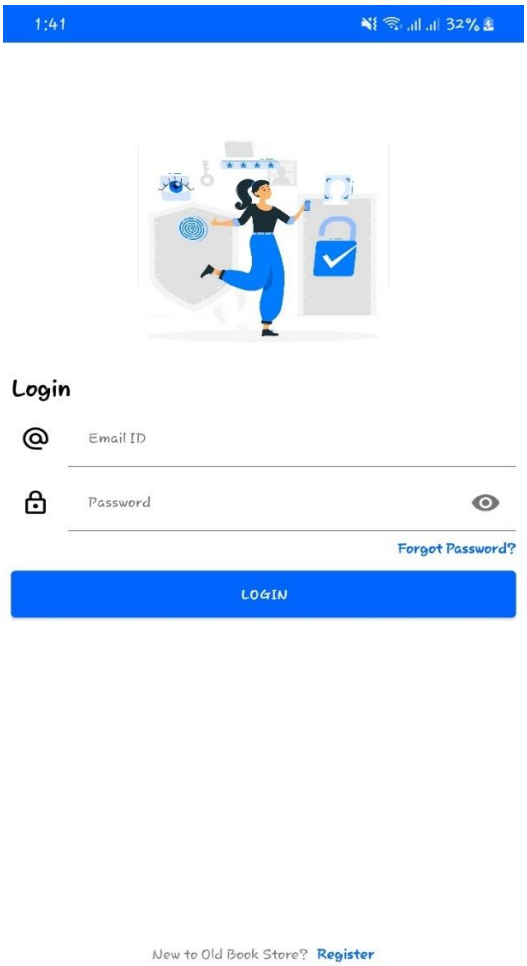

Figure 5.1: Log in and home Page

Sign Up: To access the old book store and create an account, users must complete the registration form.

Sign Up Form: The sign-up form must be filled out by users with accurate information..

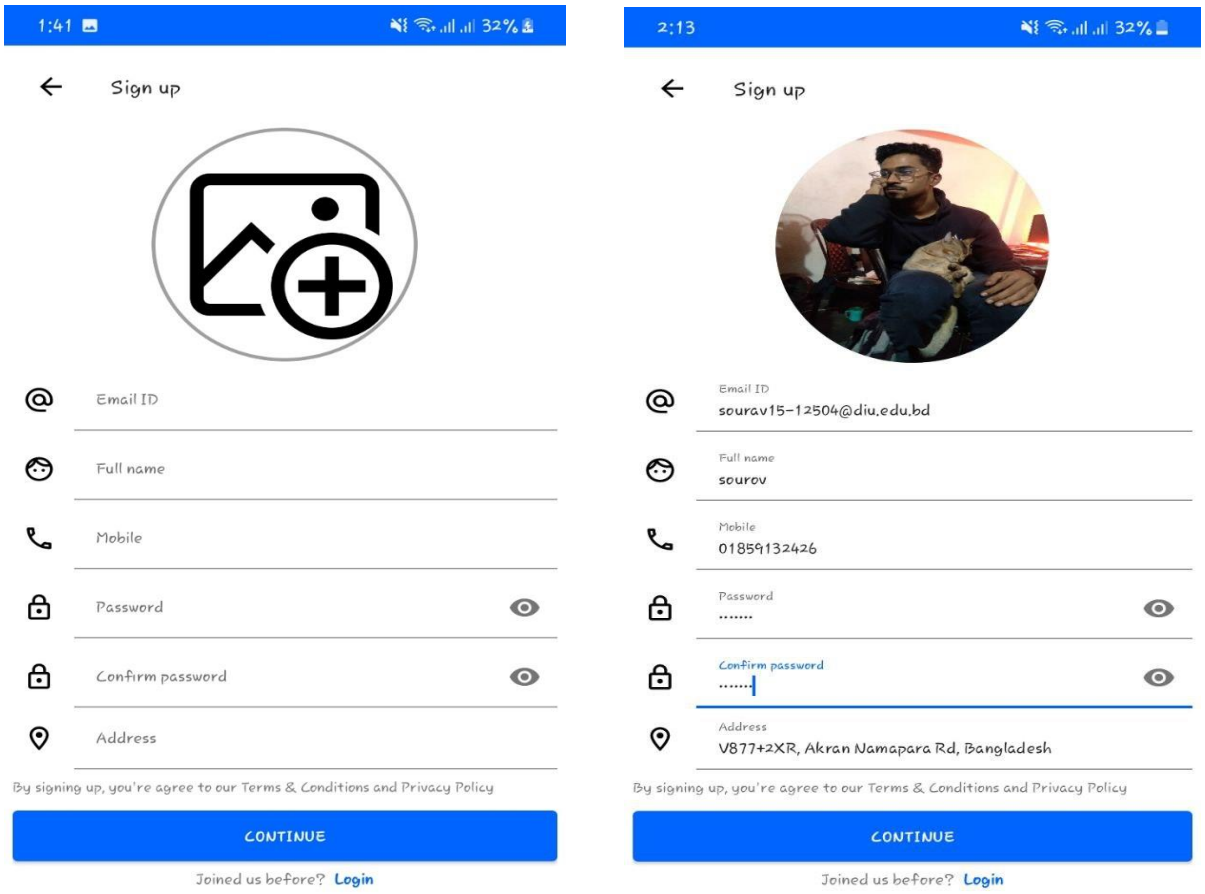

Figure 5.2: Sign up and sign-up form

Log In & Log in: User need to enter valid email& password which is provided before.

