VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belgaum -590014, Karnataka.

MOBILE APPLICATION DEVELOPMENT REPORT

on

RENT-A-READ

Submitted by

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Under the Guidance of

DR. NANDHINI VINEETH
Associate Professor, BMSCE

in partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

B.M.S. COLLEGE OF ENGINEERING

(Autonomous Institution under VTU)

BENGALURU-560019 April-2024 to July-2024

B. M. S. College of Engineering,
Department of Computer Science and Engineering

CERTIFICATE

This is to certify that the project work entitled "**RENT-A READ**" carried out **by NAVANITH KRISHNA R (1BM22CS172), NAVEEN RAMKUMAR (1BM22CS173), POOJA M (1BM22CS195)** and **PRABHANJAN (1BM22CS196)** who are Bonafede students of B. M. S. College of Engineering. It is in partial fulfilment for the award of Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-2024. The project report has been approved as it satisfies the academic requirements in respect of Mobile Application Development (23CS4AEMAD) work prescribed for the said degree.

Signature of the Guide
Dr. Nandhini Vineeth
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Signature of the HOD
Dr. Jyothi S. Nayak
Prof.& Head, Dept. of CSE
BMSCE, Bengaluru

External Viva

Name of the Examiner | Signature with date

1. _____ _____

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B.M.S. COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DECALARATION

We, **NAVANITH KRISHNA R (1BM22CS172), NAVEEN RAMKUMAR (1BM22CS173), POOJA M (1BM22CS195) and PRABHANJAN (1BM22CS196)** students of 4th Semester, B.E, Department of Computer Science and Engineering, B. M. S. College of Engineering, Bangalore, hereby declare that, this Mobile Application Development entitled " **RENT-A READ** " has been carried out by us under the guidance of **Dr NANDHINI VINEETH**, Associate Professor, Department of CSE, B. M. S. College of Engineering, Bangalore during the academic semester April-2024 to July-2024 We also declare that to the best of our knowledge and belief, the development reported here is not from part of any other report by any other students.

Signature

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Abstract

Rent-A-Read is an innovative mobile and web-based application designed to revolutionize the way individuals access and consume books. Targeting bibliophiles, casual readers, and educational institutions, Rent-A-Read offers a cost-effective and convenient platform for renting a vast array of books across various genres and languages. By providing a flexible rental period and an extensive digital library, the application addresses common barriers to reading, such as high purchase costs and limited storage space.

The application leverages an intuitive user interface and advanced search algorithms to ensure a seamless user experience. Users can easily browse, select, and rent books, which are delivered digitally to their devices. Additionally, Rent-A-Read incorporates social features, allowing users to create reading lists, share reviews, and participate in book clubs, fostering a vibrant reading community.

Rent-A-Read also supports authors and publishers by offering a new revenue stream and broader audience reach. The platform's analytics tools provide valuable insights into reading habits and preferences, enabling content creators to tailor their offerings to market demand.

In summary, Rent-A-Read democratizes access to literature, promotes a sustainable reading habit, and connects readers worldwide, making it an essential tool for the modern reader.

Chapter 1

Introduction

Rent-A-Read is an innovative mobile application designed to revolutionize the way people access and enjoy books. Catering to the modern reader's needs, Rent-A-Read offers a vast library of digital and physical books available for rent, providing a cost-effective and environmentally friendly alternative to purchasing. Users can browse an extensive collection, ranging from bestsellers and classics to niche genres and new releases, all at their fingertips. The app features personalized recommendations, ensuring that readers discover books that match their interests and reading habits.

Rent-A-Read's user-friendly interface allows for easy navigation and seamless transactions. Subscribers can choose between digital e-books, which can be read on any device, or physical books delivered to their doorstep with hassle-free return options. The app also includes features like reading progress tracking, community reviews, and the ability to create and share custom reading lists.

For avid readers and occasional book lovers alike, Rent-A-Read provides an affordable, flexible, and sustainable way to indulge in the joy of reading without the commitment of ownership. Whether you're looking to explore new authors or revisit old favourites, Rent-A-Read makes it easier than ever to dive into the world of books.

Chapter 2

Hardware and Software Requirements

2.1 Hardware Requirements

1. Server Requirements:

- Processor: Intel Xeon or equivalent, 4 cores or more.

- RAM: 16 GB or higher.

- Storage: SSD with at least 500 GB storage.

- Operating System: Windows Server, Linux (Ubuntu, CentOS), or macOS. - Network: High-speed internet connection with reliable bandwidth.

2. Client-Side Requirements:

- Devices: Smartphones, tablets, or computers with internet access.

- Operating System: Android (version 6.0 and above) Windows,

3. Development Workstations:

- Processor: Intel Core i5/i7 or equivalent.

- RAM: 8 GB or higher.

- Storage: SSD with at least 250 GB storage.

- Operating System: Windows 10/11, macOS

- Additional Tools: Android Studio, and other development tools.

2.2 Software Requirements

The **RENT-A-READ** Project requires the following software components to ensure efficient and smooth operation:

1. Operating Systems: - Server-Side:
- Windows Server: Easy to manage and used in enterprise environments. -macOS: Optional, for Apple-specific environments.
- Client-Side:
- Android (version 6.0 and above): For mobile users. - Windows 10/11: For desktop users.

2. Database Management System:
- Firebase Fire store: A NoSQL, real-time database that provides scalable and efficient data management.

3. Development Platforms and IDEs:
- Flutter Flow

4. Frontend Framework:
- Flutter: For building responsive and performant mobile applications.

5. Authentication and Security:
- Firebase Authentication: To manage user authentication and security.

6. Version Control:
- Git: For source code version control and collaboration.
- GitHub :Repository hosting services for project management and collaboration.

