

BOOK BAZAAR-BUY OR SELL

A PROJECT REPORT

Submitted by

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Under the Guidance of

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*in partial fulfillment of the requirements for the degree
of*

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE ENGINEERING
with specialization in COMPUTER NETWORKING



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ABSTRACT

Book Bazaar is an innovative platform designed to bring together book lovers, offering a convenient marketplace where users can buy or sell new and old books. With its unique features, Book Bazaar goes beyond traditional book exchanges by providing options for book cover customization, allowing readers to personalize their books with unique designs and finishes. This gives users the freedom to create books that reflect their style and taste, making them ideal for gifts or personal collections.

In addition to the marketplace, Book Bazaar fosters a vibrant community of readers. Users can engage in discussions, share recommendations, and connect with others who share their literary interests. Whether someone is looking for a rare second-hand edition or wants to sell their old collection, the platform simplifies the process while building a space for meaningful interaction. This combination of book trading and community-building makes Book Bazaar the ideal platform for anyone passionate about reading, collecting, and connecting with fellow book enthusiasts.

TABLE OF CONTENTS

ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	ix

CHAPTER NO.	TITLE	PAGE NO.
1	INTRODUCTION	1
	1.1 Introduction to Book Bazaar Application	1
	1.2 Motivation	1
	1.3 Sustainable Development Goal of the Project	2
	1.4 Product Vision Statement	3
	1.5 Product Goal	4
	1.6 Product Backlog (Key User Stories with Desired Outcomes)	5
	1.7 Product Release Plan	7
2	SPRINT PLANNING AND EXECUTION	8
	2.1 Sprint 1	8
	2.1.1 Sprint Goal with User Stories of Sprint 1	8
	2.1.2 Functional Document	12
	2.1.3 Architecture Document	14
	2.1.4 UI Design	17
	2.1.5 Functional Test Cases	19
	2.1.6 Daily Call Progress	20
	2.1.7 Committed vs Completed User Stories	20
	2.1.8 Sprint Retrospective	21
	2.2 Sprint 2	22
	2.2.1 Sprint Goal with User Stories of Sprint 2	22

2.2.2 Functional Document	26
2.2.3 Architecture Document	28
2.2.4 UI Design	31
2.2.5 Functional Test Cases	33
2.2.6 Daily Call Progress	34
2.2.7 Committed vs Completed User Stories	34
2.2.8 Sprint Retrospective	35
2.3 Sprint 3	36
2.3.1 Sprint Goal with User Stories of Sprint 3	36
2.3.2 Functional Document	40
2.3.3 Architecture Document	42
2.3.4 UI Design	46
2.3.5 Functional Test Cases	47
2.3.6 Daily Call Progress	48
2.3.7 Committed vs Completed User Stories	48
2.3.8 Sprint Retrospective	49
3. RESULTS AND DISCUSSIONS	50
3.1 Project Outcomes	50
3.2 Committed vs Completed User Stories	51
4 CONCLUSIONS & FUTURE ENHANCEMENT	52
APPENDIX	
SAMPLE CODING	53

LIST OF FIGURES

FIGURE NO	TITLE	PAGE NO.
1.1	MS Planner Board of Book Bazaar Application	6
1.2	Release plan of Book Bazaar Application	7
2.1	User story for user registration	9
2.2	User story for browsing and searching	10
2.3	User story for social media content	11
2.4	System Architecture Diagram	14
2.5	UI Design for Landing page	17
2.6	UI design for login page	18
2.7	Standup meeting	20
2.8	Bar graph for Committed Vs Completed User Stories	20
2.9	Sprint Retrospective for the Sprint 1	21
2.10	User story for Payment Gateway	23
2.11	User story for customization	24
2.12	User story for bug fixing	25
2.13	System Architecture	29
2.14	UI design for shipping	31
2.15	UI design for order summary	32
2.16	Functional test case for Sprint 2	33
2.17	Daily call progress for Sprint 2	34
2.18	Bar chart for user stories	34
2.19	Sprint Retrospective for Sprint 2	35
2.20	User story for Community Forums	37
2.21	User story for customer feedback mechanism	38
2.22	User story for real-time order tracking	39
2.23	UI design for product details	46
2.24	Functional test cases for Sprint 3	47
2.25	Daily call progress for sprint 3	48
2.26	Bar chart for sprint 3	48
2.27	Sprint retrospective for sprint 3	49
3.1	Bar chart for all user stories	51