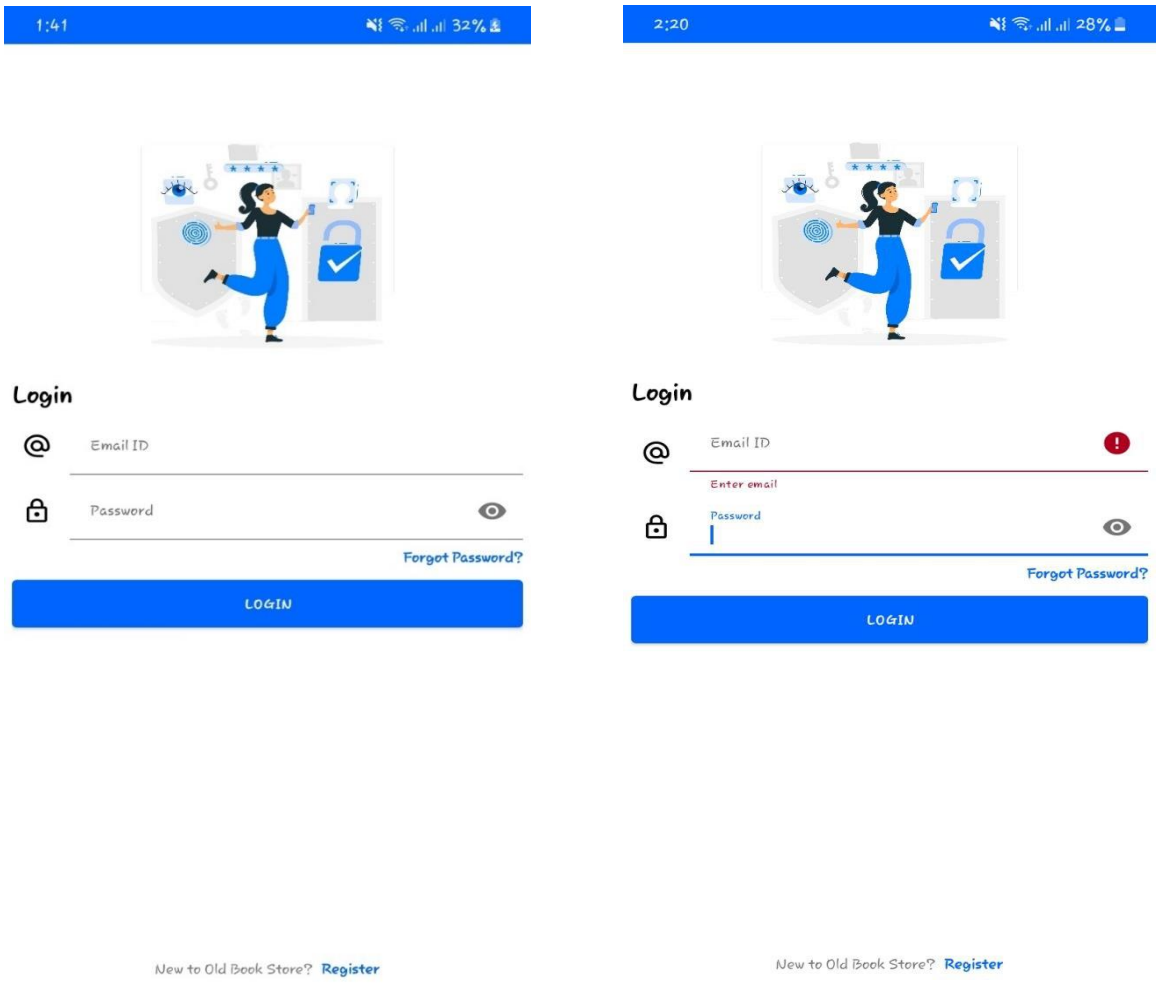

Figure 5.3: Log in & log in form

Home Page: After successfully log in users can access all features of old book store.

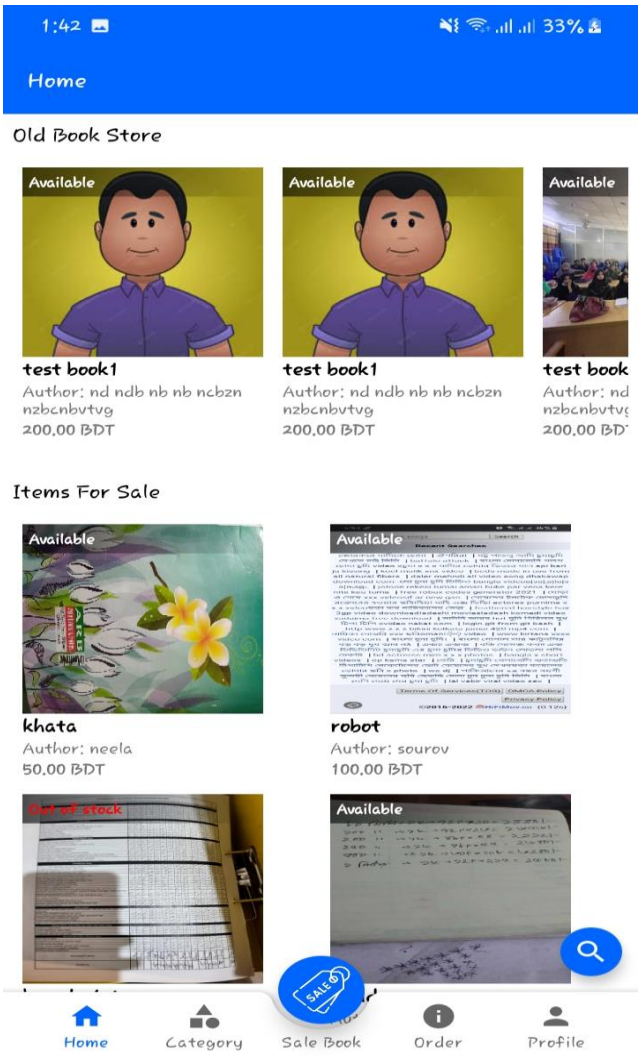

Figure 5.4: Home page

Features: Users access all kinds of features of our application.

