

BOI ONNESHON : AN ANDROID 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 “**Boi Onneshon : An Android Application**”, submitted by “MD. Forhad Sarker, ID No: 182-15-11583” and “Zabed Khan, ID No: 182-15-11492” and “Touvia Islam, ID No: 182-15-11665” to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on “28-01-2023”

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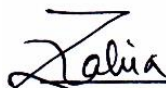
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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mr. Saiful Islam, 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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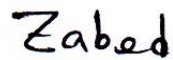


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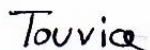
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ABSTRACT

This project title is “**Boi Onneshon : An Android Application**”. We keen to construct an mobile application of android for the ‘buyer & seller’ for buy & sell of book easily by providing with book details, read free pdf of some book, top selling book, categories besides we create another application for only seller to add their book to display for customer. Consumer can show all activities through this application any time. User will be able to see book details, book shop, book ratings, book overview, etc. using this application. Our main goal is to build a user-friendly application. Consumer can easily use that application except any doubt. A man who has an android smartphone he can easily avail the benefit of this application by logging in with his mobile number or his email address or their NID. In that case, Customer have to give their information correctly. In case an admin or agent view any work of a customer if break the conditions and terms then the admin can incapacitate the customer. For Monitoring that application properly, several related specifications also build for agent and customers. Admin can maintain all activities in a separate panel with a clean UI. Each one has a different band specific role to rule this app. We also have a purpose to enhanced the features and facilities more. This application is designed by Android Studio and Firebase is used to store database.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This is the age of modern Science and our technology becomes available for everyone among the whole world. Nowadays smartphone is available for almost every person. Smartphones provides a variety of functions, application and introduces us with so many modern technology. It has become the daily driver of our life. We cannot think of our daily life without the help of smart phone. A smartphone consists of verity of applications. There are several books buy/sell based applications found in play store and website. But there is no such application through which buyer feel comfortable in buy books. With the aim of assisting buy/sell book with developed this application. This application helps the seller to arrange his stock of book easily by providing with book details, book overview, book price, book pdf etc. That kind of mobile application used in particular use in an android smartphone, tablet or any other that supported android operating system. This application is available in play store and user can access this application by installing and with registration. Only that people who are sign up on our application they easily use all the functions of this app. This application available both in English and Bangla language so that could be understandable to all users.

1.2 Motivation

Modern science and technologies are available in our country. By this we can find different types of material due to our daily necessities at various platform. This service can be done now through by smartphones. That's the reason of the avail of these whenever we want. By using this application, user can easily buy/sell any kind of book. Though business on online platform was start a long time ago but still there has a lot of limitation. We want to improve that limitation for which customer get inconvenience day by day from online platform. We want to add some feature to help customer for scrutinized before buy any kind of product, so that they won't fell into any hesitating situation after buy any product.

The plan goal of our mobile app that may use in android mobile phone to assist to buy/sell book very comfortably. A customer or a user will be able to see all the necessary points needed to buy a book.

1.3 Objective

Our aim to construct a application to serve customer to buy book & seller to do business.

- To established & develop an android operating system-based Book buy/sell application.
- Building up a flexible platform.
- Established a cloud-based system.
- Users can Sign In and Signup.
- After successfully Signup user will be authenticated.

1.4 Expected Outcome

- Will be a faithful platform to the consumer.
- User or customer will be able to see book details, book ratings.
- Consumer can show all activities through this application any time

1.5 Workflow

There have total 7 chapters for completing this project report.

Chapter 1: This part about brief description about introduction, motivation, objective, expected outcome.

Chapter 2: This section has description about background with related works & what difficulties face we was to do this project.

Chapter 3: This section is about requirement properties and divided by process model, necessary collections and analysis, logical data model, use case diagram, design requirements.

Chapter 4: This part for UI design specification for front & back-end design, interaction design, interaction requirements.

Chapter 5: This is for implements Firebase database, front end design, interactions and testing implementation and the result.

Chapter 6: This part described the impact on society and environment.

Chapter 7: The seventh mean final chapter presented the conclusion part and future work.

CHAPTER 2

BACKGROUND

2.1 Introduction

Our android application will show all buy/sell book related activities. Now-a-days android mobile application is more user friendly and reliable for book lover. Everyone intends to try to save their time or their money and wants to make their life easier and comfortable. Everyone wants a stable and responsive application. We have many similar applications like Rokomari.com, Triftbook, Daraz etc. on online but those applications are not build properly and not updated regularly with no user update services as well. We want to build an application that is unique and well-maintained application with a high user service help from others. People can save their important time and transport cost by purchasing products from online with or without discounts. The offers (discount price) on the internet can be easily compared. Also, they can justify product by previous buyer rating and review. The buyer can buy the product according to their favorable conditions like price, quality and other discounts for their individual needs. The next generation can enjoy especially designed application by smartphones as android is an open source system and anyone can design any types of special application.. “Boi-Onneshon” is an APP which is designed to allow owners and sellers to sell and customer to buy book online without going into the website. User can download this APP of version of 5.0. to maximum 12 for free. This app gives user the same feelings when user buy product from physical shop or in the website. In this APP we added everything which are available on the company website.

2.2 Related Works

“BoiOnneshon” application is mainly used by book lovers to buy their necessary books. There are some applications like BoiOnneshon.

[2]“Rokomari.com” that provides functions such as list of popular books. By using Rokomari user can choose easily and can collect their chosen book in earliest time comparing others. User can readout some sections of their desired book by ‘looks inside’ feature which help them to get idea about that book. In last 9 year Rokamari is the leading online platform in plot of Bangladesh.

[6]”ThriftBooks” they offer so many option to purchased a book. One is like ‘get free book’ under the campaign of ReadingRewards program and earn points by making qualifying purchases. On the other hand they provide book in various formats and conditions for their customers. They launched Coupons for customer so that they can buy books home at a lower price.

[3]“Daraz” mainly a famous online shopping site for Srilanka, though nowadays it’s publicity increase day by day around the world. It’s serve almost every kind of substance of daily life. In this site people get many offer, so that they are devoted with this site & can easily buy a required book.

[4]”Bookscouter” is a application for smartphone. People can buy/sell used books in this application. Also helps to rent book. Mainly this application useful for college student. One of the major incentive of bookscouter is that one of the only website that have the option to compare the prices of any book for multiple seller.

[9]”Book Mart Digital”, [5]”Pangobooks” are almost similar application buy/sell new books.

[7]”Cansell”, [8]”Bookchor” are as well as similar application buy/sell new & used books.

2.3 Difficulties

Application requirements: The Main problem that we have faced is the fulfill the basic requirements to satisfied user of our application. By this our users can frequently use our application without any kind of lags. We faced some trouble when we build the application. Sometimes we have faced some invisible error that is too much hard to find out and to fixed. Sometimes it takes few hours, sometimes few days.

Weak Communication: For the development of that project, we are three members. Corona pandemic had created a bad impact on it. Sometimes it’s not possible to get together and find out or solve the issues of the project. Active communication is main to make any project successful. So, we wasted a lot of time for weak communication.

CHAPTER 3

REQUIREMENT PROPERTIES

3.1 Process Model

We followed a model for our project with a proper planning and details. This figure of Data flow is a visual representation for tracking the data with a system. The flow of data by diagrams described in Logical data flow diagram or the information by a model to do various process with a commercial business. So, we linked up our data flow diagram and its process with our system processes and business activities. The Data Flow Diagram is given bellow-

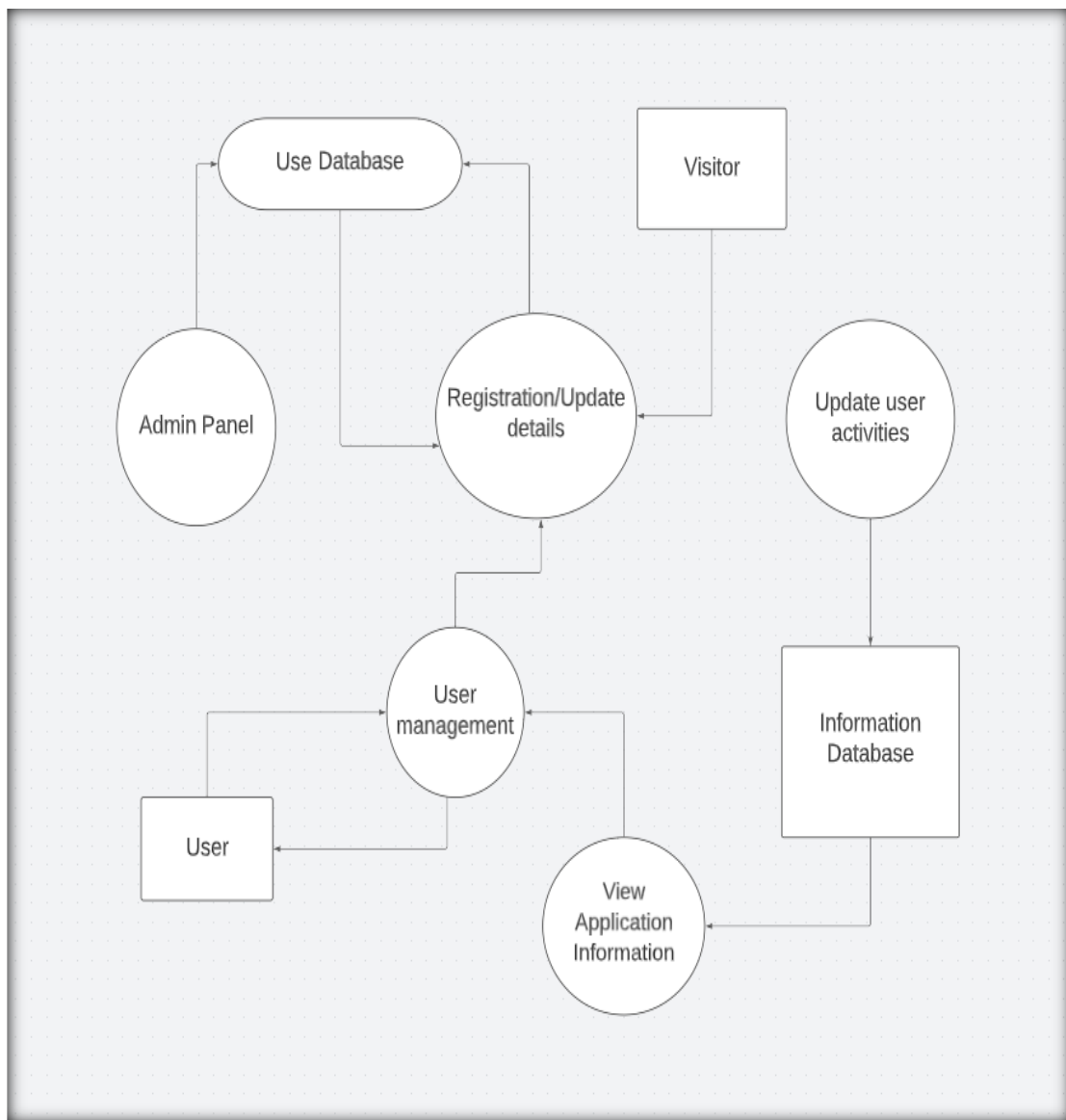


Figure 3.1 Data Flow Diagram for entire system

3.2 Use Case Diagram

The use case diagram is clearly a very useful tool for verifying project preconditions. The use case diagram gives us a bird's-eye view of the entire system. Our use case diagram in figure 3.2.1 shows four different categories of users. The first is public users, who may look at the dashboard and see what mentorship programs are now available. The second category of user is logged in users, who may view the details of published book, read PDF, book add into cart, can payment to order book. The third sort of user is seller who can add book, edit/ updates the details of book & main part is for he selling book. The fourth sort of admin who can control the system.