7. Cloud Services:
- Firebase Cloud Messaging (FCM): For sending push notifications. - Firebase Storage: For storing user-uploaded files and images.

Chapter 3

Design Layouts: Screen Shots of Mobile App / Webpages

3.1: Login Page

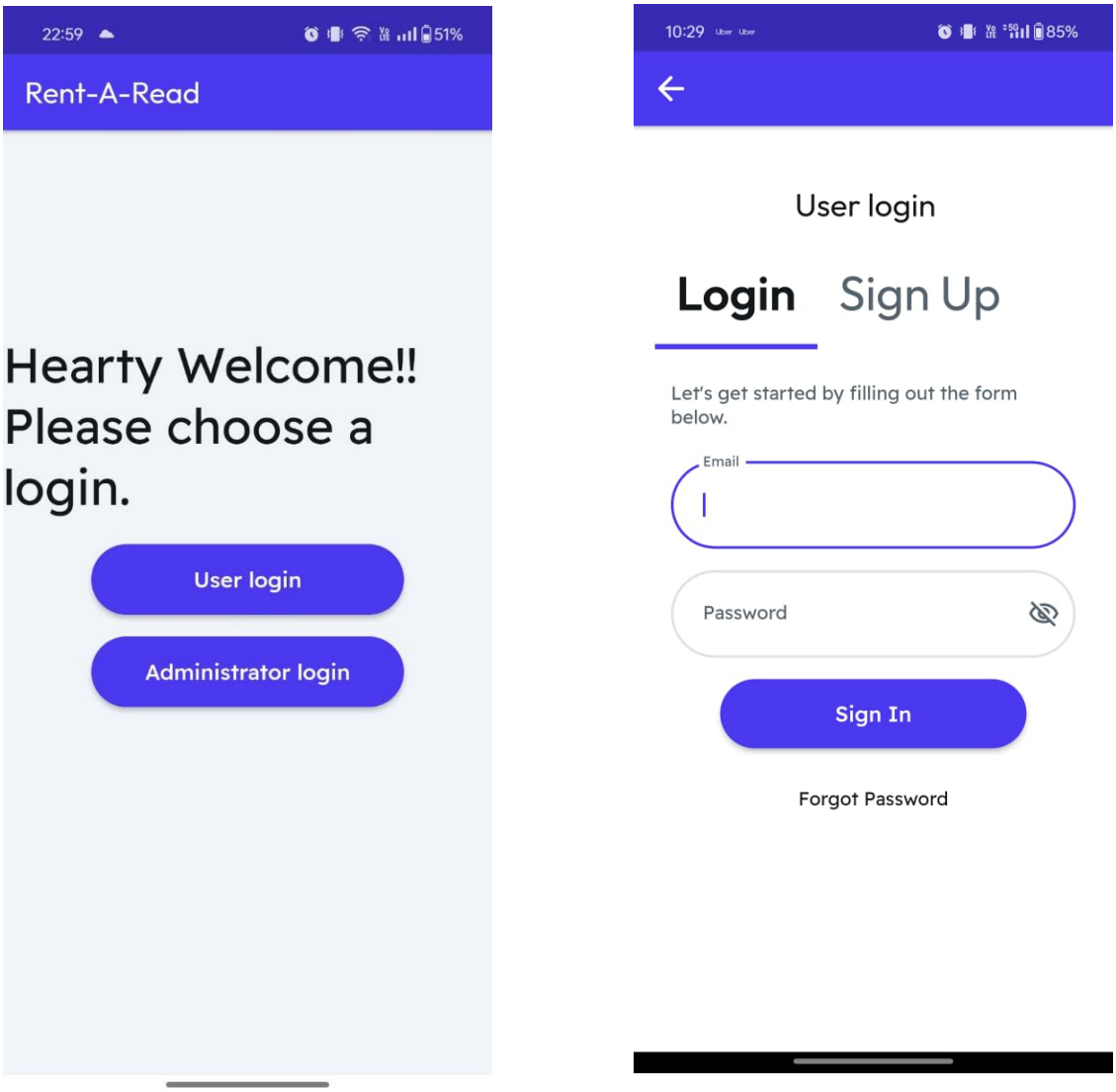

Figure 3.1: Login Screen

The Login page for the Rent-a-Read application allows users to securely access their accounts by entering their registered email and password. It also provides options for password recovery and new user registration to ensure seamless entry for all users.