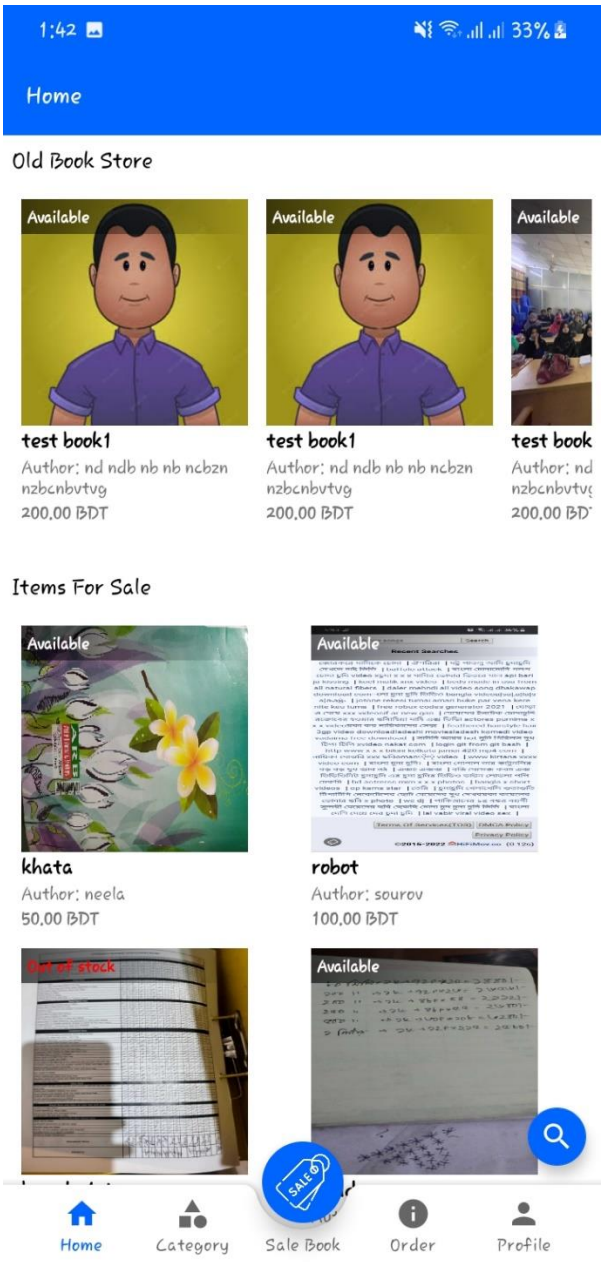

Figure 5.5: Features

Category: Users find the category option in home page.