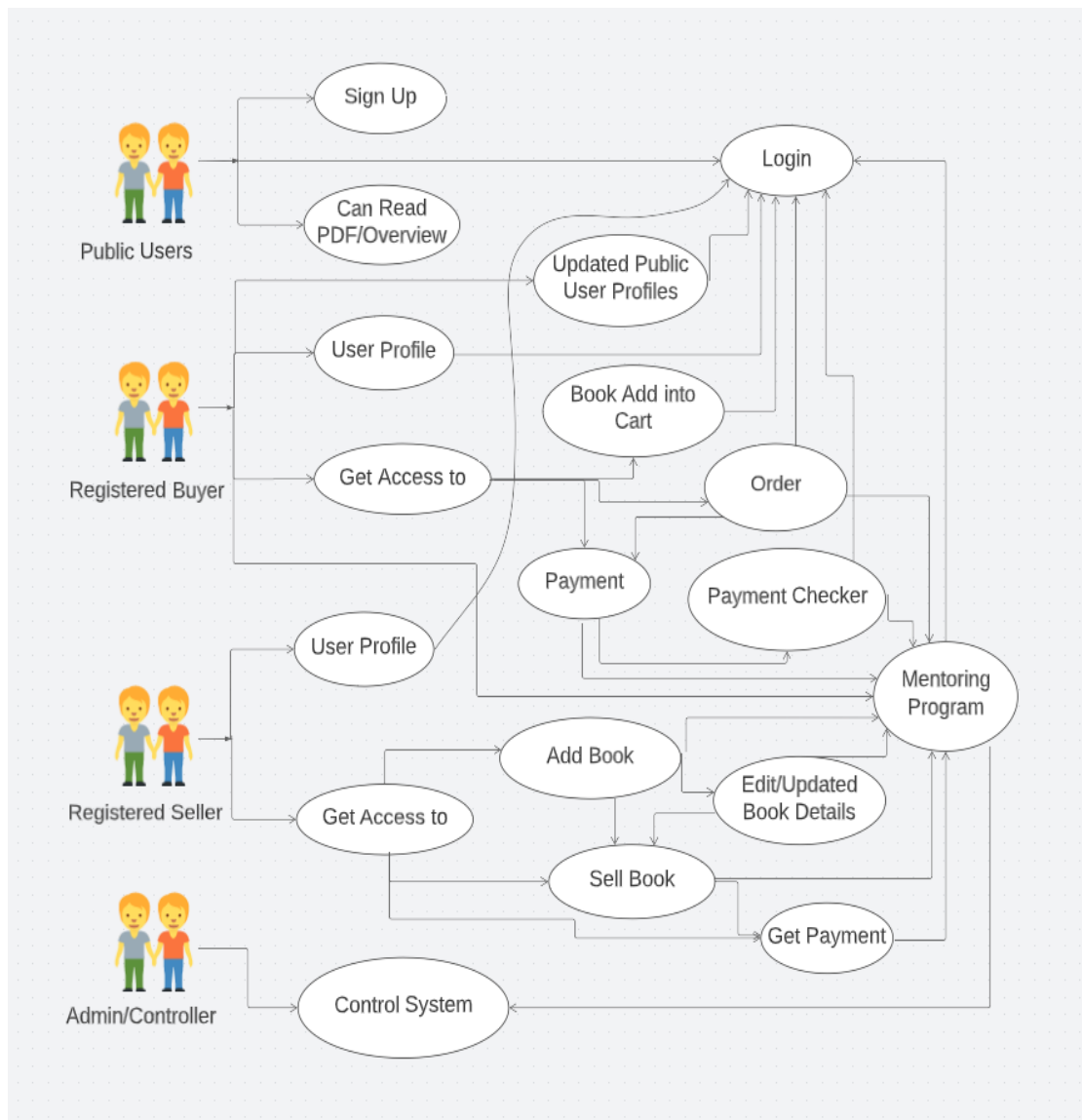


Figure 3.2 Use Case Diagram for entire system

Table 3.2.1 Use Case description for Sign Up; This table shows the way to sign up in this system. To sign up user must need to submit his full name, valid email, NID number, password for security. And need to click ‘Register’ button after submit those all information.

Use case name	Sign up
Actor	Public user
Precondition	N/A
Internal Path	<ol style="list-style-type: none"> 1. Enter Full Name 2. Enter Email 3. Enter NID Number 4. Enter Mobile Number 5. Enter Password 6. Click “Register” Button
Exceptional Path	<ol style="list-style-type: none"> 1.1 Name Can’t be Blank 2.1 Email Must be Valid 2.1 Email Not Used in System Before 3.1 NID Number must be Valid 3.2 Unique NID Must Needed 4.1 Valid Mobile Number 4.2 Not Yet Used Before 5.1 Valid Password

Table 3.2.2 use case description for Login: This table represents the login page. User must need to submit his registered email/username and password to login by click ‘Login’ button.

Use case name	Login
Actor	Public user
Precondition	Registered User
Internal Path	<ol style="list-style-type: none"> 1. Enter Email or Username

	<ol style="list-style-type: none"> 2. Enter Password 3. Click “Login” Button
Exceptional Path	<ol style="list-style-type: none"> 1.2 Username or Email Must be Valid 1.2 Account Must be Activated 2.1 Password Must be Valid

Table 3.2.3 use case description for User Profile Update: This table depicts the user profile update system. Sometimes mistakenly user gave wrong information when he was registered his account. For this situation user have to need profile updating system. Moreover, by this system user can update his profile picture and bio.

Use case name	User Profile Update
Actor	Registered User
Precondition	Login
Internal Path	<ol style="list-style-type: none"> 1. Name 2. Mobile Number 3. Profile Picture 4. Bio
Exceptional Path	<ol style="list-style-type: none"> 1.1 Name can't be Blank 2.1 Must be Valid 3.1 Must be Image File 4.1 Must be in Letter

Table 3.2.4 use case description for Book Add into Cart: This table shows the book adding process in cart for buy those choosing book by customer. This is the first step for buy a book.

Use case name	Book Add into Cart
Actor	Registered Buyer
Precondition	Login

Internal Path	1. Choose book and Add into Cart
Exceptional Path	1.1 Must be Select Quantity 1.2 Can't Add into Cart if Stock has 0

Table 3.2.5 use case description for Payment Checker. This table illustrate the payment checking process. For passed through payment checker user need must be submit valid transaction id and choose valid purchase method.

Use case name	Payment Checker
Actor	Registered Buyer
Precondition	Book Add into Cart
Internal Path	1. Do Payment
Exceptional Path	1.1 Must be Choose a Online Purchase Method 1.2 Must be Provide a Valid Transection ID

Table 3.2.6 use case description for Order. This table show the final step to buy a book by click 'Buy Now'. After payment checking this use case will work.

Use case name	Order
Actor	Registered Buyer
Precondition	Passed Into Payment Checker
Internal Path	1. Click "Buy Now"
Exceptional Path	1.1 Can't Order without Click "Buy Now".

Table 3.2.7 use case description for Add Book. This table illustrate the book adding process for a seller. To do this attempt user need login in seller app to add his book. Some required information like book name, writer name, price/unit, stock availability, summery, cover image etc. must be submitted to add a book.

Use case name	Add Book
Actor	Registered Seller
Precondition	Login
Internal Path	<ol style="list-style-type: none"> 1. Book Name 2. Writer Name 3. Price/Unit 4. Available Stock 5. Summery 6. Book Cover Image 7. Some Page Image of the Book
Exceptional Path	<ol style="list-style-type: none"> 1.1 Name can't be Blank 2.1 Name Can't Blank 3.1 Must be in Number 4.1 Must be a Number 5.1 Must be in Word 6.1 Must be in Image file 7.1 Must be in Image File

Table 3.2.8 use case description Edit/ Updated Book Details. This table shows the book details updating system. Sometimes mistakenly book details submitted as wrong information. So, seller need to update the wrong information and after sell stock availability number will changed which need to updated for customer.

Use case name	Updated Book Details
Actor	Registered Buyer
Precondition	Add Book
Internal Path	<ol style="list-style-type: none"> 1. Price/Unit 2. Available Stock

Exceptional Path	1.2 Must be in Number 2.1 Must be in Number
------------------	--

3.3 Necessary Collections and Analysis

Primary agreement of an app development is the necessary collection of data and required analysis about the targeted motive. We have two types of requirements for our application development. Functional requirement and nonfunctional requirement. Those which completed by software these is called Functional. And Nonfunctional defines figure of an app that may be help out to build up the narrative progress process.

- **Functional Requirement:** We have many functional requirements. We used authentic login system, show user data, authentic Agent login with Data transfer, user can see the displays of book, book price, book pdf to generate the decision for buy a book etc.
- **Non-Functional Requirement:** Non-functional requirements actually depends how was your application user interface used by the user. User Interface must fluent and smooth and attractive.

3.4 Logical Data Model

Entity relationship Diagram or ERD which explain relationship of stored entity sets of databases. Collection of similar entities is called Entity set. For Define its properties it's have some attributes. ER Diagram presented as entity relationship diagram. The piece of data a concept or an object which is stored is called entity. For increasing the efficiency of data transfer rates we need ERD diagram. These creative diagrams are one of the best tools for businesses to keep their data simple. Effective data management is critical to the success of any business. This is very useful for understanding the relationships between tables and how to interact with them. You can think of ERD's as a way to visualize information and relationships. You can use it to understand your data and structure. These diagrams are used to show the database structure. This is very useful for understanding the relationships between tables and how to interact with them. You can think of ERD's as a way to visualize information and relationships. You can use it to understand your data and structure. Create databases and information.

Visual Support, ERD Tool, is a data creation tool that automates the process of creating data and creating spaces using ER diagrams. An ERD is a model that represents a physical object. ERD's are used to visualize relationships between entities. Relationships between parties can be one-to-one, one-to-many, many-to-one, many-to-many, or many-to-many.

3.5 Design Requirements

Every android user expects a look from an application in a position where user can get consistent performance with that platform. For visual navigation patterns we should material design guidelines and this is truly impactful process. We searched some points for design requirements these are given here:

- **Efficiency:** Installing the app with smoother and lag free on any android supported device is very important. We tried our best to make sure about application performance and smooth performance with a lag free performance.
- **User-Comfortable:** We want to construct a system which will comfortable to our users. So that, every people can easily access all the features fluently. Our application UI is very attractive and we tried to play a major role on design.
- **Payment Method:** We tried to add many online purchase system like bkaash, rocket, nagad etc.
- **Delivery System:** For book delivery we will many delivery system like AJR, sundorban, kortua, butterfly etc.
- **Fit On Multiple devices:** We designed our application as it compatible for any tablet or smartphones with min SDK level 23.

Some Extra Features of our application:

- We have three types of user like Admin, Agent and regular User
- Agent can edit delete or add any event or book details & manage these.
- All agent and Users details are controlled by Admin.
- Regular user can only get access register and update their account.

CHAPTER 4

UI DESIGN SPECIFICATIONS

4.1 Front End Design

Graphical user interface representation of an app is called front end design. It builds up of two major parts. One is XML is used for structure and design of an UI and java class for logical operations on interface. In XML files we used many different types of labels and many types of layouts. As like card view recycler view scroll view, radio button, item view, nested scroll view, edit text, layout, text view, image view and many GIF animation and fonts. We also used other XML file for button design and shape to make our user interface attractive. That's why it becomes very easier to proceed task for the user. It turned out simple but attractive.