3.2: Sign Up page

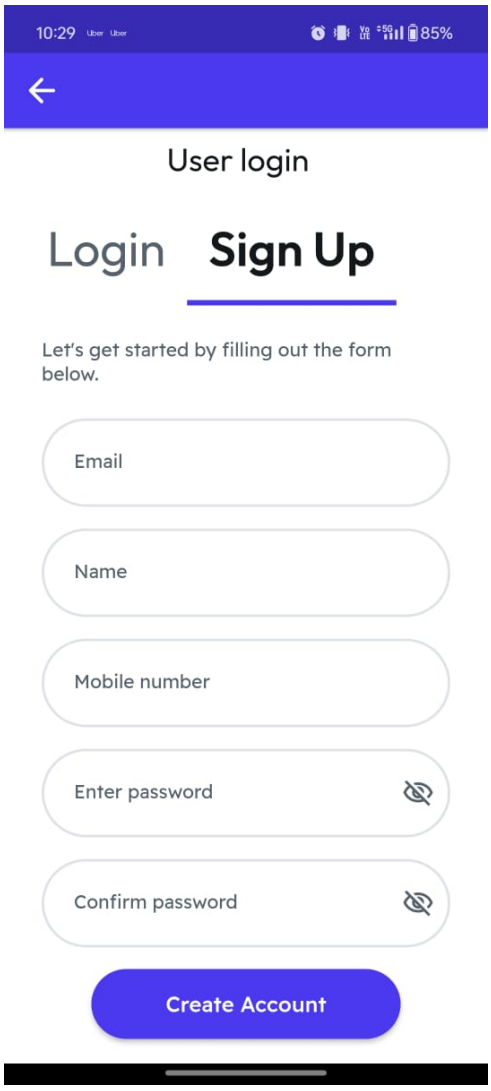

Figure 3.2: Sign Up Screen

The Sign Up page for the Rent-a-Read application enables new users to create an account by providing necessary details such as name, email, and password. It ensures a smooth onboarding process with user-friendly prompts and validation to start renting books quickly.

3.3: Home page

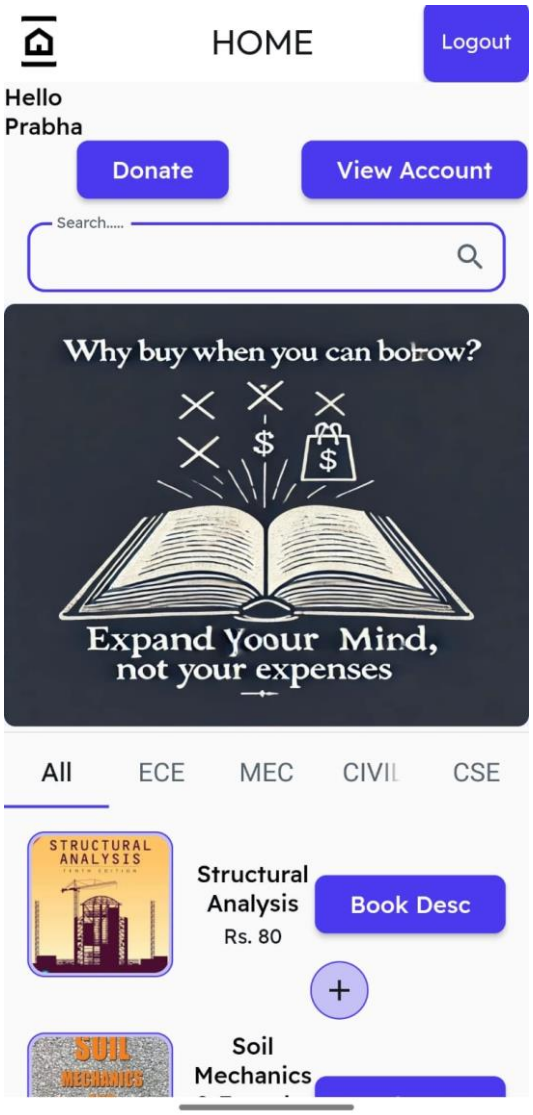

Figure 3.3: Home Page

The Home page for the Rent-a-Read application serves as the main interface where users can browse featured books, view personalized recommendations, and access different book categories. It provides a seamless and intuitive navigation experience, making it easy to find and rent books quickly.

3.4:Book Description

Figure 3.4: Book Description

The Book Description for the Rent-a-Read application clearly indicates the current section or feature being accessed, such as Book name, Book Author, Book Cost, Number of copies It helps users easily navigate and understand the purpose of each page within the application.