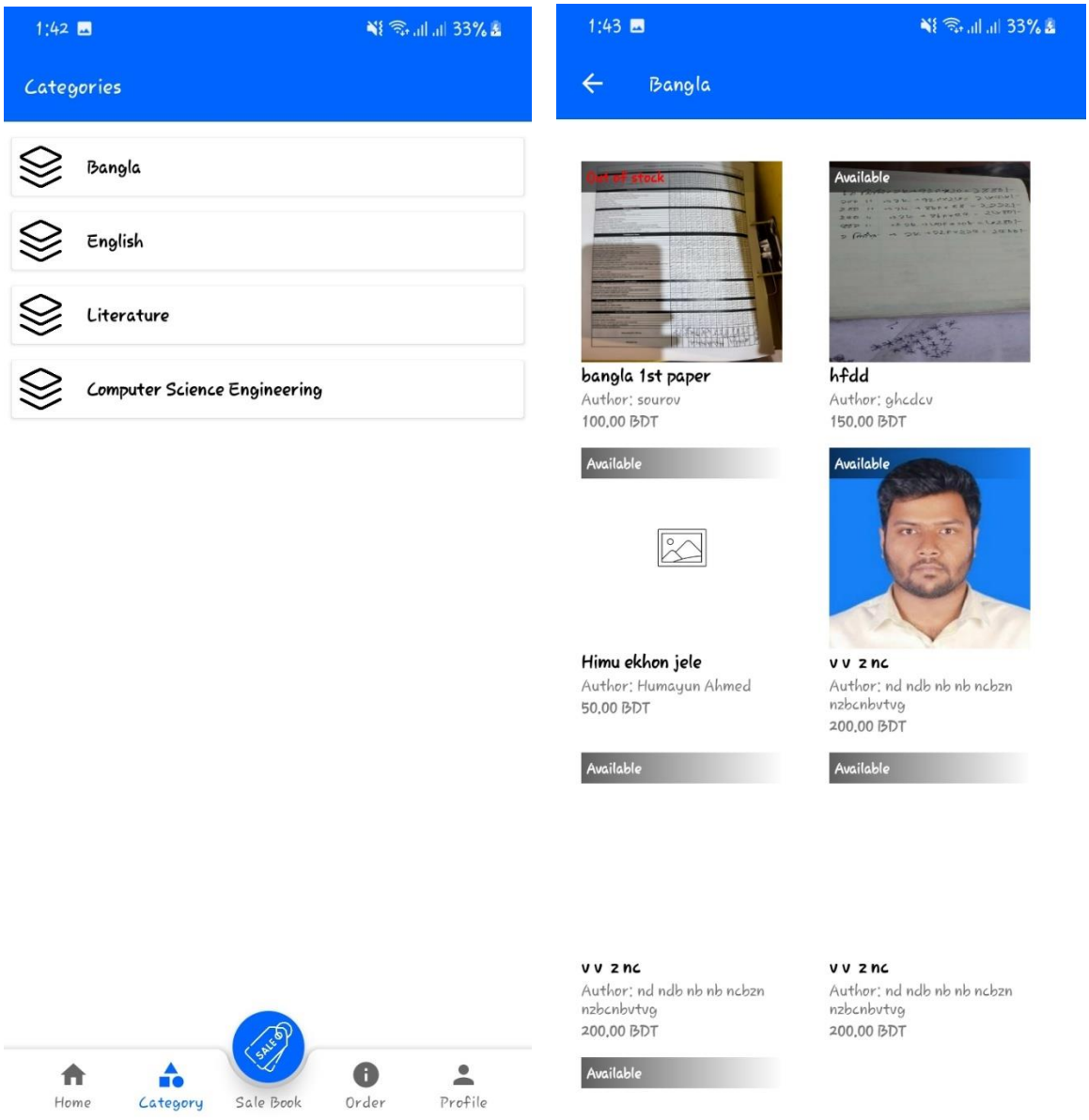

Figure 5.6: Category

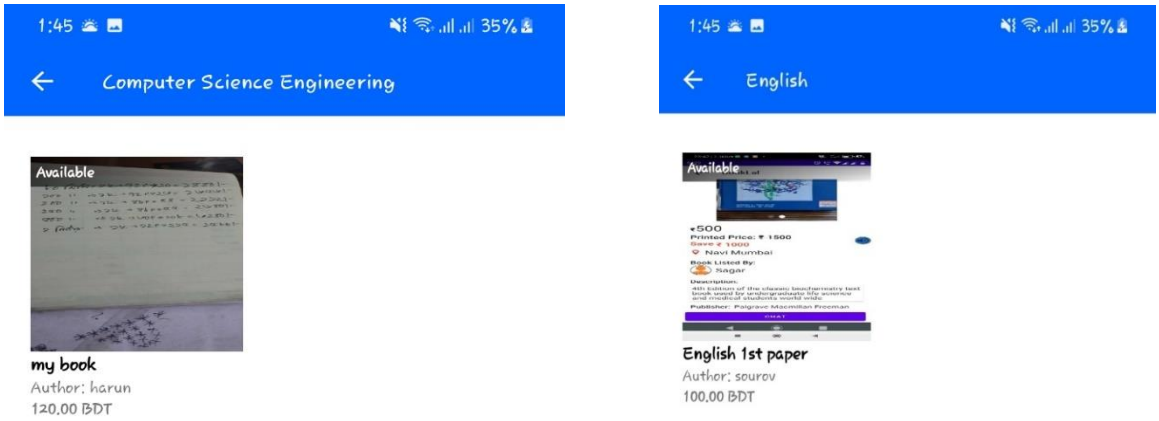

Figure 5.6: Category

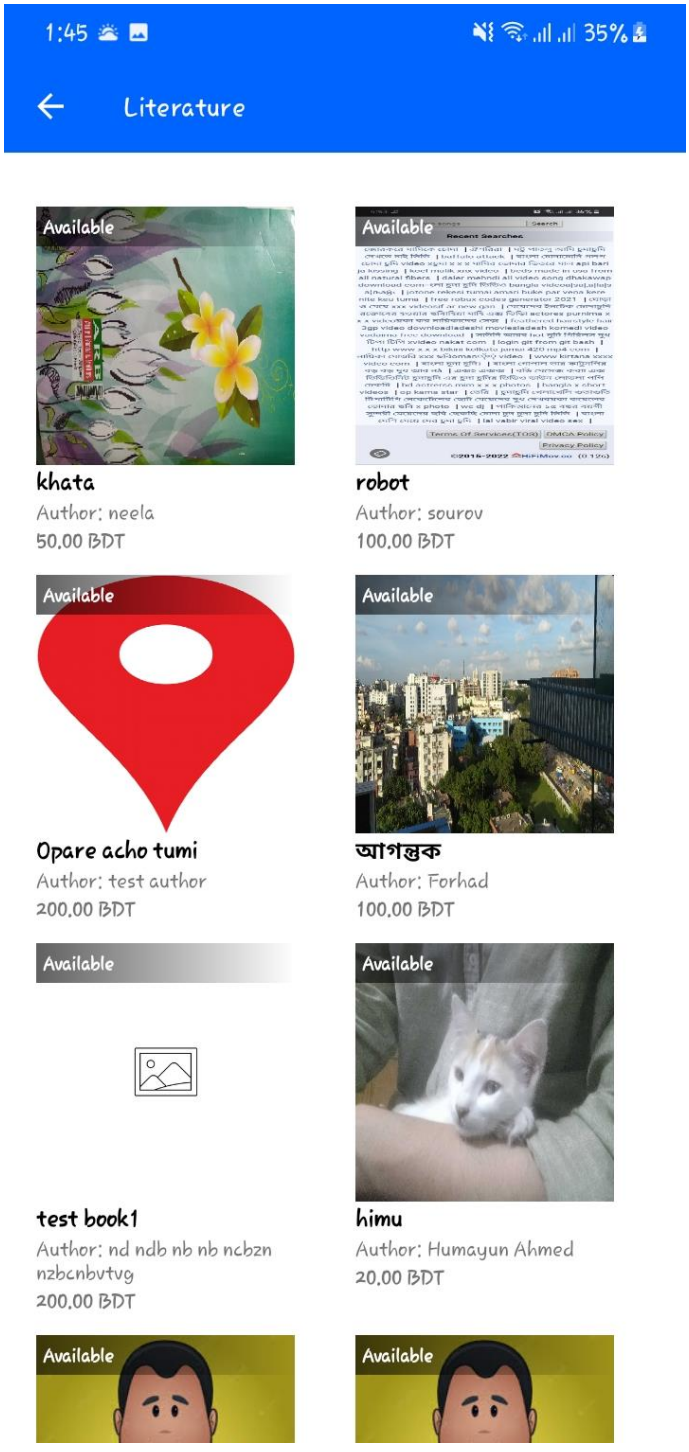

Figure 5.6: Category

Add Book: Users can add post for sale books by using this feature.

Figure 5.7: Add Book

Order: User can buy & sale order through this feature.

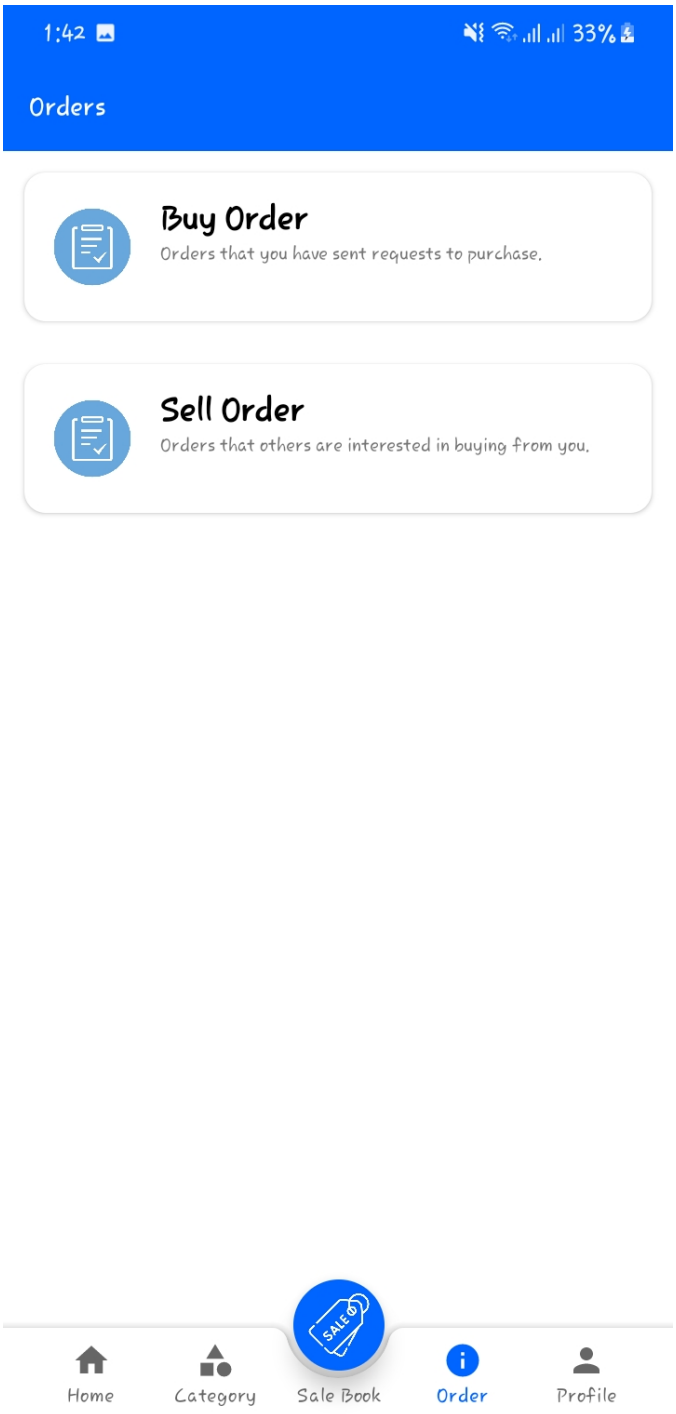

Figure 5.8: Order

Buy order: User can send request to purchase books through this feature.