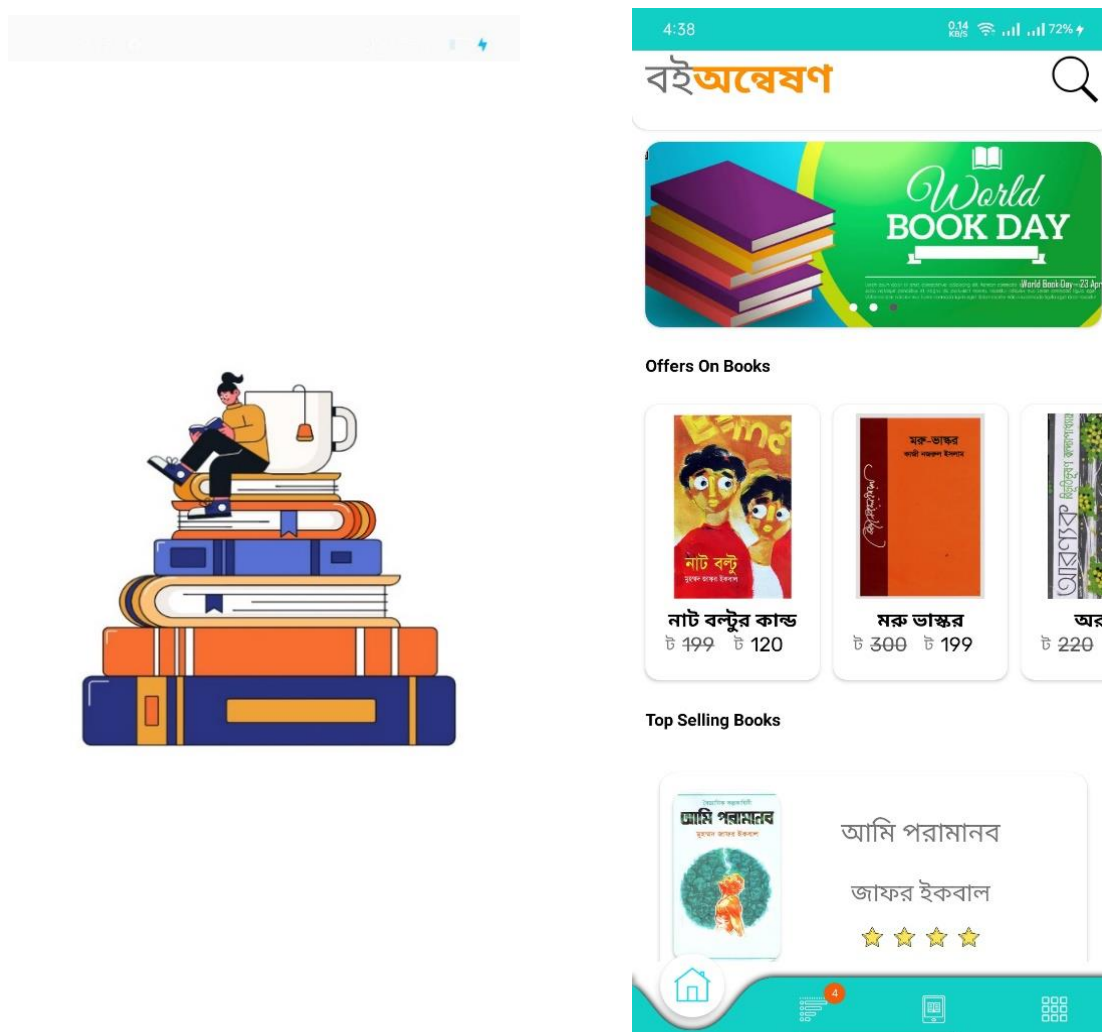


Figure 4.1.1: Opening page & Front design of our application.

Figure 4.1.2 This page represents the Categories of book. User can see the name of many categories. Each categories have different type of book list. User can choose any type of categories by his requirement. This page helps user to find his chosen book in short time and easily. This categories system will attract any kind of user as they can find easily their required book. In future, we will add more categories of list to spreading our application.

Figure 4.1.3 This page of thumbnail represent categories details by providing every information for every book. User can know everything about a book by click any desired book. Moreover, in front view sum up the overview of a book. User can see book name, writer name, stock availability and price from thumbnail view. User can read starting of the book by press ‘একটু পড়ে দেখুন’ button. There have three page to show the overview of the book.

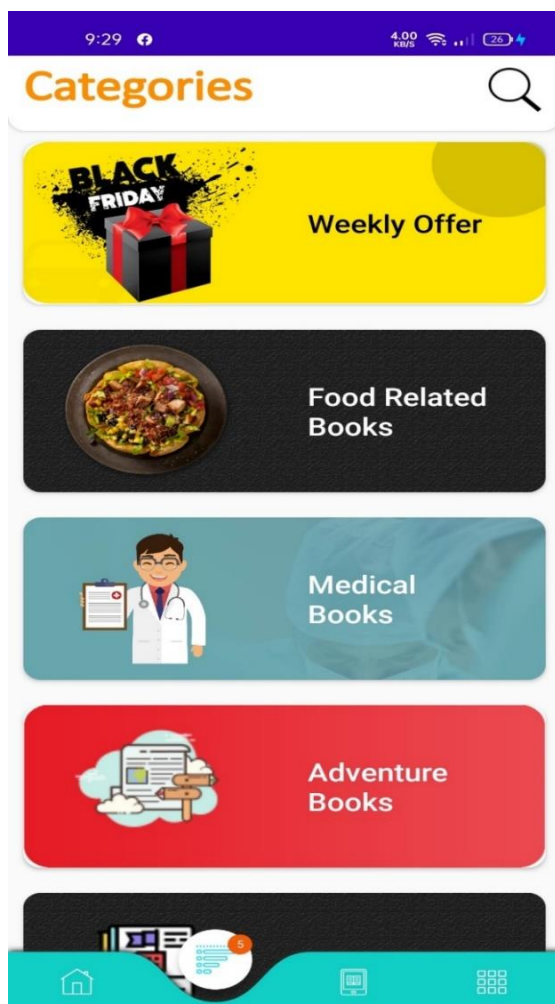


Figure 4.1.2: Shows the Categories of Book

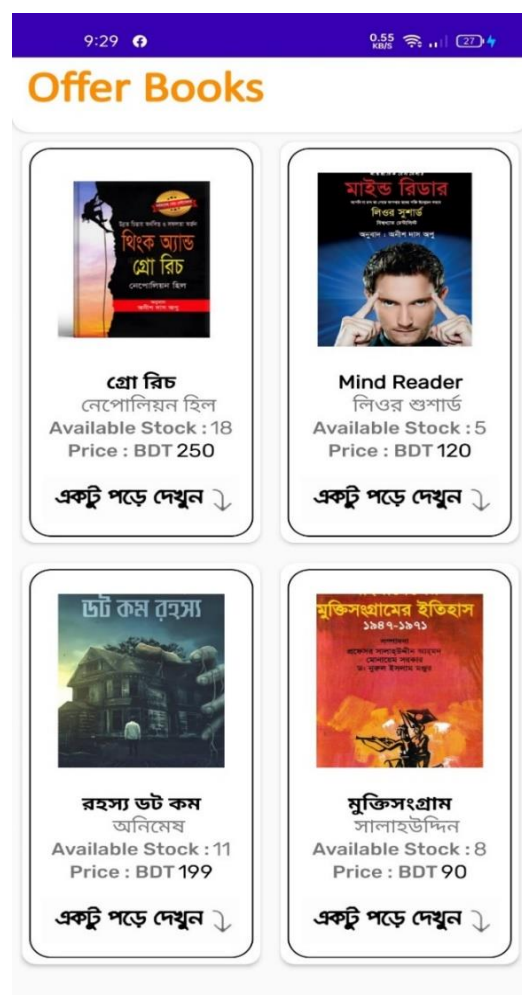


Figure 4.1.3: Thumbnail represent of book

Figure 4.1.4 This page represents the information of book price, availability, short pdf as book overview. User can see the details of a book overview, cost, availability etc. User can understand about the book by read out the summery of the book. It's helps to anyone making decision for buy any book.

Figure 4.1.5 This figure illustrate the review as rating of a book. User, agent & admin can see every ratings & review for book. This is a very important feature of our system. Any kind of user can justify by our review system. If any user gets bad thing from the book or seller, he can rated lower and for this book rating will drop and this is very bad thing for a seller or his book. Moreover, user can write his facing problem on rating comment option. User can solve the problem by knowing the problem from that.

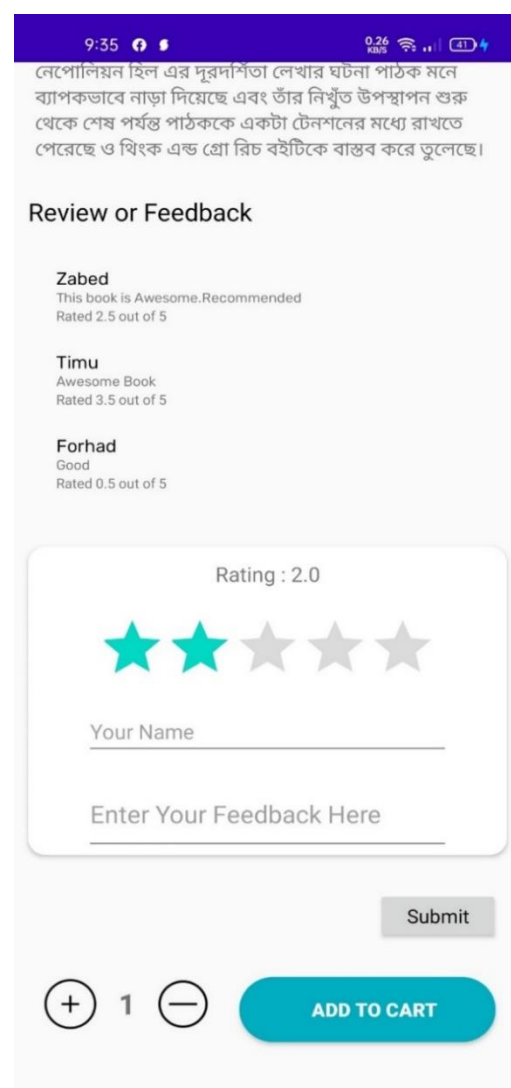
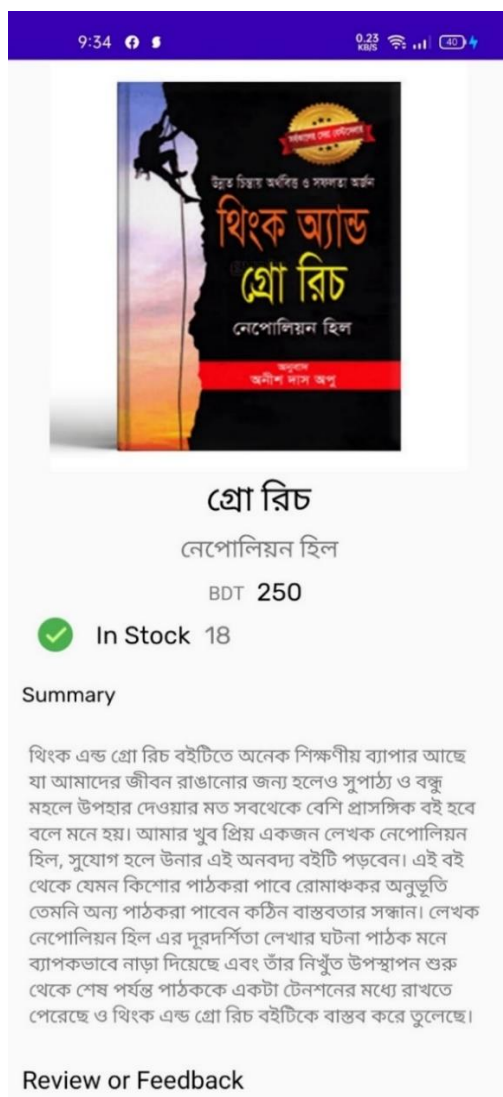


Figure 4.1.4: Necessary Information About Book, Figure 4.1.5: Rating of Book & Feedback Process.