3.5: Books Review

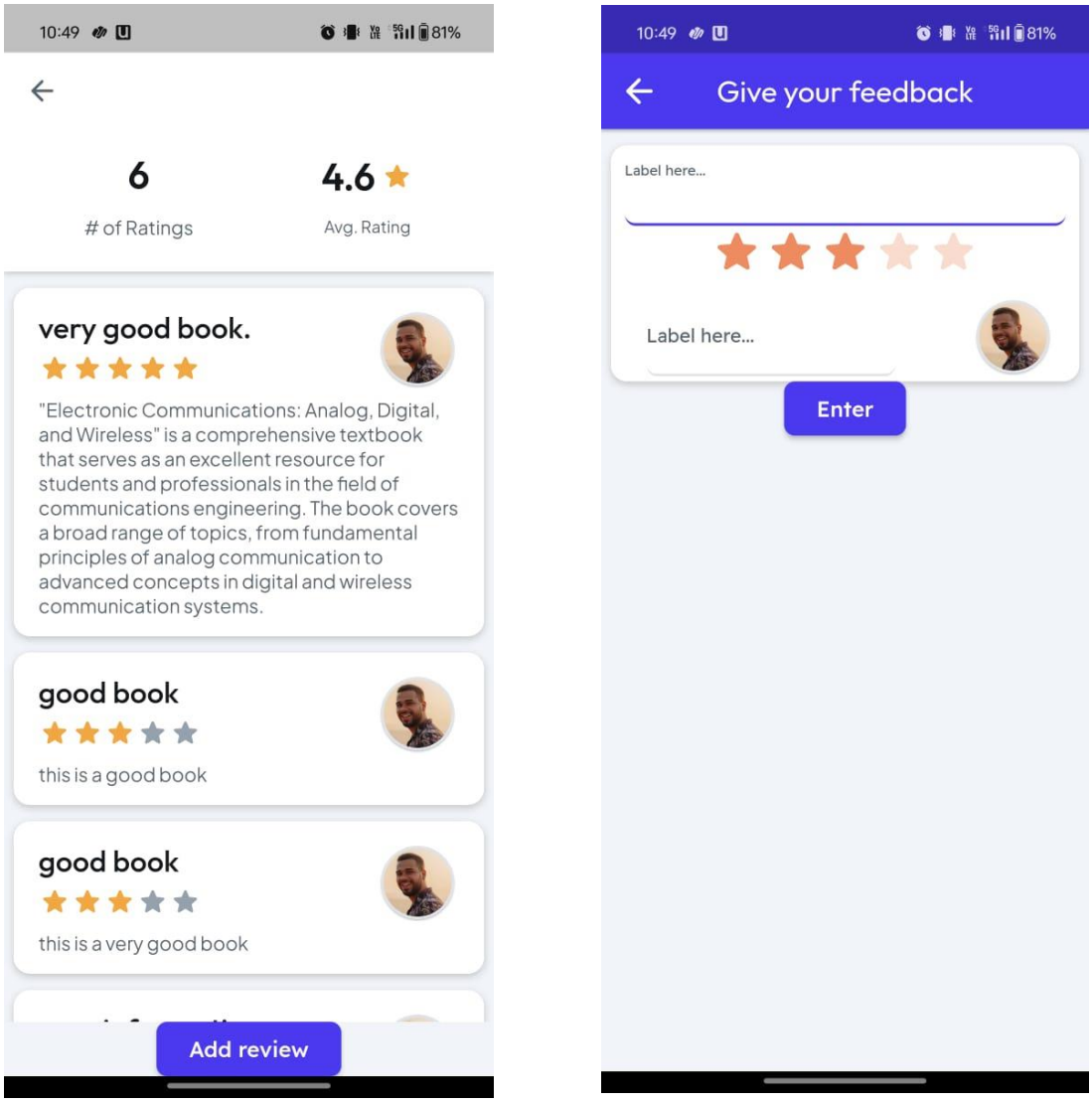

Figure 3.5: Book Review

The Book Review section of the Rent-a-Read application allows users to share their opinions and ratings on rented books, helping others make informed choices. It also provides a platform for readers to engage in discussions and contribute to the community's reading experience.

3.6: My Cart

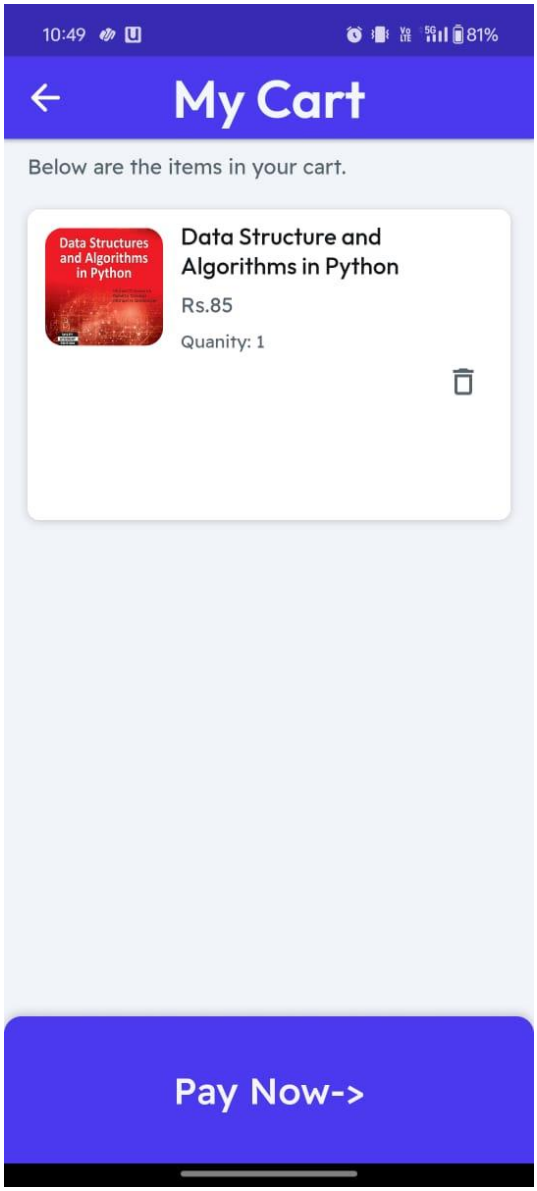

Figure 3.6: My Cart

The My Cart page in the Rent-a-Read application allows users to review and manage their selected books before completing the rental process. It provides options to adjust rental periods, remove items, and proceed to checkout for a seamless transaction experience.