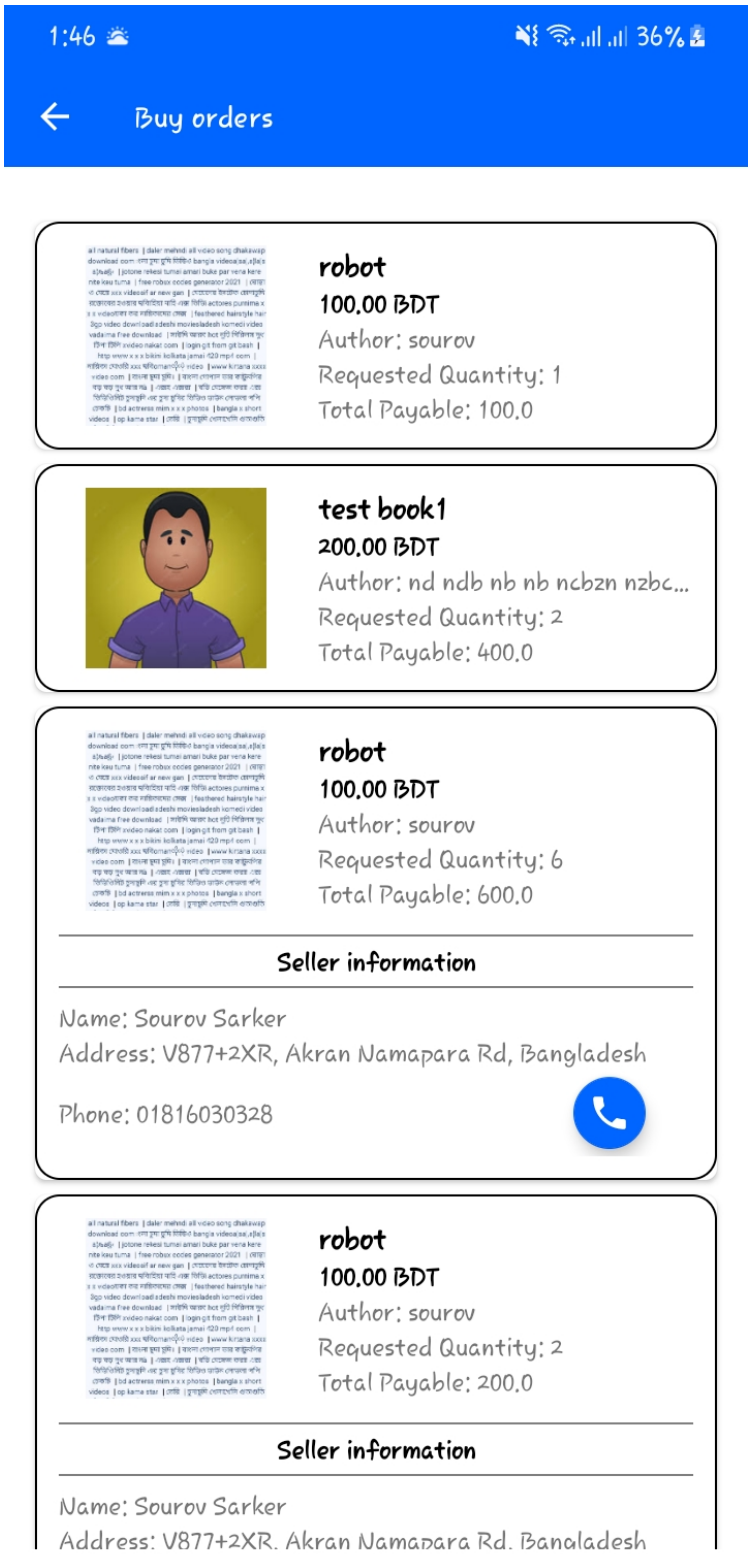

Figure 5.9: Buy order

Sell order: Orders that others are interested in buying from you.

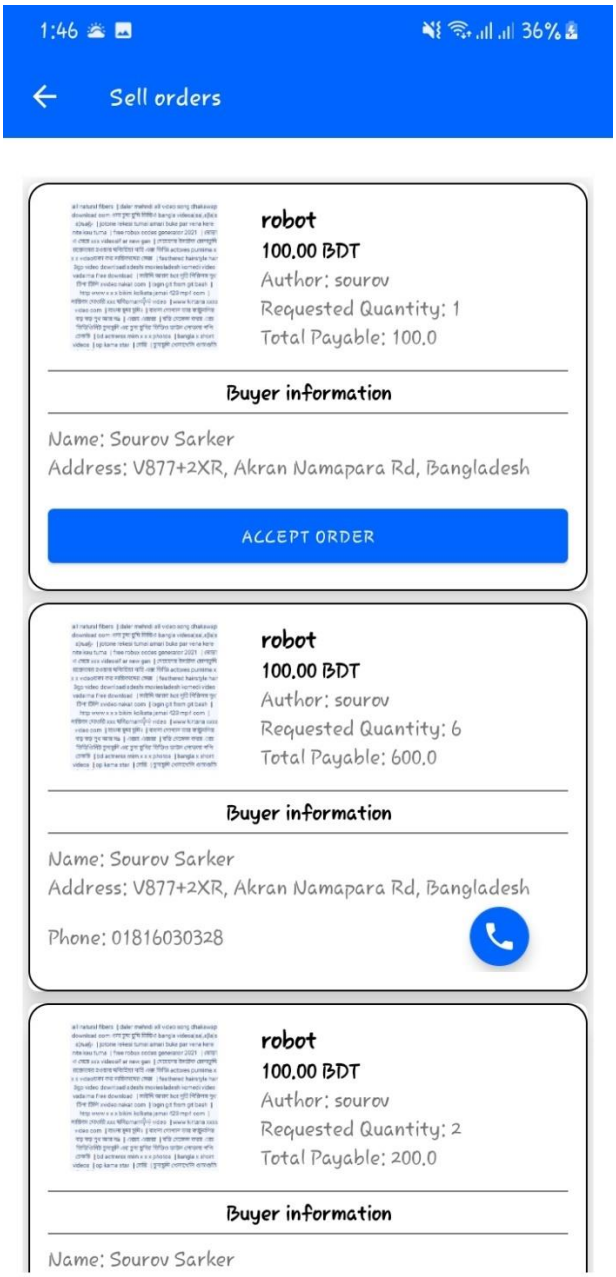

Figure 5.10: Sell order

Search: users can search their books using the particular book name.