Figure 4.1.6 This page shows the overview of a book. User can see the pdf to construct decision for buying the book. It's a great feature for any kind of customer. Because for buying a book customer have to need gather some knowledge about that book for justifying that 'is it good or bad for him. So, for this feature anyone can make decision easily.

Figure 4.1.7 This list depicts the free pdf of some E-books. User can read book freely from this page. This is our most important feature. This is even not exist in rokomari.com; We can attract customer to use our application by this feature. Though, we have shortage of collection of E-Book at right now. But we are promised to our customer that we will add more and more free E-book in our collection day by day for filling customer cravings.

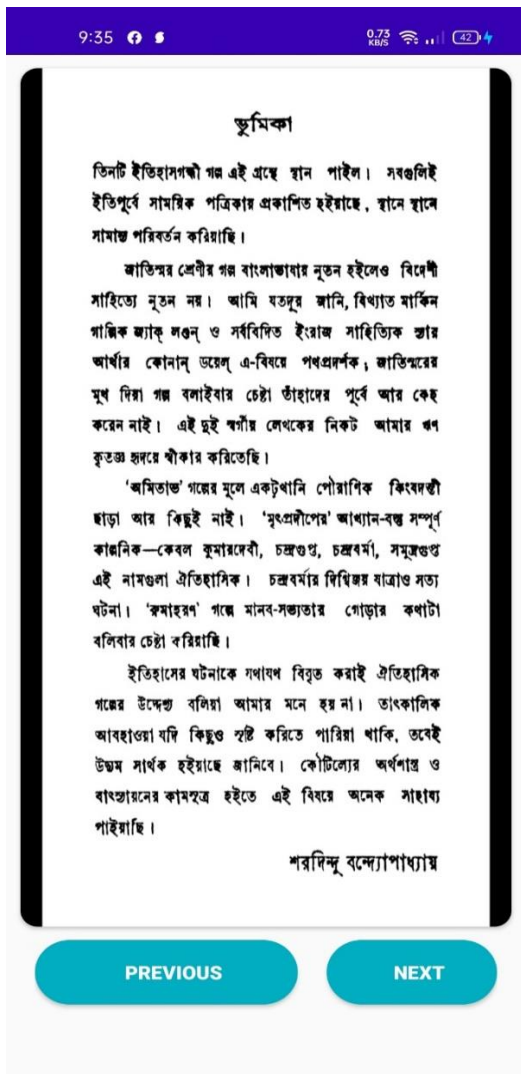


Figure 4.1.6: Overview for a Book



Figure 4.1.7: Free E-Book list is a special feature

Figure 4.1.8 This figure displays customer or user login UI. When the user wants to login on their account that page will show shown on display. User can login by provide their valid email/username and valid password. For new user there have sign up option too. By clicking 'sign up' button user can go to sign up page to create new account. But new user can access some free feature without login or signup. And after free scrolling they can decide too make account.

Figure 4.1.9 This figure displays to the user their register on application. If a user try to login on his account this page will be shown on device display. When a new user, he needs to register first for enter the application. Here user have a valid Email address, phone number, a password and NID number. Given details have to be correct information

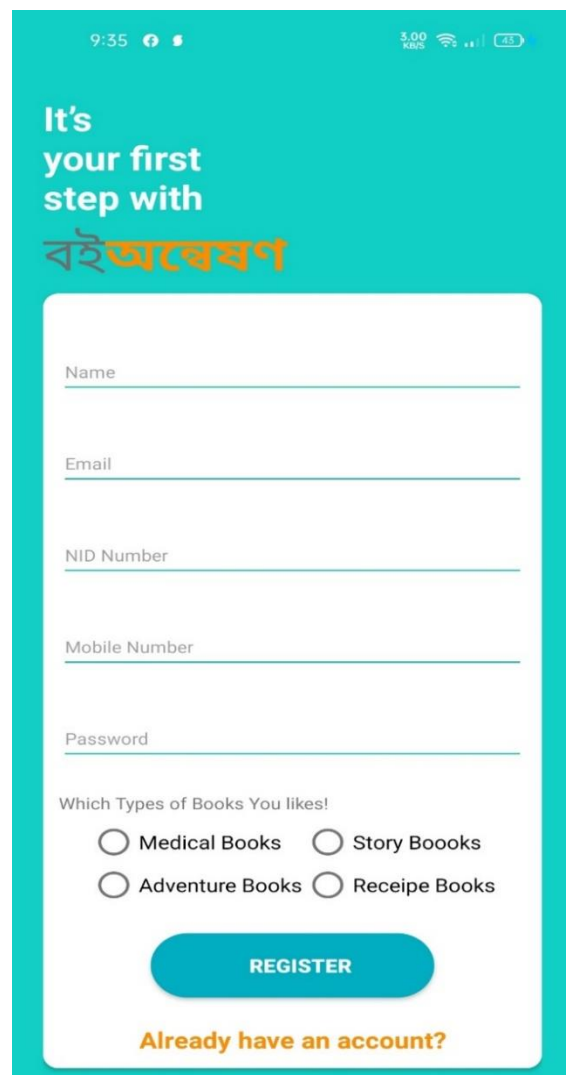
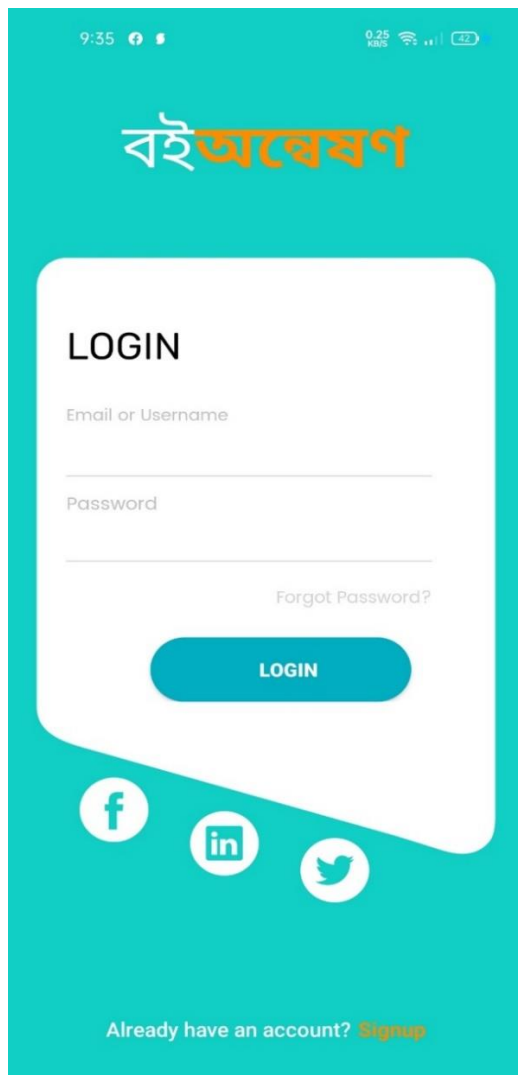


Figure 4.1.8: Login Interface with Signup Button.

Figure 4.1.9: Signup Interface for Create Account

Figure 4.1.10 This page represents the menu bar. User can see the details of menu bar. User can enter into cart for confirm his order. User can see order status too from this menu bar. Also, they can see new and notification from this page. If anyone want to know about us they can find this option into 'About Us' button. The most important thing is for seller is became turn into as a seller. For this action user need to create a account by click 'Become an Agent' button.

Figure 4.1.11 This figure displays to the user to get agents ship by register on this sign up page. When a new user wants to became a agent, he needs to register first for enter the seller application. Here user have to must submit a valid Email address, phone number, a password and NID number. Given details have to be correct information. After submit all of required information he need to click 'APPLY' button to become a seller agent.

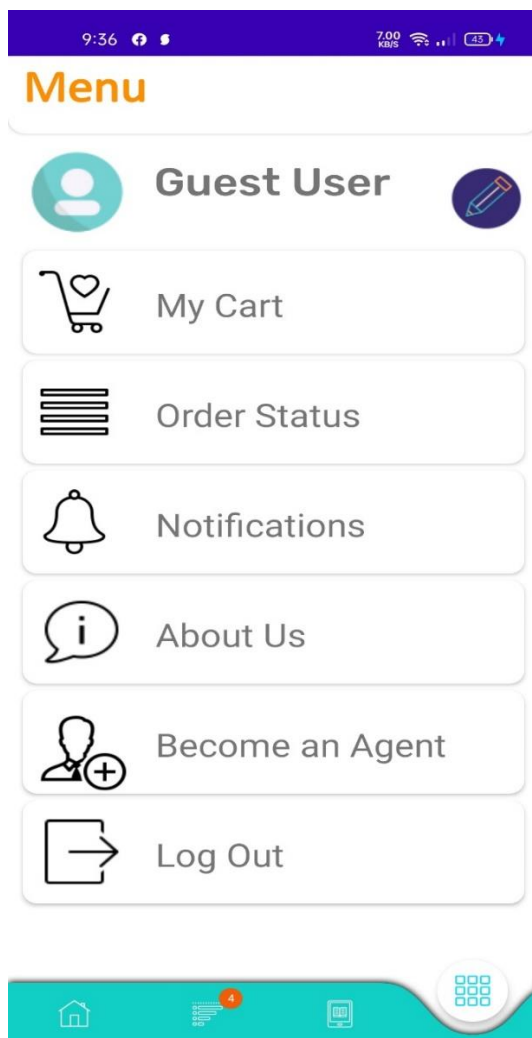


Figure 4.1.10: Menu Bar of Application

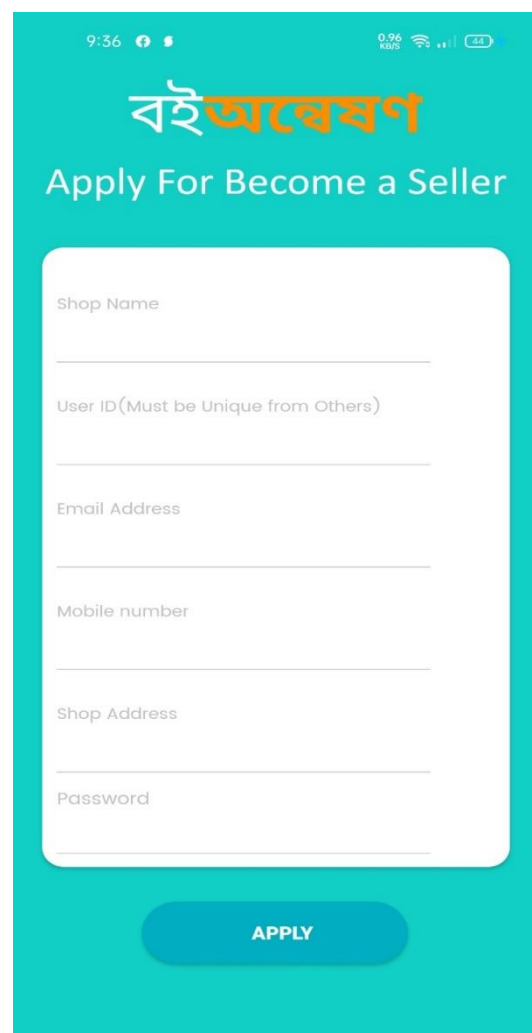


Figure 4.1.11: Seller Registration Form

Figure 4.1.12 This page represents the pdf of a book. User can see pdf and make decision to buy the book. With and without login user can read our PDF. Sometimes new user who do not create account yet and come to scroll our application then see this feature is great for us, if he inspired to create account by see this feature. Moreover, anyone can make decision to buy a book if he confused to buy. So, for this feature our user increase rapidly besides increasing book selling.