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1.1	Detailed User Stories of Sprint	5
2.1	Detailed User Stories of Sprint 1	8
2.2	Access level Authorization Matrix Sprint-1	13
2.3	Detailed Functional Test Case	19
2.4	Detailed User Stories of Sprint 2	22
2.5	Access level Authorization Matrix Sprint-2	28
2.6	Detailed User Stories of Sprint 3	36
2.7	Access level Authorization Matrix Sprint-3	42

CHAPTER 1

INTRODUCTION

1.1 Introduction to Book Bazaar Application:

Book Bazaar is a user-friendly platform designed to make buying and selling books easier while creating a thriving community for book lovers. Whether you're looking for new releases, rare finds, or second-hand classics, Book Bazaar offers a personalized experience that caters to every reader's needs. With features like custom book covers, users can personalize their purchases, giving each book a unique touch that reflects their individual style. This customization enhances the experience, making books ideal for personal collections or as thoughtful gifts.

Beyond just buying and selling, Book Bazaar fosters meaningful connections among users through its community features. Book enthusiasts can join discussions, share recommendations, and connect with others who share similar interests, creating a vibrant space for readers to engage with each other. The platform's focus on convenience and community makes it easy for users to explore literary worlds, all while simplifying the process of trading books.

Whether you're looking to buy, sell, or connect with fellow readers, Book Bazaar offers a reliable, versatile solution. Its combination of marketplace convenience, personalized features, and community engagement makes it an ideal platform for anyone passionate about books.

1.2 Motivation

In today's world, books hold immense value, yet many people struggle with finding accessible, affordable options for their literary needs. Whether it's searching for a specific title, looking for a good deal on second-hand books, or wanting to share a pre-loved collection, the process can be time-consuming and overwhelming. Additionally, book lovers often miss out on the chance to engage with fellow readers, limiting the opportunity for rich discussions and the discovery of new books through shared recommendations.

Book Bazaar was created to address these challenges by providing a simple, effective solution

for buying, selling, and connecting over books. Our motivation stems from a desire to foster a seamless exchange of books and ideas, ensuring that books are easily accessible to all while promoting sustainability through the sale of pre-loved items. By offering features like customizable book covers and creating an interactive community space, we aim to enhance the reading experience in a way that is personal and engaging.

Our mission is to build a platform where book lovers can connect, share, and explore books with ease, all while contributing to a more eco-conscious reading culture. Book Bazaar makes book buying and selling a more meaningful, enjoyable process, combining convenience, creativity, and community to inspire readers and support a love for books.

1.3 Sustainable Development Goal of the Project:

The Sustainable Development Goal (SDG) addressed by Book Bazaar is **SDG 12: Responsible Consumption and Production**. Book Bazaar contributes to this goal through several sustainable practices:

Promoting Reuse of Books:

By facilitating the buying and selling of pre-owned books, Book Bazaar reduces the demand for newly printed books, directly supporting a more sustainable approach to consumption. This reduces the waste and environmental impact associated with the production of new books, including the use of paper, ink, and other resources.

Reducing Environmental Impact:

By encouraging the exchange of second-hand books, the platform helps to reduce the carbon footprint linked to large-scale book production and distribution, thereby contributing to lower energy consumption and resource use in the publishing industry.

Supporting Local Book Sellers and Small Businesses:

Book Bazaar fosters a community-driven marketplace that supports local sellers, independent bookstores, and individuals, allowing them to reach more customers. This aligns with

sustainable economic practices by promoting local business growth and reducing reliance on large-scale distributors.

Customizable Books for Long-Term Ownership:

The platform offers options for personalized book covers, encouraging readers to keep books longer and cherish them as collectibles. This reduces the frequency of book disposal and helps minimize waste in the long run.

Through these efforts, Book Bazaar promotes responsible consumption patterns, encourages the reuse of books, and supports the local economy, making it an important contributor to SDG 12's vision of sustainable and responsible production and consumption.

1.4 Product Vision Statement

1.4.1 Audience:

- **Primary Audience:** Readers seeking a convenient platform to buy and sell both new and second-hand books, with features like personalized book recommendations, custom book covers, and community interactions.
- **Secondary Audience:** Small bookstores and individual sellers who want to reach a wider audience by offering new or second-hand books in an eco-friendly marketplace, as well as promote sustainable practices through book reuse.