3.7: Payment page

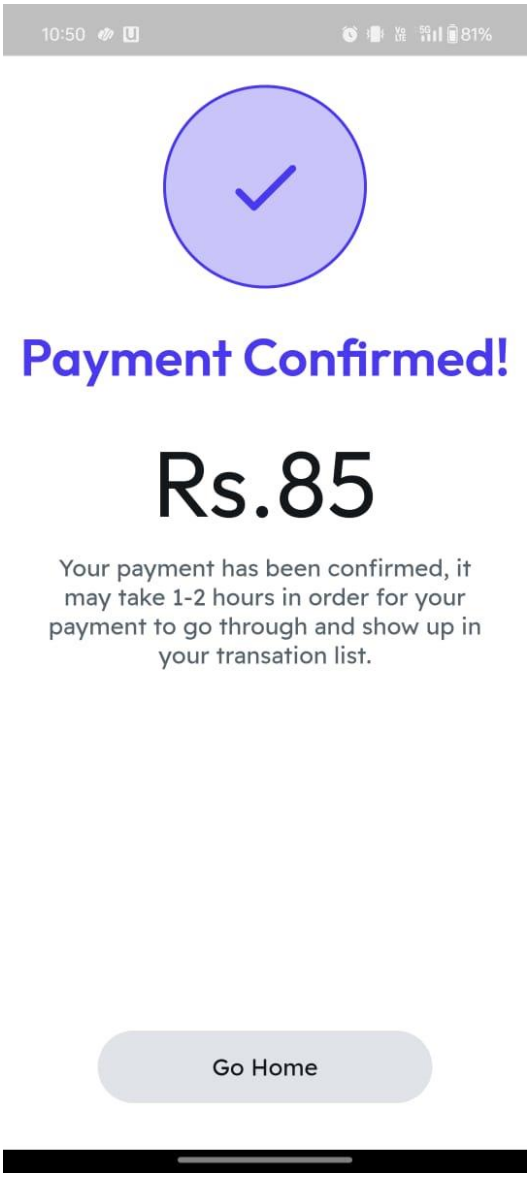

Figure 3.7: Payment Page

The Payment page for the Rent-a-Read application allows users to securely complete their book rental transactions using various payment methods, including credit/debit cards and digital wallets. It ensures a safe and efficient payment process with encryption and fraud protection measures.

3.8: Donation page

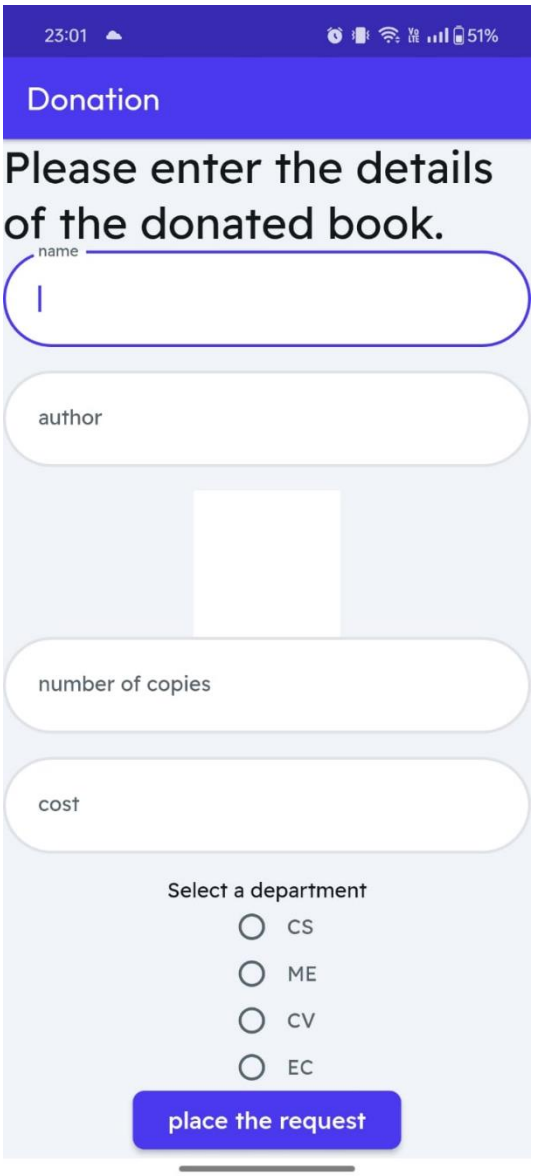

Figure 3.8: Donation Page

Users can donate unused books to help grow our community library. Every book you give brings knowledge and joy to another reader.
Users have to provide the following details for the donation: name of the book, author, image of the book, number of copies & department.