Figure 4.1.13 After choosing book from the previous page users have to add the book in cart with quantity. User also can delete any products from cart in this page which is add into cart before for buying. What is more, after confirming the book list in cart by user for buy, user can buy book by clicking 'BUY NOW' button. Mainly, this is the final step for confirm the book list for order.

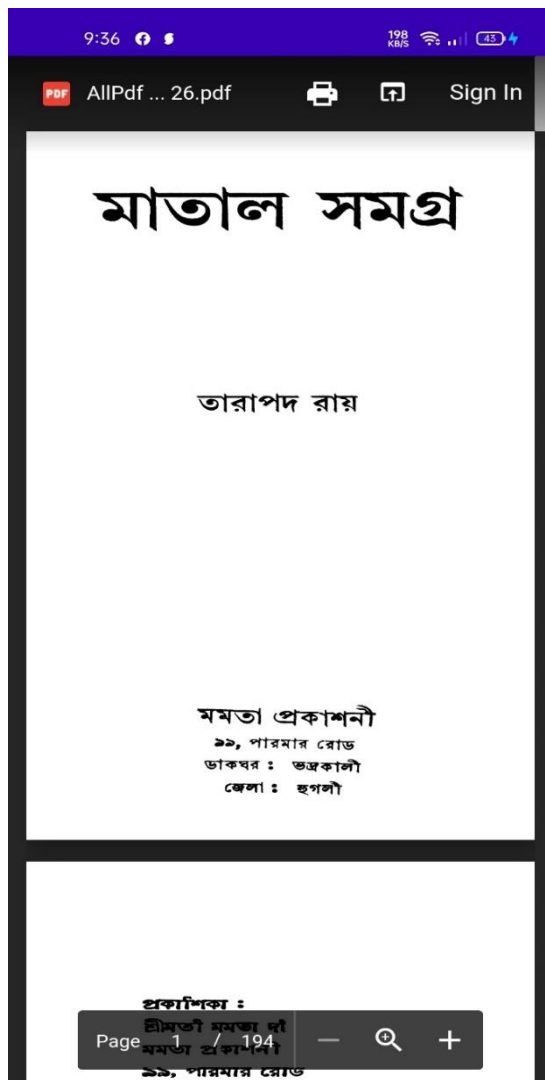


Figure 4.1.12: PDF of Book

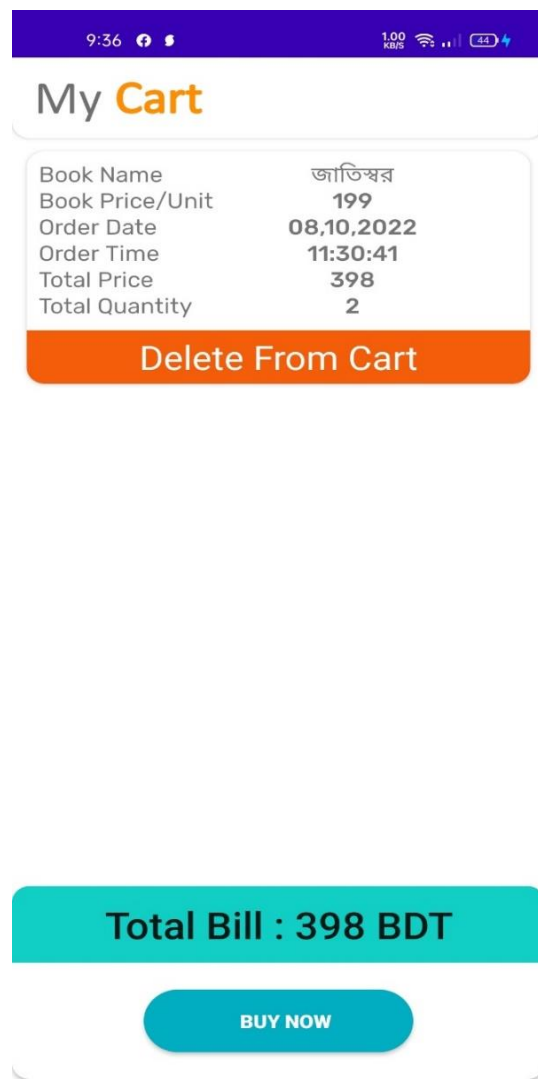


Figure 4.1.13: Cart List for Confirm list

Figure 4.1.14 This page shows the payment system for buy book. Here has 3 types of payment method lists: Bkash, DBBL Rocket, Nagad; User can choose any of them and submit Transaction ID after the payment. If transaction id verified wrong by the system than, user can see payment failed. Then after submit valid transaction ID it will work. A valid transection ID carry about more than or equal six digit, which is depend on payment method system.

Figure 4.1.15 This page display successful payment for real transaction ID. If user get the notification of 'Payment Successful' they can buy their lists of books which add on cart. And lastly this is the final step to buy book from cart by click 'BUY NOW' button. Then all the ordered book go to in the list of order queue. And for new order user need start the full process from first.

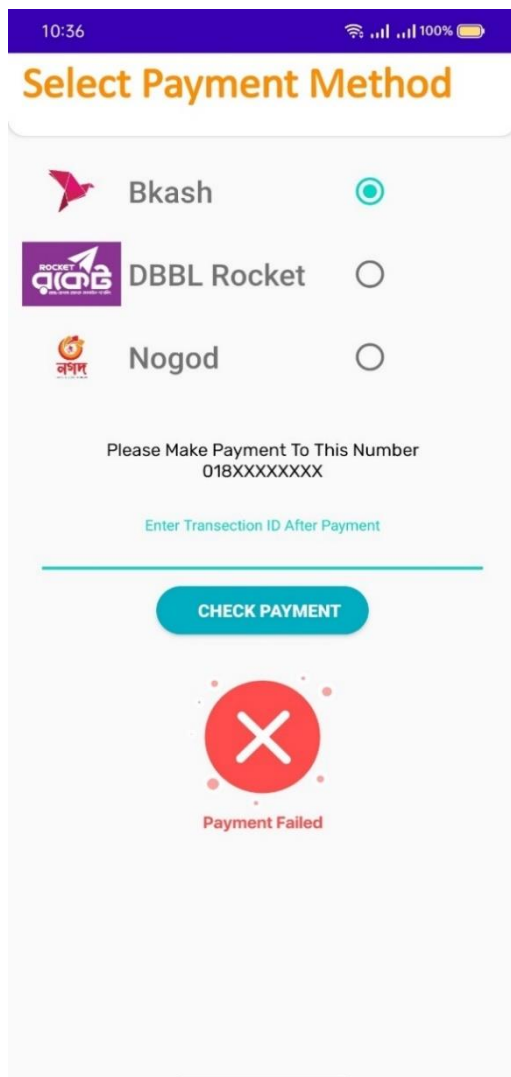


Figure 4.1.14: Payment Method List & checker
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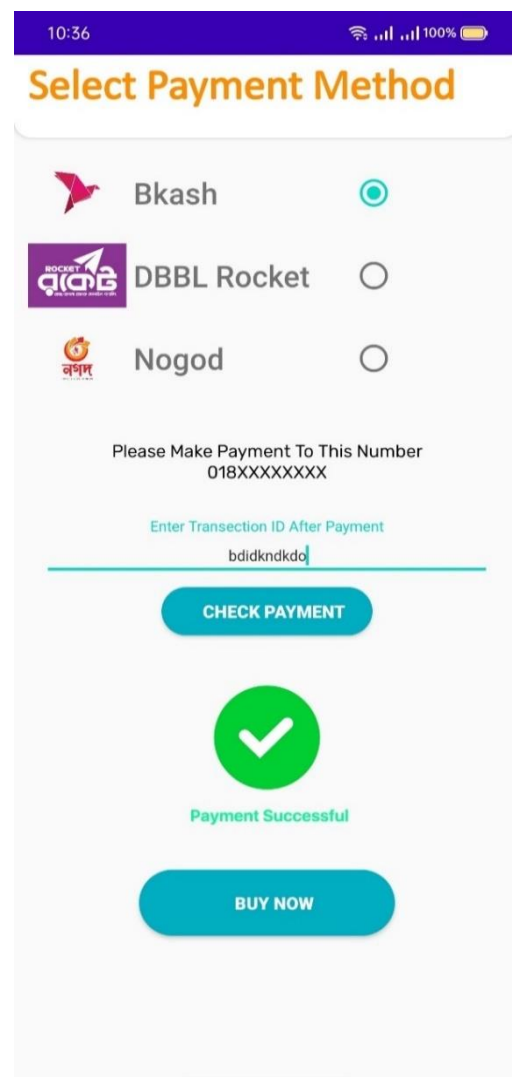


Figure 4.1.15: Final Step for Buy Book

Figure 4.1.16 Order confirming page. After confirming the order this page will be displayed. For a successful user, they need to follow many kinds of steps. Like, book choosing by reading the outlook of book, then add into cart. After confirming the cart, user has to pay the full payment via online payment platform and need to collect the transaction ID and submit it into transaction ID submission button, if then payment checker shows that it is a valid ID and followed by clicking 'BUY NOW' button. After doing all of this process, the order has been placed.

Figure 4.1.17 This is the final step for order. It's displaying the order status of book order to the consumer. User can follow their ordered book by this section. This section is helpful to locate their parcel. If something unwanted happens, then user can complain by showing their order status as a proof.