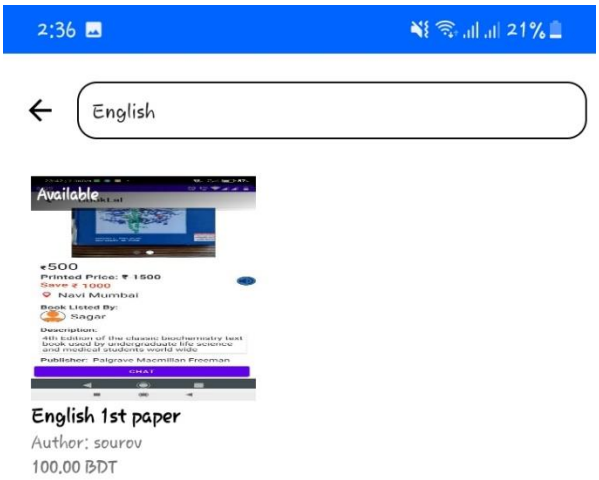

Figure 5.11: Search

Profile: User can see their book details and update & delete in this section.

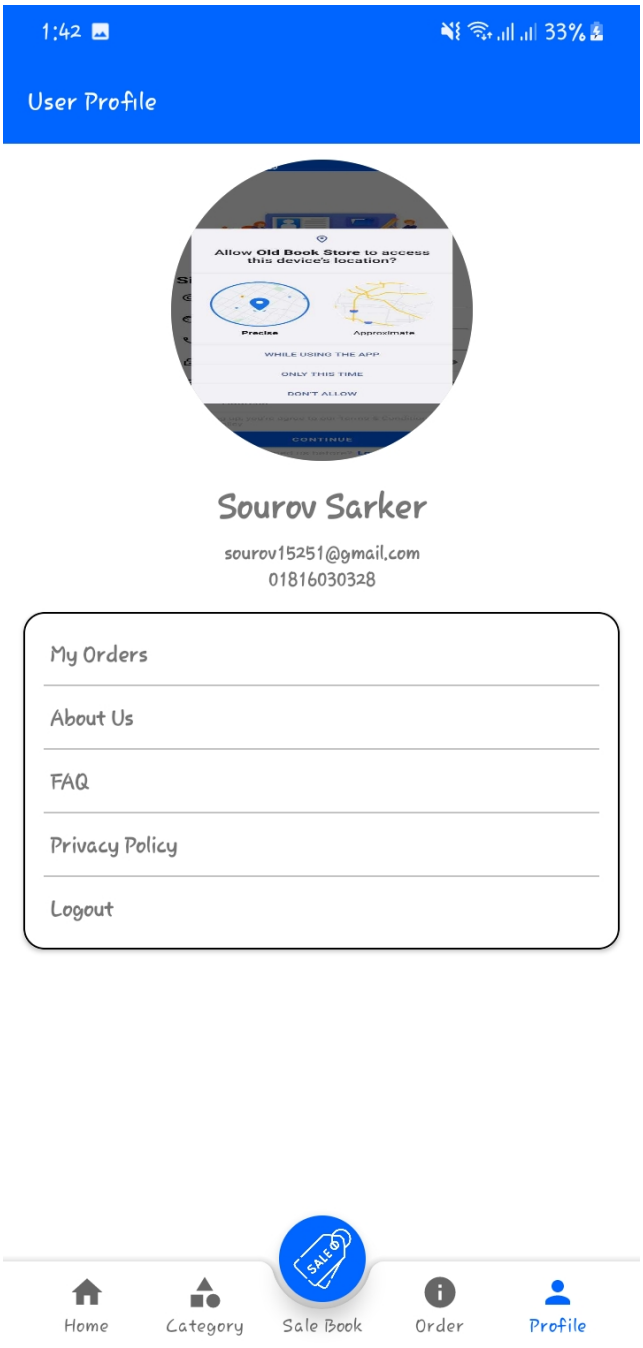

Figure 5.12: Profile

5.2 Back-End Design

The system application has chosen the following design for the database of the old book store. A database's detailed data model is created through the process of database design. This logical data model includes all the physical storage parameters, logical design options, and physical design choices required to produce a design in a data definition language. as a result of this a database can then be created. Each entity's detail attributes are included in a fully attribute data model. The phrase "database design" can be used to refer to a wide range of design elements for a database system as a whole. These are the tables and views of attributes in the relational model. (3) The term "database structure" refers to both the utilized form and query as being a component of the overall database application within the database management system.

5.2.1 Data Table Name

topnews2_oldbookstore is the database name of the old book store.

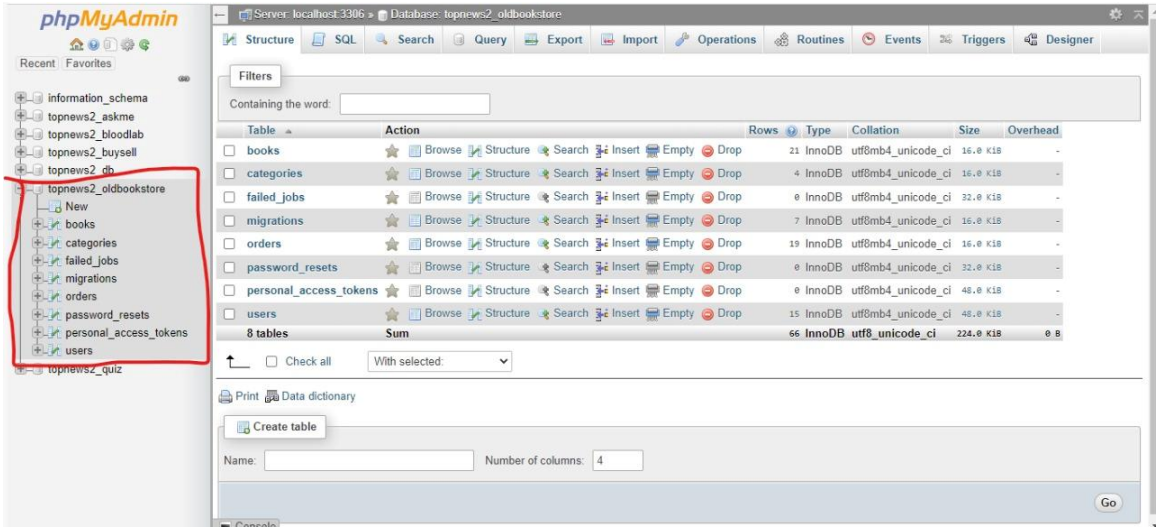

Figure 5.13: Data base table name

5.2.2 Data Type Architecture

A data type architecture should neutrally establish data standards for all of its data systems as a vision or model of the potential interactions between those data systems and the database. Since data integration requests frequently involve two or more data systems, data architecture should be taken into consideration.