1.4.2 Needs:

- **Users' Needs:**
 - **Access to a Wide Range of Books:** A diverse selection of both new and used books, across various genres and formats, ensuring affordability and convenience.
 - **Customization Features:** Personalized book covers, which allow users to create custom designs for purchased books, enhancing the emotional value and uniqueness of the purchase.
 - **Community Engagement:** A space for readers to engage in discussions, share reviews, and recommend books, fostering a sense of community and

encouraging interaction between book lovers.

- Partner Seller Needs:
 - Efficient Order Management: Tools to manage listings, orders, and inventory efficiently, ensuring timely delivery and accurate stock updates.
 - Feedback and Improvement: A system that collects customer feedback and ratings to help sellers improve their offerings, ensure quality control and retain customers.

1.4.3 Products:

- Core Product: A subscription platform that integrates personalized book selection with a community-driven approach, allowing users to maintain book reading consistency and explore new books with ease.
- Additional Features:
 - A feedback system that enables users to review books and helps sellers improve offerings based on customer sentiment.
 - Customizable book options to boost customer needs.
 - Advanced search and filter tools that allow users to discover books based on needs and preferences.

1.4.4 Values:

- Core Values:
 - Personalization: Delivering customized books that fit each user's unique reading preferences.
 - Convenience: Providing an easy and time-saving solution for maintaining a clean search.
 - Sustainability: Encouraging eco-friendly practices by minimizing paper waste and preventing pollution.
 - Transparency: Building trust through verified book sellers, user reviews, and clear book details.

1.5 Product Goal

The primary goal of **Book Bazaar** is to become the leading platform for buying, selling, and personalizing books while fostering a community of book lovers. **Book Bazaar** aims to create a seamless experience where users can easily access both new and second-hand books, reducing environmental impact through the reuse of pre-loved items.

By offering customizable book covers and a vibrant community space for literary discussions and recommendations, **Book Bazaar** seeks to enhance the book-buying and selling experience. The platform supports sustainability by promoting the exchange of used books and empowering local sellers, ensuring that both individuals and businesses can thrive in an eco-friendly marketplace.

1.6 Product Backlog

Table 1.1 Detailed User Stories

S. No	User Stories of Book Bazaar app
#US 1	As a new user, I want to register an account so that I can access and use the Book Bazaar app.
#US 2	As a user, I want to browse and search for books with advanced filters so that I can easily find the books I'm interested in
#US 3	As a user, I want to share app content on social media so that I can easily spread interesting or useful information with my friends, family, or followers.
#US 4	As a user, I want to make secure payments using my preferred method so that I feel confident in the safety of my transactions.
#US 5	As a user, I want to customize the cover of my book before purchasing it so that I can have a personalized book that suits my taste.
#US 6	As a user, I want to participate in forums and discussions about books so that I can share my thoughts, read reviews, and connect with other readers.

#US 7	As a user, I want to provide feedback on the app so that the developers can improve the user experience and address any issues.
#US 8	As a user, I want a bug-free experience so that I can use the app smoothly without encountering any issues or disruptions.
#US 9	As a user, I want to track my order and see the estimated delivery time so that I know when to expect my book.

The product backlog of Book Bazaar Application was configured using the MS planner Agile Board which is represented in the following Figure 1.1. The Product Backlog consists of the complete user stories of Book Bazaar Application.

Each user story consists of necessary parameters like MoSCoW prioritization, Functional and non-functional parameters, detailed acceptance criteria with linked tasks.