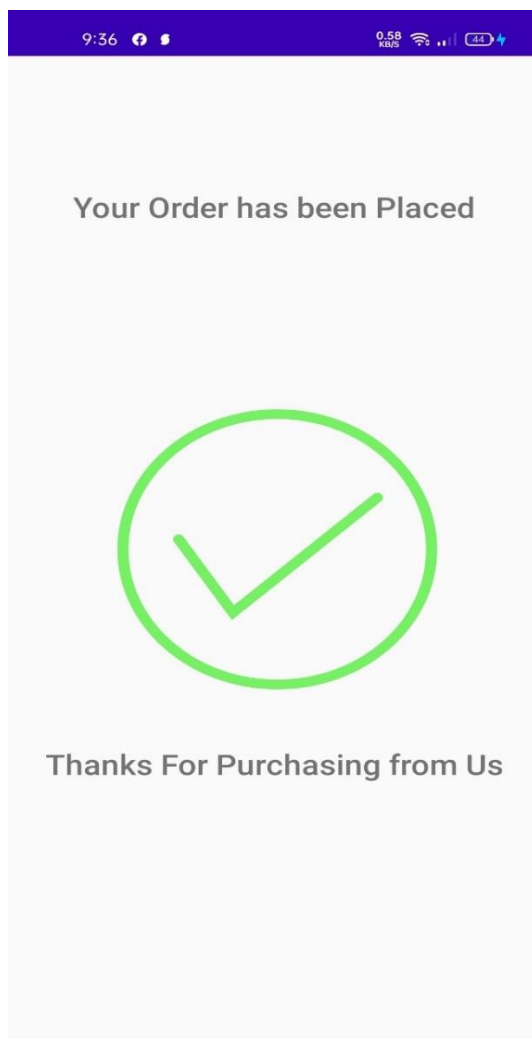


Figure 4.1.16: After Successful Order

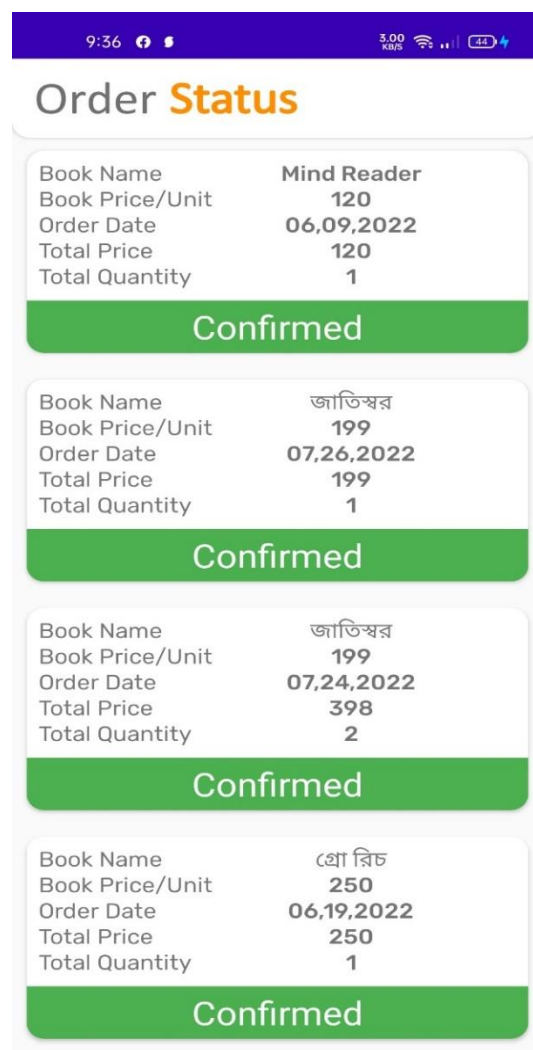


Figure 4.1.17: Order Status of User

Figure 4.1.18 This figure displays to the user to gets agents-ship by register on this signup page to became a seller. When a new user wants to became a agent, he needs to register first for enter the seller application. Here user have to must submit a valid Email address, phone number, a password and NID number. Given details have to be correct information. Though there have many chances to edit profile information of seller, but it would better to submit the right information to avoid unwanted problem in future in his business. (This is from seller APP)

[N.B.] – this page from main application & here for soft reminder.

Figure 4.1.19 This is login page for seller application. This user id and password from registration page of main application from ‘apply for became a seller’. After login seller can access to upload his book as a product to visit to customer for sell.

10:53

বই অবেষণ

Apply For Become a Seller

Shop Name

User ID (Must be Unique from Others)

Email Address

Mobile number

Shop Address

Password

APPLY

Figure 4.1.18: Registration Form as a Seller
©Daffodil International University

10:47

বই অবেষণ

Seller Login

User ID

Password

Forgot Password?

LOGIN

Figure 4.1.19| Seller APP Login

Figure 4.1.20 Home page of seller app. Here has some option for seller. Mainly seller can add his new book by 'add new book menu. Other hand he can notified from main app for his selling. He can also edit or delete his book list. If any customer orders his book he get notification in notification feature. If a seller faces any problem he can complains in 'Problem Faced' section. Also, can edit or update his profile by go into profile section.

Figure 4.1.21 This is showing for add new book. Seller can add new book for many categories. These categories came here from the main application. If there add new categories in main app it will update here too.

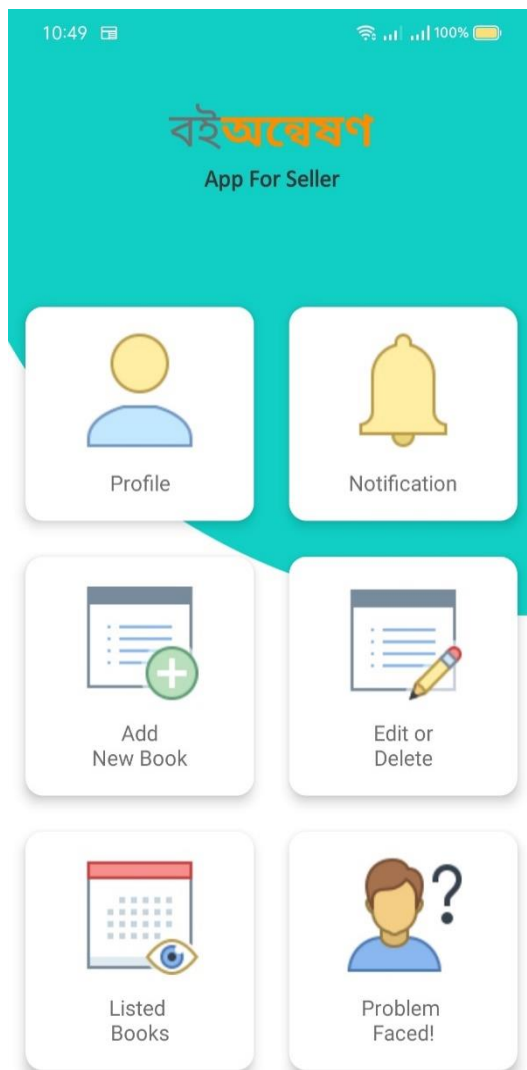


Figure 4.1.20: Seller APP Home Page
©Daffodil International University

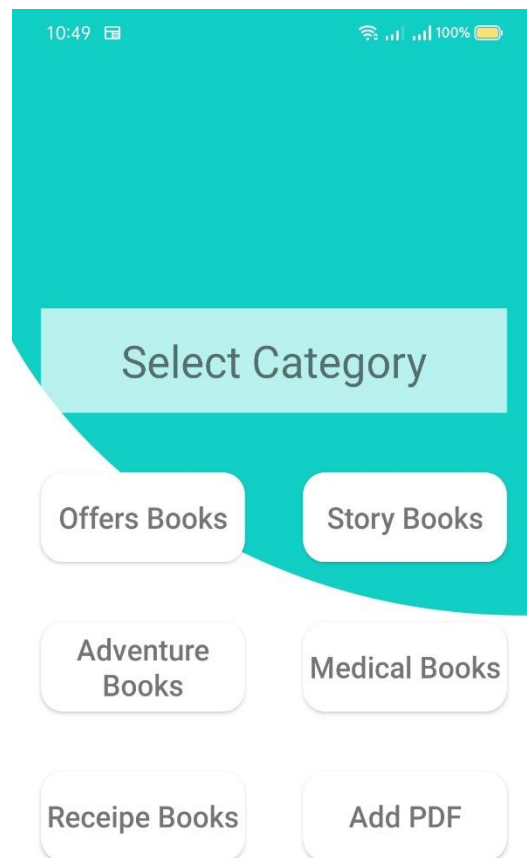


Figure 4.1.21: New Book Adding Option

Figure 4.1.22 All necessary information to add a new book. Seller must give every info to add a new book. For add a new book need some basic requirement like-

- Book Name,
- Writer Name,
- Price per Unit,
- Available Stock,
- Summery.

Moreover, for upload a book seller must need to upload a cover page of the book at image file. Besides cover page seller need to upload three sample pictures of the book to attracts customer.

The screenshot shows a mobile application interface titled "Book Details". At the top, the status bar displays the time 10:49, signal strength, Wi-Fi, and 100% battery. The form contains the following elements:

- Input field: Book Name
- Input field: Writer Name
- Input field: Price/Unit
- Input field: Available Stock
- Input field: Summary
- Section: Book Cover Image Here
 - Image upload icon (mountain and sun)
 - BROWSE button
- Section: Some page image of that Book
 - Three image upload icons (mountain and sun)
 - Three BROWSE buttons
- SEND DATA button

Figure 4.1.22: Necessary Info. for Adding Book

4.2 Back-End Operations

While developing an Android mobile application, we need to do some background work. The Firebase database provides a back-end framework that front-end developers can use. The Firebase database is the reason why most all operations are managed on a database basis. Our application used the Firebase database. The Firebase Realtime database is a cloud-hosted NoSQL database that stores and syncs data in real time between users. Below is some performance data of our application Realtime syncing for JSON Data.

- Easily collaborate across devices.
- Construct a server less app.
- In offline optimized too.
- Powerful security for user.
- Part of the Firebase Platform.
- Scale Across Multiple Databases.

Figure 4.2.1 Our android application is connected on Google Firebase Database. This is a real time database system. Every changed in our both application is stored in our database in real time without any kind of delay.

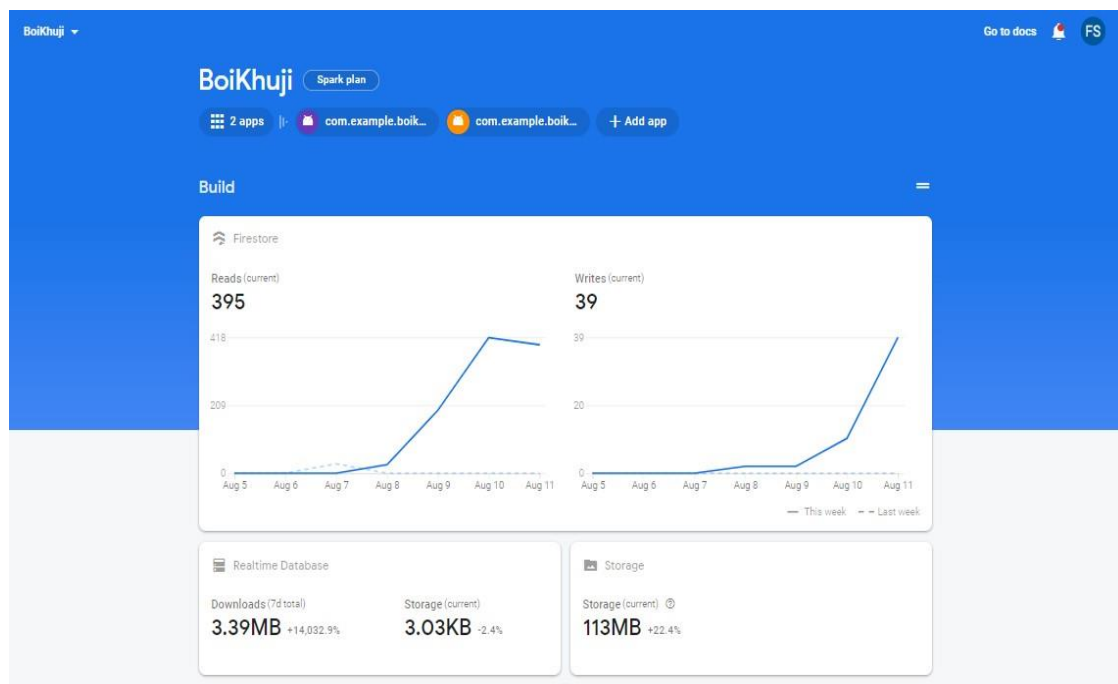


Figure 4.2.1: Firebase Profile of our Buyer and Seller App

Figure 4.2.2 We used Firebase Authentication for user login. Every user has a separate UID. So, we can easily track their activities and history and any kind of changes by them

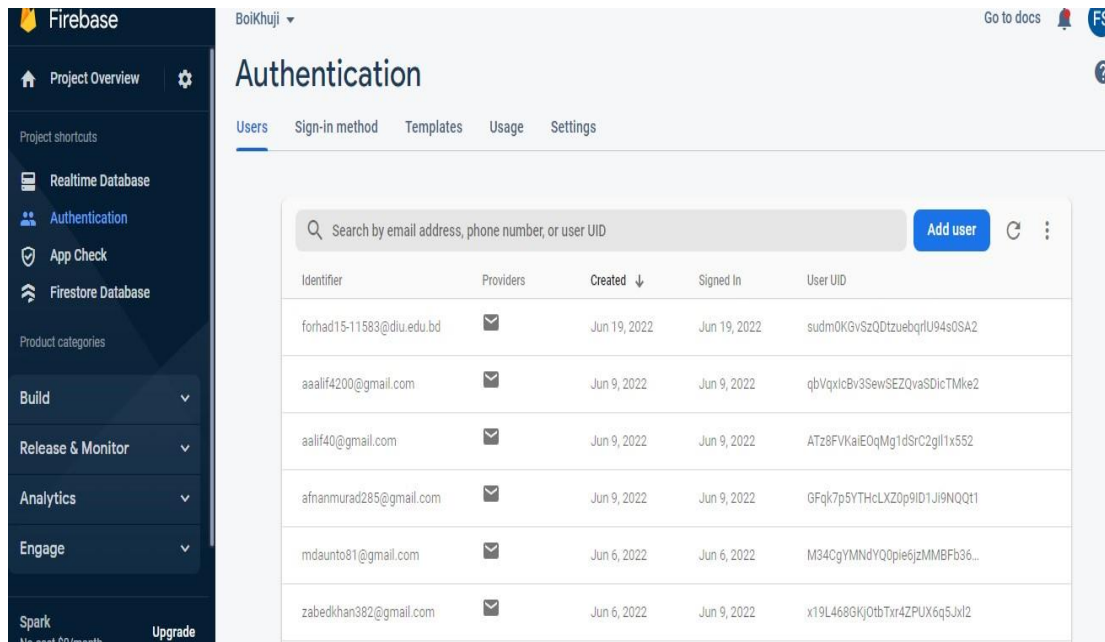


Figure 4.2.2: Firebase Authentication Page for User

Figure 4.2.3 As it is a real-time database system every entity details up to date in Database in real time. It's a complicated data storing system. This system controlled by admin of the system. Admin can edit, delete, add any kind off data.