Its column and parameters declare the following data types:

- varchar
- bigint unsigned
- timestamp
- tinyint
- text
- mediumtext
- int
- double

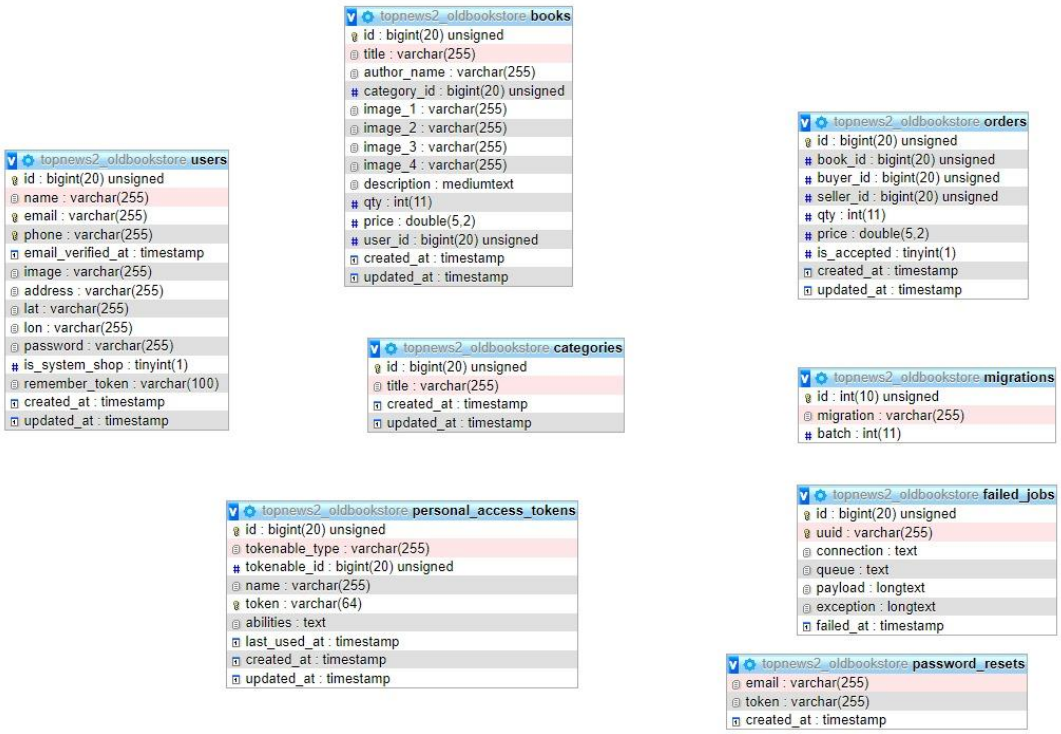

Figure 5.14: Data type architecture

5.2.3 MySQL Database View

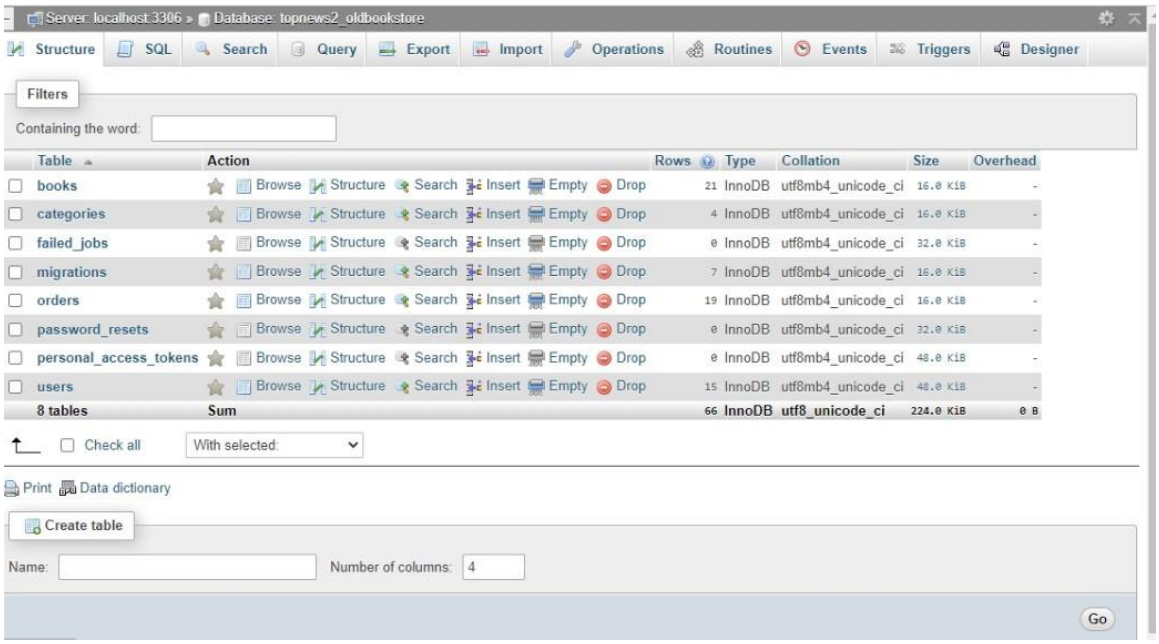

Figure 5.15: MySQL Database View

5.3 Testing Implementation

The below set of standards were used to evaluate this project:

Satisfying requirement specifications: If the program satisfies all the requirements, both beneficial and unnecessary requirements, it should be successful in the long run. Overall, it should be capable of assuring the necessary decisions.

Correctness: It is one of the fundamental requirements for the development of programming. Cleanliness is the primary concern for programming that is directed at administrative functions. Each component of the program should function properly and accurately.