Chapter 4

Database Table Screen shots

4.1. User Database

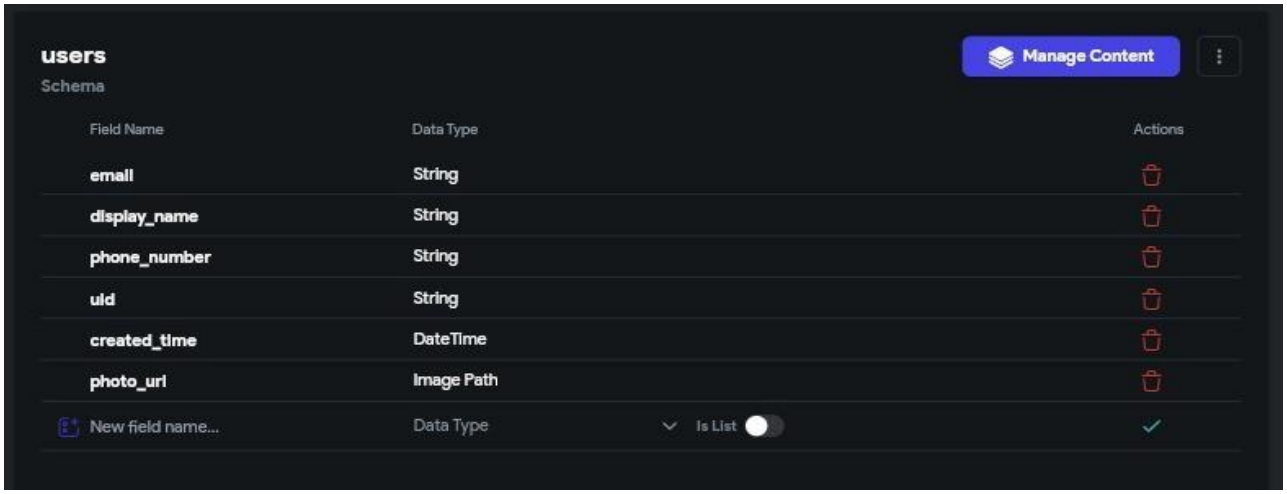

Figure 4.1: user database

4.2 Cart Database

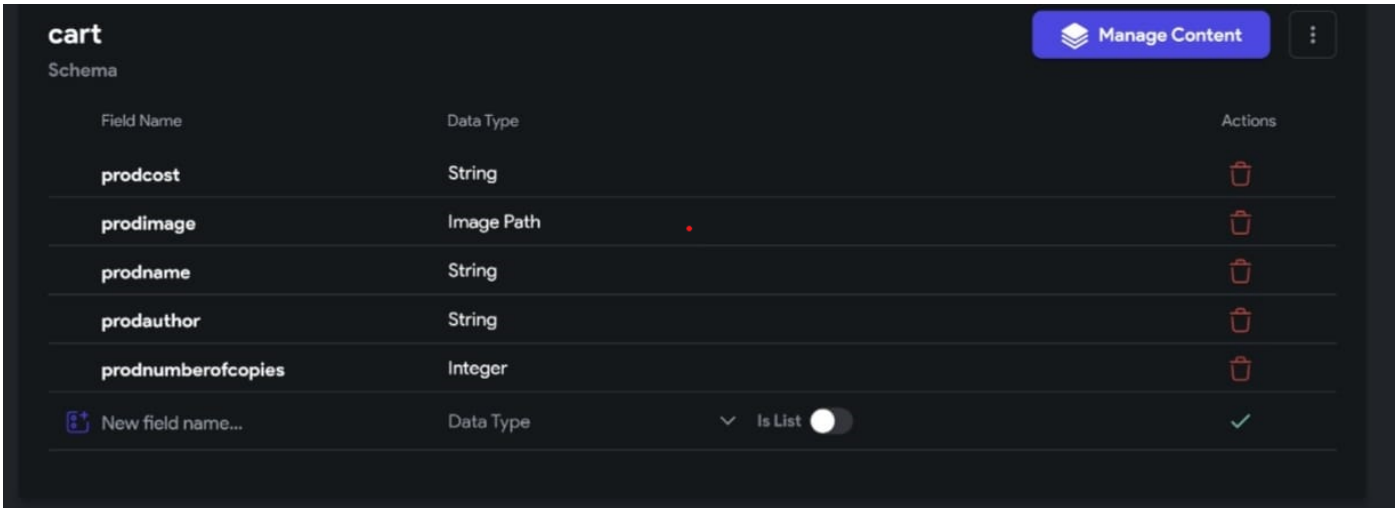

Figure 4.2: cart database

4.3 Cart Delete

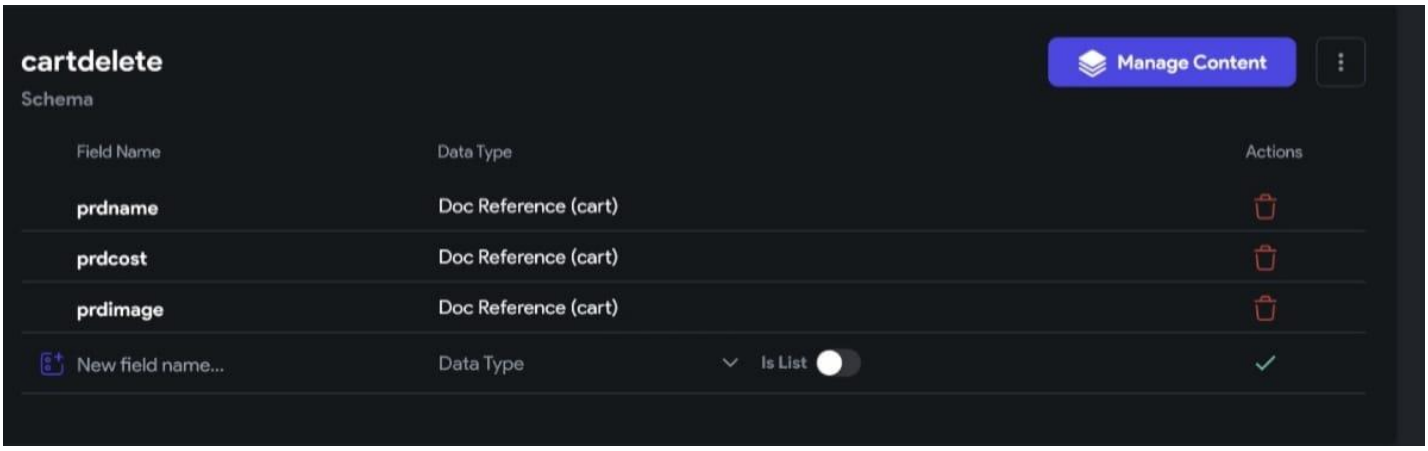

Figure 4.3: Cart Delete Database

4.4 Book Review Database

Figure 4.4: Book Review Database

4.5 Admin database

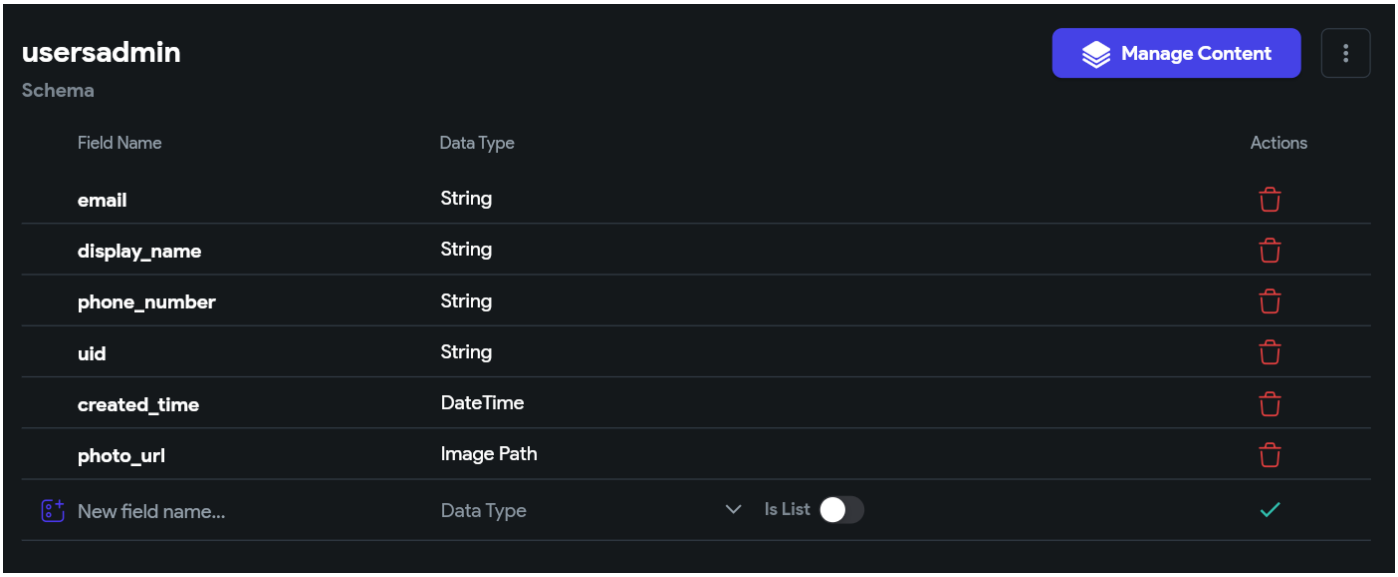

Figure 4.5: Admin database

4.6 Donation database

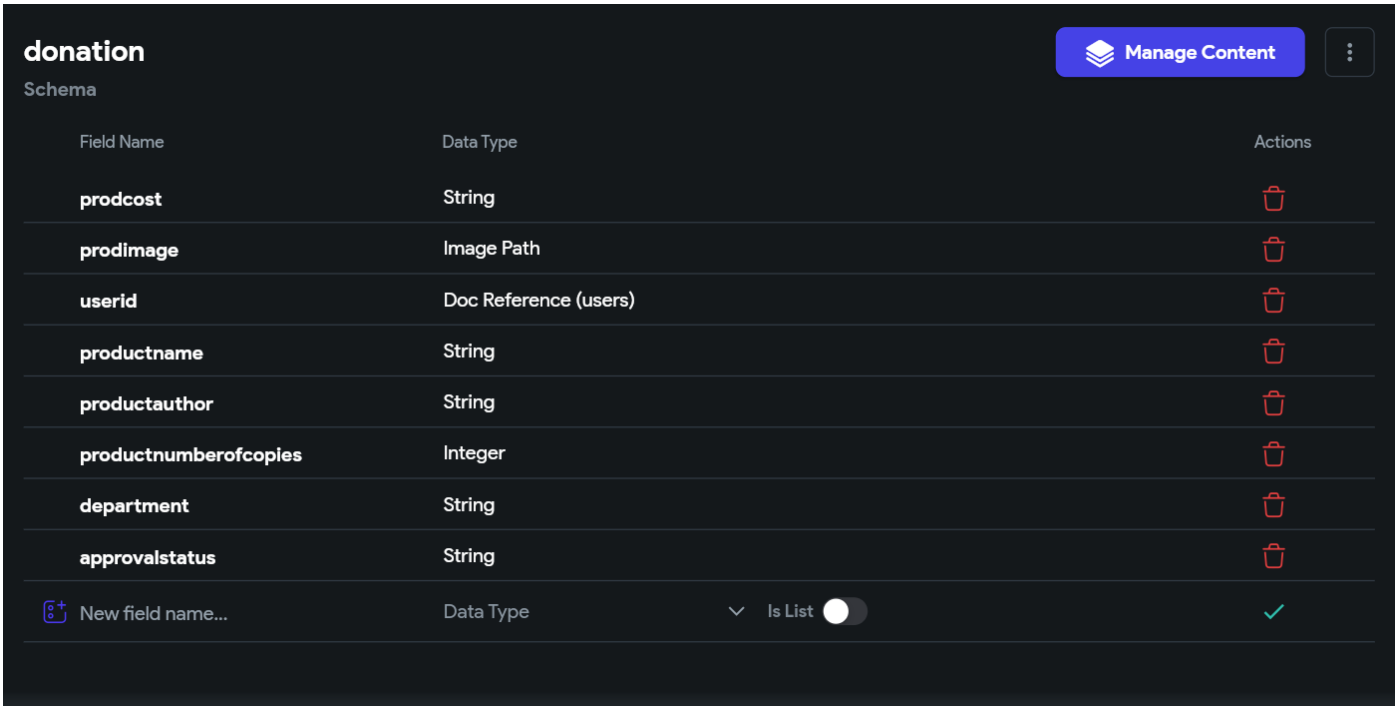

Figure 4.6: Donation Database

4.7 ER Diagram

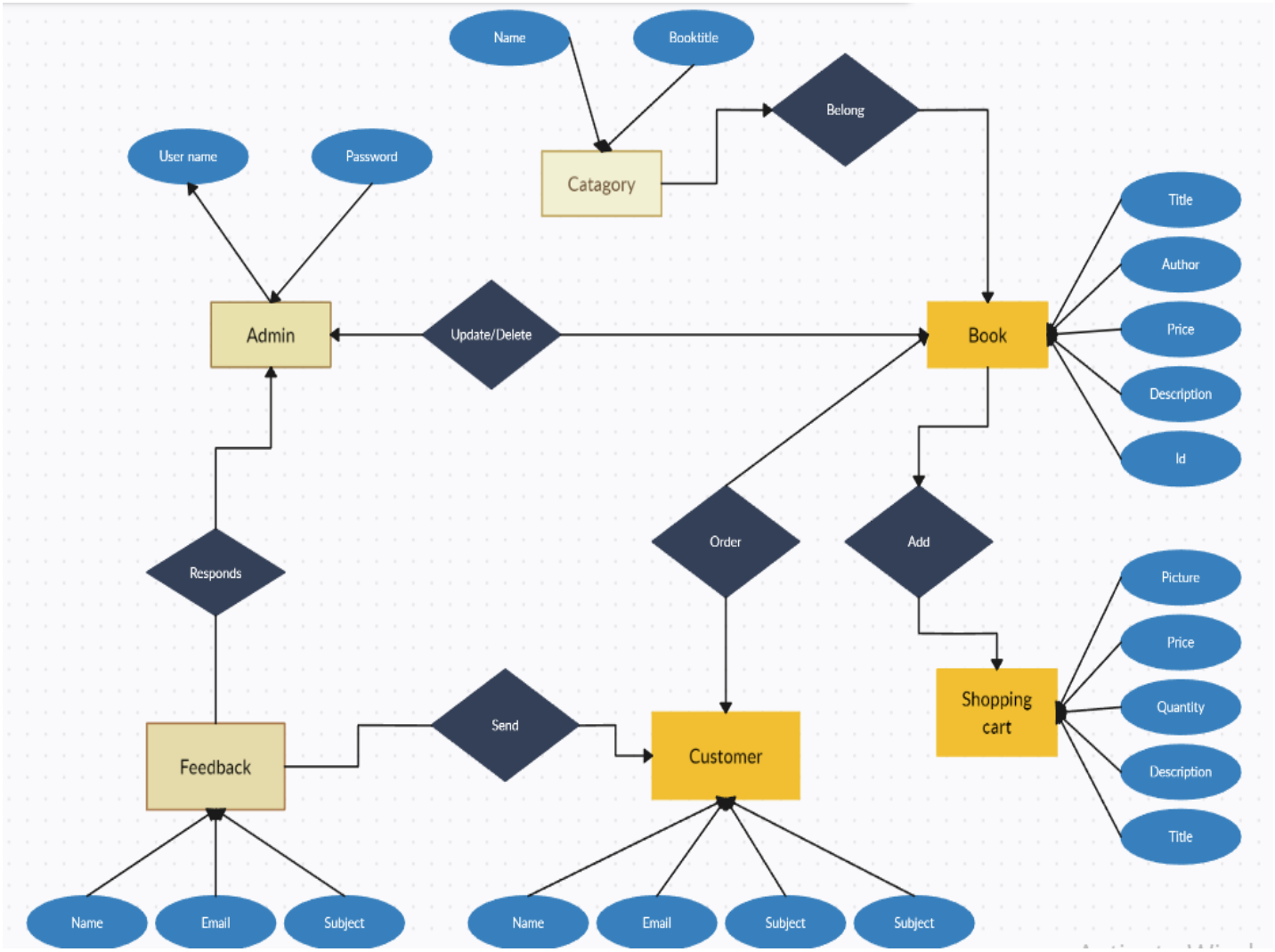

Figure 4.1: ER diagram for Rent-a-Read

Chapter 5 Conclusion and Future Work

Conclusion

The Rent a Book application has successfully demonstrated the potential to revolutionize the way people access and read books. By providing a platform that allows users to easily rent books online, we have addressed the need for a more accessible and affordable way for people to enjoy literature. The application's user-friendly