Figure 4.2.3: Every Entity detail in Database

Figure 4.2.4 Realtime data updating system for seller details in Firebase. For provide good service admin need control seller by forcing them, if fail to give good service admin can punish them & this is possible for only database.

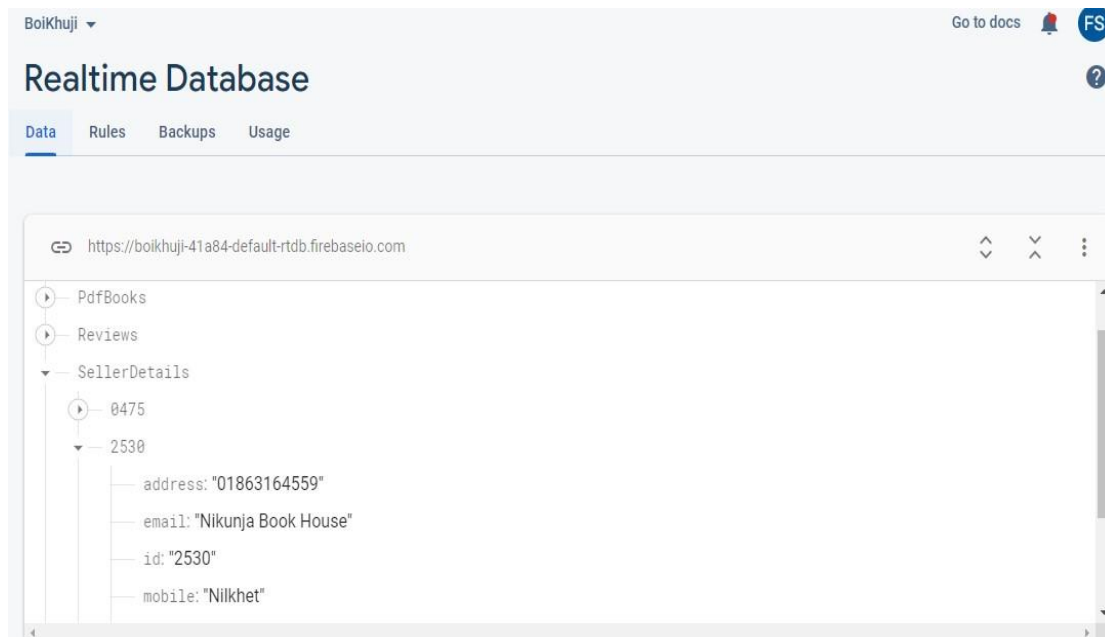


Figure 4.2.4: Seller Details in Firebase

Figure 4.2.5 Every Categories details up to date in Cloud system. For controlling and for find out any problem every kind of categories should be visible into database in real-time to admins. So that, admins can take any action.

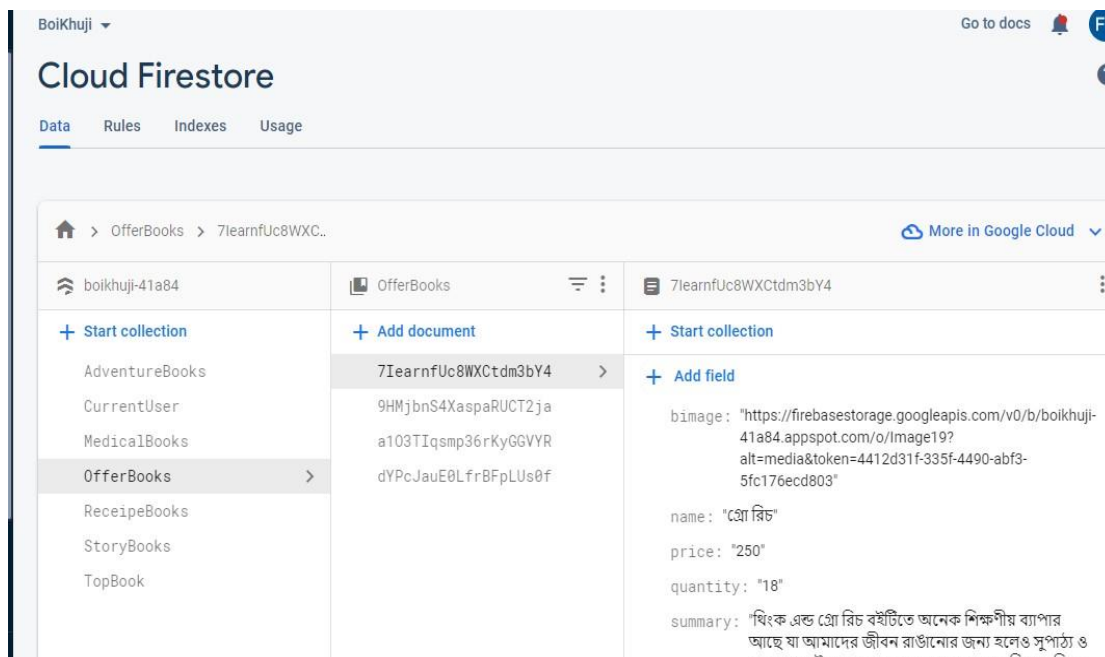


Figure 4.2.5: Categories Details in Cloud

Figure 4.2.6 Every Book Data up to date by Category in Database. For any kind of mistake, when seller upload a book. Admin can fix this type of mistake. Moreover stock of book, update price is store in database.

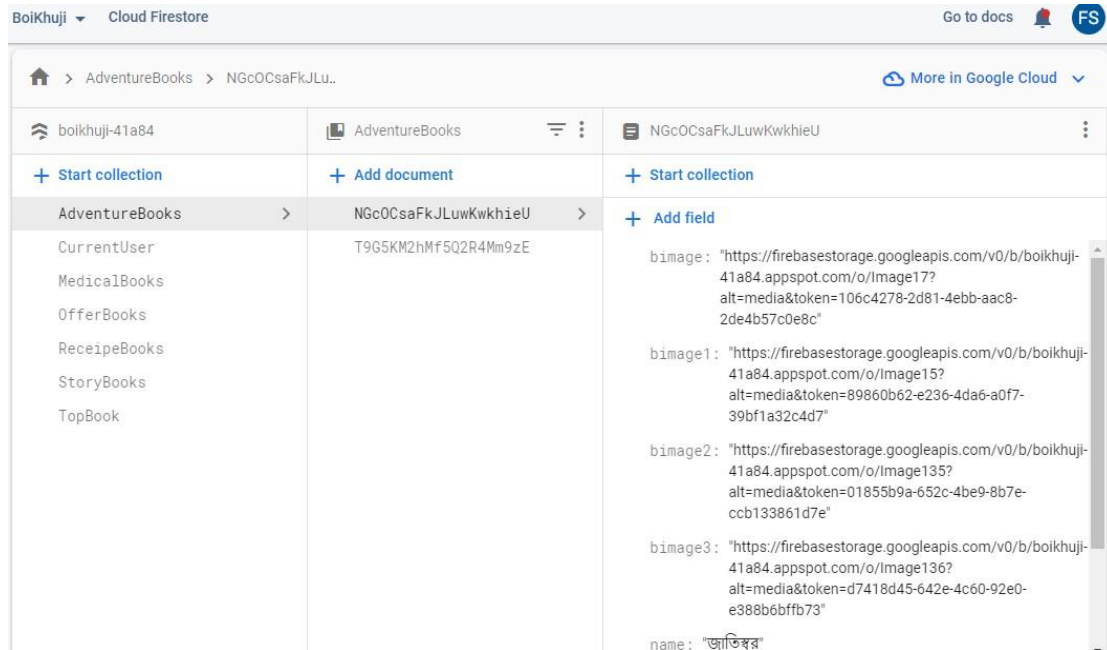


Figure 4.2.6: Every Book Data by Category in Database.

Figure 4.2.7 If anyone add or delete his preferable book in his cart, it will be updated in real-time and stored in database. It will lasted for a long time if admin don't remove data.

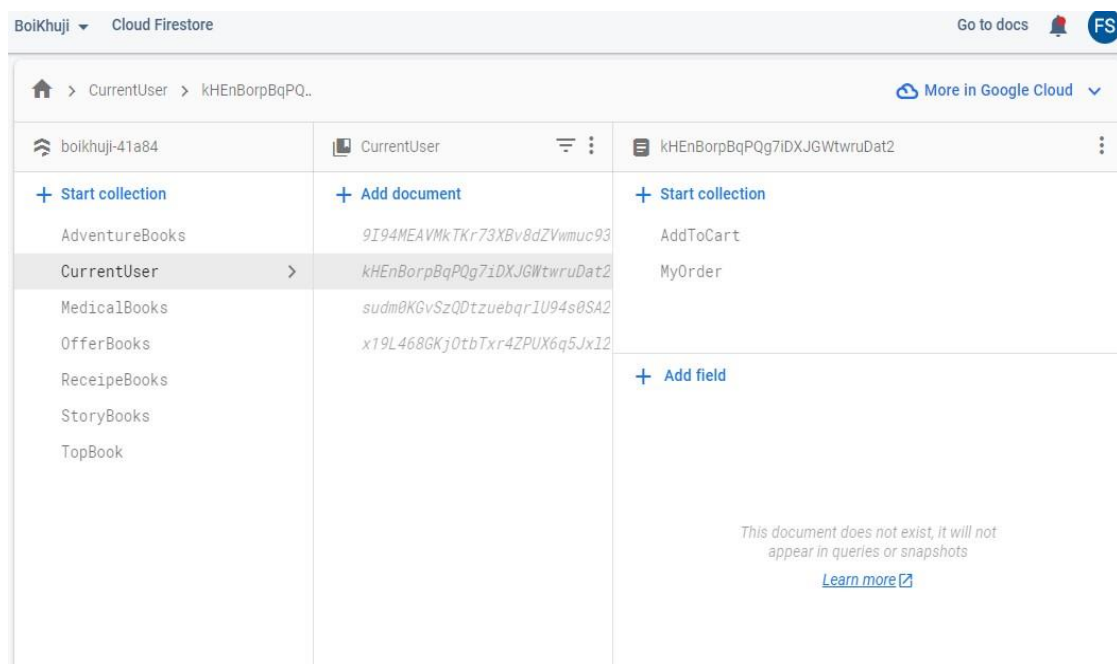


Figure 4.2.7: Every Users Cart and Order Data Stored in Database

Figure 4.2.8 List of ordering data with date & time. Here, admin can investigate any kind of order from the starting time of using this application. For avoid any kind of hassles it is so good for authority.