Compatibility and Integrity: These two situations are crucial in determining if the project is successful. The live old book store was designed to be functional in any location. Additionally, it was designed to persuade people, which is thought to be a crucial element.

Real Time Management: The app is about an antique bookshop. Therefore, it is essential to preserve a real-world environment, such as book searching. This system's users ought to be able to buy and sell books.

Reliability and Security Management: One of the most crucial aspects of any service-oriented system is security. As a result, one of the security measures that has been authorized is the add post for books. when it was first developed.

User Friendliness: The ease of use of any program is a fantastic metric to use when evaluating a system. For instance, when using the system, the clients of this arrangement should feel satisfied. In general, a framework should have quality estimation qualities including productivity, compactness, reusability, adaptability, attachment, and free coupling amongst various intended programming components.

5.3.1 Testing Methodology

Testing System flaws are frequently found through software testing. A software test can be carried out by taking a comprehensive look at the system's code, design, and execution. The system must be tested in order to improve its quality. Another essential component of software engineering that is sometimes overlooked when planning projects is code review and testing. Testing is a step in the system development process. The core Standard for software Testing is contained in the ANSI/IEEE standard 829/1983- Standard for Software Testing Documentation. Some software testing may also be done using CAST (Computer Aided Software Testing).

5.3.2 Functional Testing

During functional testing, the tester needs to validate the application to see if the supplemental restraint system's user requirements have been taken into account.

 The two types of functional testing are as follows:

- In order to test an application's functionality in a positive way, valid input must be used, and the outputs must be accurate.
- Negative functional testing involves verifying an application's functionality using incorrect entry, unwanted operating circumstances, and other "out-of-bounds" scenarios.

5.3.3 Unit Test

During the deep development and implementation phases of a project, unit testing is frequently performed. Unit testing served as a means of finding any project faults.

5.3.4 Compatibility Test

Analyzing an application's compatibility with the computer environment is a component of compatibility testing, a subset of non-functional software tests. Software compatibility testing would be better known as user experience environment testing. This project has been tested on a variety of Android mobile devices to ensure the following-

Table 5.1: Compatibility test result

Android Device Name	Screen size	Test	Result
Vivo y02	6.51 inches(720p)	Yes	Ok
Samsung galaxy A01	5.7 inches(720p)	Yes	Ok
Oppo A17K	6.56 inches(720p)	Yes	Ok
One plus 7	6.67 inches(1080p)	Yes	Ok
Apple iPhone13pro	6.1 inches(1170p)	Yes	Ok
Symphony h60	5.1 inches (720p)	Yes	Ok

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Society

As a single book producing requires the huge number of papers and papers producing requires the use of huge amount of energy, water, and trees, so, if we reuse old books. Essential natural resources will remain preserved. The preservation of these resources will help to our economy. Our national economy will be stable by using these resources in other sectors. People who don't have the money to acquire new ones or don't want to spend the money on doing so would benefit from our application. People can use the app to earn some extra cash in their spare time. They can purchase copies of their choice and resale them at a higher price for a profit. This makes it easier for people to occasionally refresh their collection. Buying and selling books through our application is convenient for user. The process among buyer and seller is done from anywhere without being present physically.

6.2 Impact on Environment

We are actively preserving the environment by using our application, which is completely environment friendly. This is because if we don't all reuse our old books, we'll have to make new ones, which requires a lot of paper. Water and other natural resources, such as trees, water, and used paper, are quite expensive when producing a new book. Millions of trees must be cut down to produce one ton of paper. To transform raw materials into a variety of paper products, modern paper production uses combination of mechanical and chemical pulping. These processes consume a significant amount of energy, water, and other valuable natural resources. The negative environmental effects of various processing techniques, such bleaching, are also well known. Trees are able to absorb carbon dioxide. A single book producing requires the use of energy, water, and trees in its production, which harms the environment. Reusing old books contributes to the preservation of essential natural resources and lowers the production of new books. Reusing is entirely environmentally friendly because it is done manually. Additionally, it cuts down on waste while saving space and other resources for multipurpose work. As a result, our application

is contributing to the preservation of thousands of trees, natural resources and prevents environment from pollution and destroy.

6.3 Ethical Aspects

In the consideration of the ethical aspect, we can say that our application is doing nothing unethical. Because we are only using it for buying and selling old books and selling physical books isn't copying and reproducing anything.so there will not be any unethical work regarding our application.

6.4 Sustainability Plan

To build our application sustainable we have tried to develop our application following specific measures, such as- applying market research, understanding audiences, using UI/UX design, using the most recent technology and tool that's currently available. We will update our application and will add more features as soon as possible to make the application more sustainable which will be successful in the long run. Again, after then, if any significant upgrade release which can conflict with our current code, then, we will need to update our program and make the necessary adjustments.

CHAPTER 7
CONCLUSION & FUTURE SCOPE

7.1 Discussion and Conclusion

Nowadays number of book readers has increased considerably in the past few years. People like to read book in their free time or they read books to minimize their boredom, loneliness and depression. But there mayn't have the facilities to buy the all categories of books in an area. Again, many don't want to buy books for huge cost. Poor parents also can't buy their child new books for their new level class. Solution to these problems is buying old books. Because, old books are selling at a discount price. But old books are selling in some major market only. So, these are not available to every people and everywhere. These people have to go this market to buy this book which can be located at thousands of miles distance. It is difficult and huge waste of time for them. So, we have taken these in our consideration and developed an application to save the time and unimportant and difficult movement of buyers and sellers in these situations. In order for buyers and sellers to have a positive user experience with our application, we also opted to keep it free of charge and did not employ any forms of advertising. There is a future upgrade or improvement option that will allow for several feature additions and numerous issue fixes.

7.2 Limitations

- Can't edit profile or delete account
- Users can't give feedback or rating the services

7.3 Scope for Further Developments:

For simplicity, the system is originally developed for buying and selling old books. We have made this application with the most advanced and cutting-edge technologies as possible. Gradually we have added more and more options to the app. Even though we already have many features in our application there is always scope for more improvements. We have more options like the option of donate, rent and exchange of books are planned to be added so that the application can become extremely helpful to every people. We will add more features so that with the searching option people will can find

books by selecting categories or best-selling books or trending books. Customer feedback option will be also added. So, they will also able to see the latest running books, the best seller and the feedback of customers about the seller's behavior and their book quality so that they will can order good quality books from a trustworthy seller. We will add the feature so that when a seller will send the ordered books by a courier service and add delivery information to app this feature will show delivery availability in the app which will be checked by customer. We will add more features so that our application can serve to national and international people.

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