interface, comprehensive catalog, and efficient rental system have received positive feedback from users, indicating a high level of satisfaction and engagement.

Through our rigorous testing and user feedback, we have identified and implemented key features that enhance the overall user experience, such as personalized recommendations, seamless payment options, and flexible rental periods. The application not only promotes reading among different age groups but also contributes to a more sustainable environment by encouraging the reuse of books.

Future Work

While the Rent a Book application has achieved its initial objectives, there are several areas for future development to further enhance its functionality and user experience:

1. **Expansion of Catalog**: Increase the number and variety of books available for rent, including more genres, languages, and rare editions to cater to a wider audience.
2. **Enhanced User Recommendations**: Improve the recommendation algorithm by incorporating machine learning techniques to provide more personalized and accurate book suggestions based on users' reading habits and preferences.
3. **Community Features**: Introduce social and community features such as book clubs, discussion forums, and user reviews to foster a sense of community among readers and encourage more interaction and engagement.
4. **Sustainability Initiatives**: Implement programs to promote eco-friendly practices, such as encouraging users to return books in good condition and offering incentives for recycling and donating.

References

[1] https://youtu.be/YBlh0F72laY?si=_foSXzRNIgePK9QY

[2] https://youtu.be/73VyVYFKQ9Y?si=XtoiePIVzfPq1mN-

[3] https://youtu.be/hkBWVwr7yXQ?si=i164pbGfAl6jY9J3

[4] https://youtu.be/r3KhbEW2OiA?si=D-thTu7CUkUDjZRW

[5] https://youtu.be/m9axLf_-4rA?si=v1LhS55Qi5IqS2Jc

[6] https://youtu.be/Ov9Z-L-skoc?si=uzbsBeD146k37LPB

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[8] https://www.figma.com/design/1OEmJqwHulFml5UISlhWf3/Figma--Rent-a-Read-?node-id=9-30&t=QquEOfq8lWXt4XIP-1