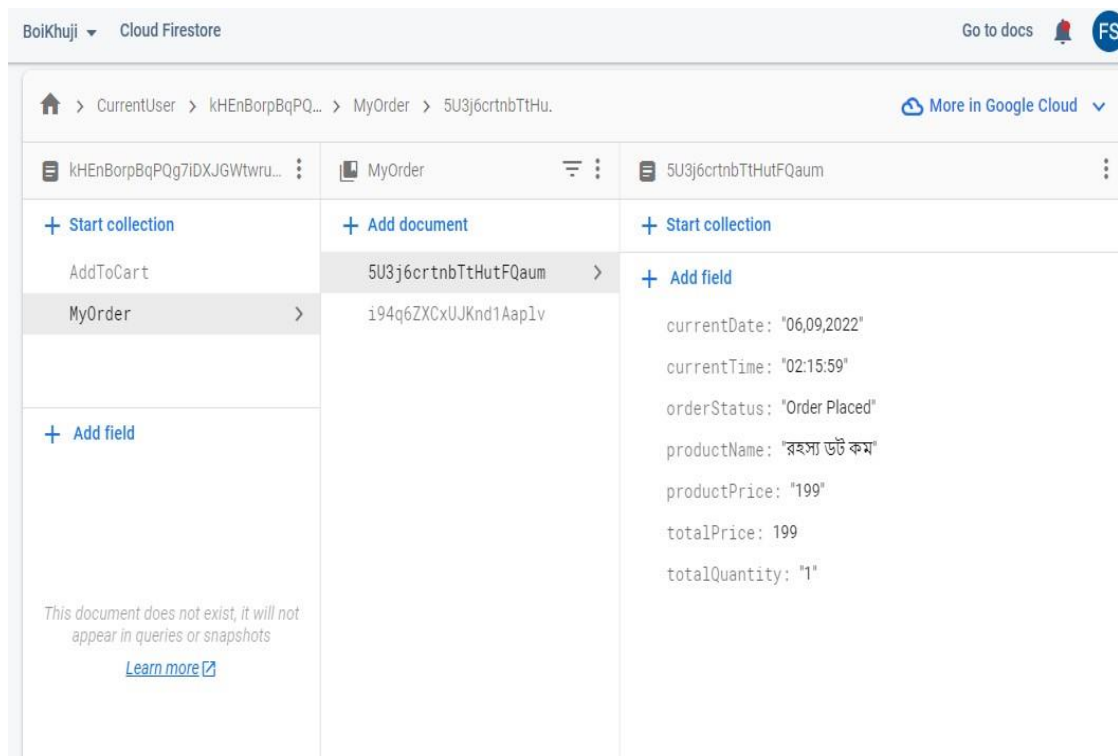


Figure 4.2.8 Order Data with Date and Time Storing

4.3 Interactive Design and UX

Nowadays everyone wants an interactive and styles design for their smartphones and tablets. Interactive design helps to build the application much user friendly and interesting for the user. Interactive design is a great and powerful way to visualize the interaction between a system and the user. User experience, on the other hand, focuses on all aspects of the interaction process between the user and the application.

4.4 Requirement Implementation

In our project we need to use android studio to build and execute the project. In other cases, we need an internet browser and a Gmail account for the server. We need JDK, SDK and NDK for testing. We also need an physical Android device to run and test apps from a PC. Adobe Illustrator, Photoshop are used to create various logos and background images. Another requirement is a stable internet connection to sync and update gradle files in Android Studio.

CHAPTER 5

TESTING AND IMPLEMENTATION

5.1 Implementation on Database

Our primary and final motive is to build up a database and tables for presenting the data in Firebase. That will build a connection on our application to the Firebase database. We build a data structure on firebase. Sometimes we need to up to date many of our data using the storage of the data which is stored in storage. We uploaded queries for enrolled the information from the Firebase. That's the implementation process of our firebase database. We added Realtime database SDK in our app. Our team have to Configure Realtime database rules.

We saved information to the real-time storage. And the Firebase authentication system to make a totally new identity for the collection of all consumer usage based. And our team also used Realtime database for store the data of book details, offer, buyer cart, ordering details etc. stored on data.

We used almost all the demanding options of the firebase database with the application by the programming java classes, dependencies and various resources of the libraries. For the establishment of our application with the co relation of the database presenting in methods for upload data for register users via Firebase.

5.2 Implementation of Front-End Design

Front end design is related with Java classes, XML files. The XML used for UI design. In XML file we added various items like various layouts, Buttons, various view, various shape for designing the application. Again, all items are related with class by calling them. Java classes used to play various logical operations.

5.3 Interactions Implementation

For the analyze our idea, we have got feedback from our classmates and supervisors and also from some of our faculty member about the application. We had shared our idea and goals. Receiving their opinions and suggestions. After that we discussed with each other for favorable UI. And we prepared our application logos and app buttons with efficient information and for that the design is so attractive. All we prepared more user friendly and a attractive application.

5.4 Implementation Testing

Android has different test types. These are instrument tests, unit tests, core unit tests, system tests, integration tests. When we connect to a local computer with Android Studio installed and connected to Firebase. We use Java in u PC, so it works very fast, because it doesn't need to be done in the java emulator.

The system tests the complete system. These tests are used to monitor and test the code. A unit testing is much essential because sometimes the developers try to save the minimum time to test the device and when the test of the system is so high, the cost is high to repair the device via various myths. The application is also tested in beta and integration is proven. At the end we can save our time by ensure that test completed for an initial unit at a stage.

5.5 Testing Result and Report

Basically, system tested for the accuracy of an application. The test the integral part of the application. Finally, application interface with other software or hardware. Our system is the series of the system testing output.

- ✓ Login System,
- ✓ Registration System,
- ✓ Show Agent Panel,
- ✓ View Agent Login Page,
- ✓ Agent Registration System,
- ✓ Show Categories,
- ✓ Show E-Books,
- ✓ Show Book Details,
- ✓ Adding Book in Cart,
- ✓ Show Available Stock of Book,
- ✓ Cart Details,
- ✓ Payment Method Selection,
- ✓ Payment Checker,
- ✓ Order Status,
- ✓ View Profile,
- ✓ Notification.

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT & SUSTAINABILITY

6.1 Impact on Society

An important way in which e-commerce impacts the economy in general is because it is impacted by inflation. The continued growth in the electronics market could lead to inflationary pressure due to increased competition, rising costs and changes in supply chain prices.

- Positive effect: Instead of walking/driving in a store to buy something, you can get every stuff of them in a minute, if you know the proper way to find your stuff.
- Negative impact: You believe that buying online could lead to job loss for 50,000 people in high street, including 4,000 to 5,000 offline shops as customers per via the competition of online retailers, which this chain is involved in. And this acceleration can beat more to offline shop by attract customer focus on online retail.

6.2 Impact on Environment

In addition to this, the growing trend of online shopping has a significant environmental impact. From manufacturing to transporting goods around the world, e-commerce now accounts for a significant portion of global emissions. We look at the growing trend of online shopping and its impact on the environment.

6.3 Ethical Aspects

Sales ethics is a good thing that a salesperson does to benefit their customers in addition to making a profit. A salesperson's ethical actions in sales may include providing appropriate education, courteous communication, fairness, providing quality products, and other good customer service.

6.4 Sustainability Plan

Learning about sustainability is the first step for sustainability. Next, companies should assess the areas of the business that can be improved. So, they have to find opportunities to change. Finally, companies must make changes that make their operations more sustainable. In fact, global consumers are more likely to buy from a brand with a clear commitment to sustainability. It is more likely to buy a product online if they are able to recycle the packaging and the product itself.

CHAPTER 7

FUTURE PLAN AND CONCLUSION

7.1 Discussion and Conclusion

The current mobile world is largely dependent on Android. In this context, we try our best to make our work accessible to all while maintaining the traditional style. In this busy mechanical life, leisure is an essential part of every human being's life. With this application we want to reach every mobile phone easily and in a short time and with ease, to give the book lover to find book for reading & buying.

Online shopping is a big area of new technology. Creating an online store through the Internet allows retailers to expand their market and reach customers with many attractive offers, otherwise customers would go to a physical store as they do now. Consumers are attracted by the convenience of online shopping. Unique online payment system makes buying from other people easy and safe. E-consumers exhibit different buying behaviors such as; Abandon the cart. There are also benefits of online shopping. Also, there are no salespeople pressing to buy from them like "no pressure" in virtual stores or online to buy. Easy online comparison eliminates the need to shop from physical store to store to compare prices. It is considered possible to buy from home. With the advent of the Internet, online shopping has become popular. Online shopping gives you access to products sold all over the world.

7.2 Scope for Further development

Online shopping sector is a huge opportunity for development. In the current situation the android application-based online shopping is updating. We have some plan for our application these are given here:

- We will use multiple languages like Bengali and English for the user.
- Customer can see, read book as pdf; make order & can make Payment in online platform.
- Proper virtual assistant for the users.

REFERENCES

- [1]"Android (operating system), Wikipedia << [https://en.wikipedia.org/wiki/Android_\(operating_system\)](https://en.wikipedia.org/wiki/Android_(operating_system)) >>, last accessed on 6th June, 2022 at 10:45PM.
- [2] Rokomari.com, Play Store << <https://play.google.com/store/apps/details?id=com.rokomari&gl=US> >>, last accessed on 7th August, 2022 at 8:50 AM.
- [3] Daraz.com, Play Store << <https://play.google.com/store/apps/details?id=com.daraz.com.my&gl=US> >>, last accessed on 8th July, 2022 at 10:35PM.
- [4] BookScouter – Sell & Buy books, Play Store << <https://apps.apple.com/us/app/bookscouter-sell-buy-books/id366508853> >>, last accessed on 20th July, 2022 at 12:45 PM
- [5] Pangobooks – buy sell books, App Store << <https://apps.apple.com/us/app/pangobooks-buy-sell-books/id1546752104> >>, last accessed on 17th July, 2022 at 5:00PM.
- [6] Thriftbooks – new & used books, Play Store << <https://play.google.com/store/apps/details?id=com.thriftbooks.mobile&gl=US> >>, last accessed on 26th July, 2022 at 8:00PM
- [7] CanSell – buy & sell used books, Play store << <https://play.google.com/store/apps/details?id=com.geexer.dev.cansell&gl=US> >>, last accessed on 12th July, 2022 at 10:00AM.
- [8] Bookchor – buy/sell used books, Play Store << <https://play.google.com/store/apps/details?id=booksfortune.bookchor&gl=US> >>, last date on 2nd August, 2022 at 3:50 PM.
- [9] Book Mart digital, Play Store << <https://play.google.com/store/apps/details?id=mx.bookmart.digitalviewer&gl=US> >>, last accessed date on 5th August, 2022 at 11:00PM

APPENDICES

Name	Description
CSE	Computer Science And Engineering
UI	User Interface
HTML	Hypertext Markup Language
UML	Unified Modeling Language
ERD	Entity Relationship Diagram
API	Application Programming Interface
App	Application
SDK	Software Development Kit
JDK	Java Development Kit
NDK	Native Development Kit
JSON	JavaScript Object Notation
UX	User Experience
PDF	Portable Document Format
NID	National Identity Card
DBBL	Dutch Bangla Bank Limited

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