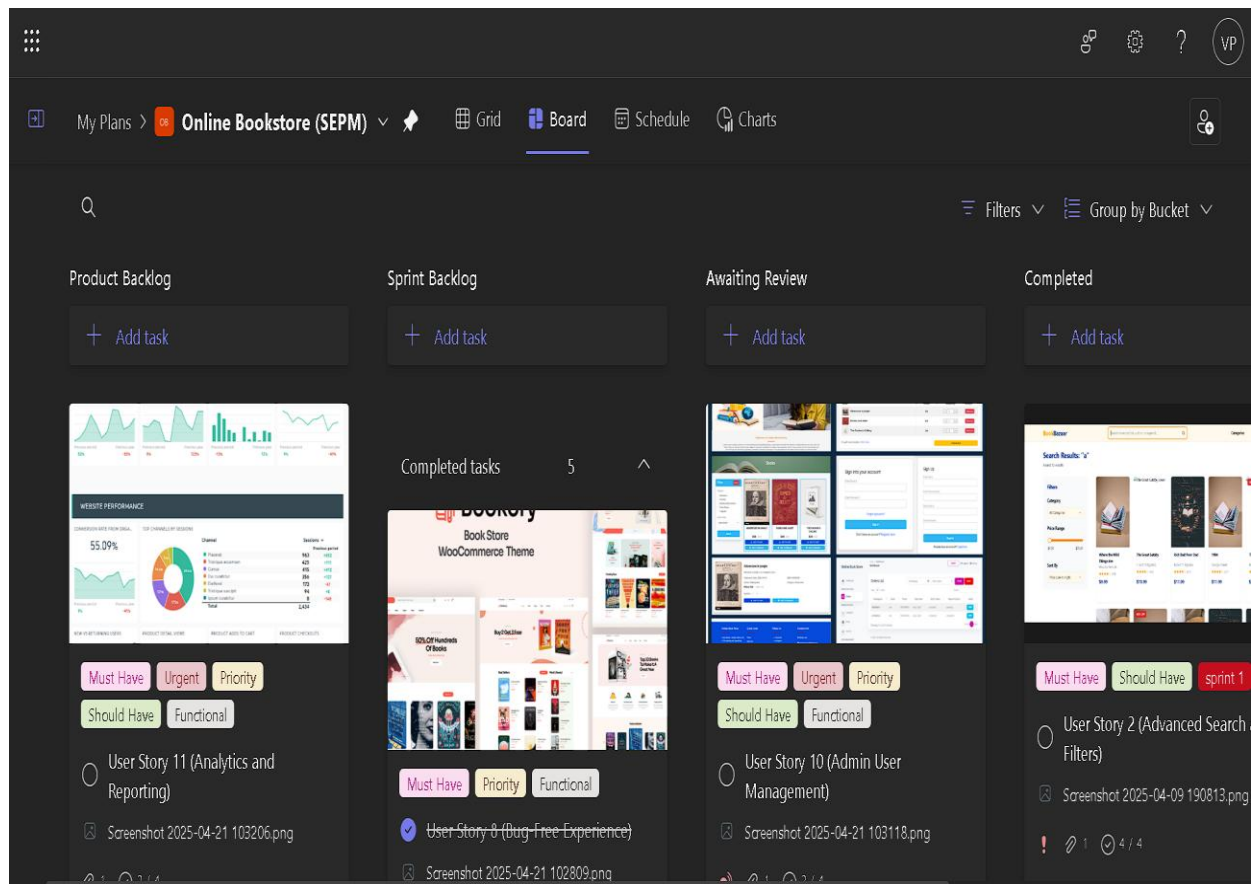


Figure 1.1 MS Planner Board of Book Bazaar Application

1.7 Product Release Plan

The following Figure 1.2 depicts the release plan of the project

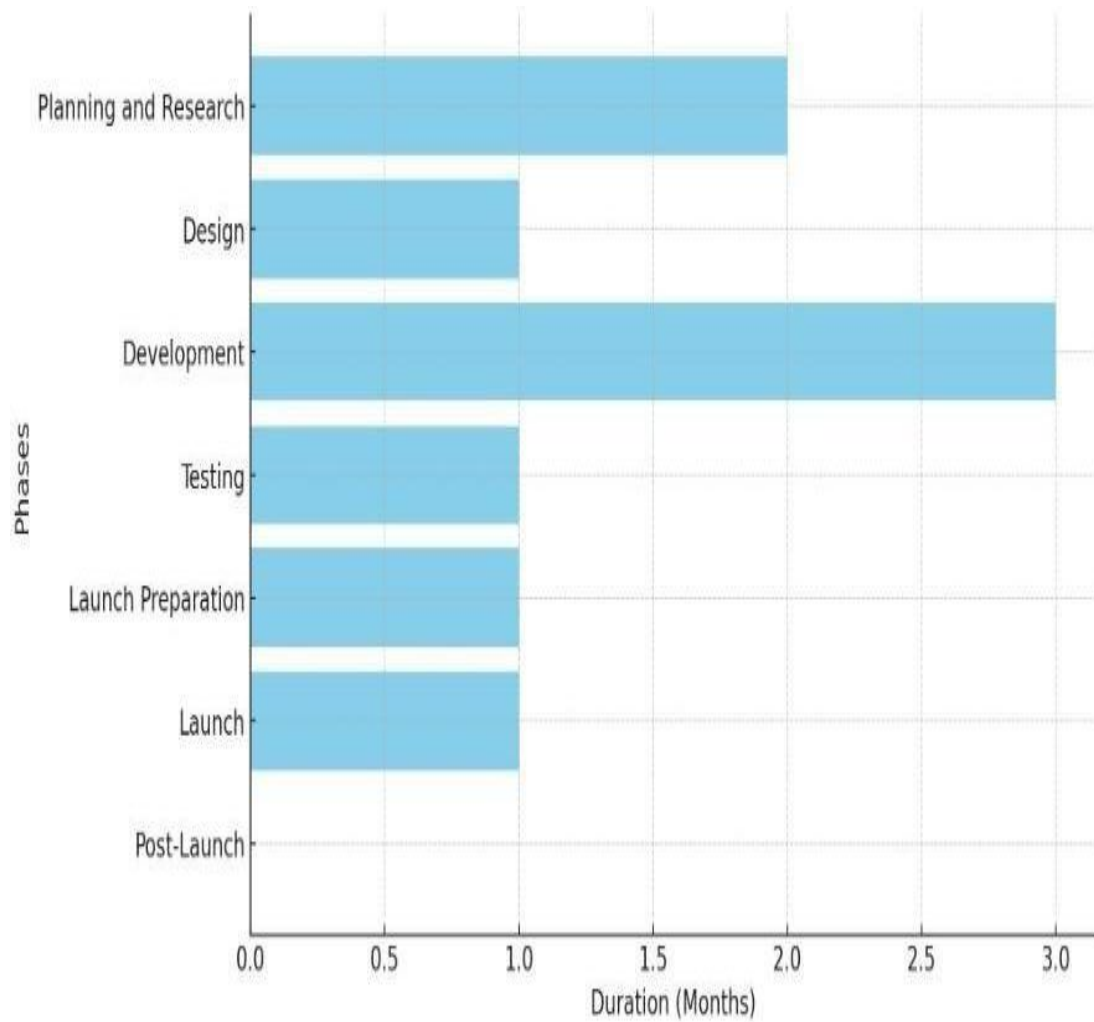


Figure 1.2 Release plan of Book Bazaar Application

CHAPTER 2

SPRINT PLANNING AND EXECUTION

2.1 Sprint 1

2.1.1 Sprint Goal with User Stories of Sprint 1

The goal of the first sprint is to build the user landing page and implement essential features, such as browsing books and integrating social media.

The following table 2.1 represents the detailed user stories of the sprint 1

Table 2.1 Detailed User Stories of sprint 1

S.NO	Detailed User Stories
US #1	As a new user, I want to register an account so that I can access and use the Book Bazaar app.
US #2	As a user, I want to browse and search for books with advanced filters so that I can easily find the books I'm interested in.
US #3	As a user, I want to share app content on social media so that I can easily spread interesting or useful information with my friends, family, or followers

Planner Board representations of user stories are mentioned below figures 2.1,2.2 and 2.3:

...

×

Online Bookstore (SEPM)

○ User story 1 (User Registration)

Assign

✎

Must Have ✕

Should Have ✕

Functional ✕

sprint 1 ✕

Bucket

Completed ▾

Progress

○ Not started ▾

Priority

! Important ▾

Start date

02/10/2025 📅

Due date

02/26/2025 📅

Repeat

🔄 Does not repeat ▾

Notes

☐ Show on card

As a new user, I want to register an account so that I can access and use the Book Bazaar app.

Acceptance criteria
1)Design registration form layout
2) Implement input validation (email, password complexity)
3)Add user authentication and authorization
4) Ensure secure storage of user credentials (encryption)

Checklist 4 / 4

☐ Show on card

✓ Design registration form layout


✓ Implement input validation (email, password complexity)

✓ Add user authentication and authorization

✓ Ensure secure storage of user credentials (encryption)

○ Add an item

Attachments

 Screenshot 2025-04-09 18:00:00
<https://srmist.sharepoint.com/> ...

☒ Show on card

Figure 2.1 user story for user registration

...

×

Online Bookstore (SEPM)

○ User Story 2 (Advanced Search and Filters)

○

Assign

📌

Must Have ✕

Should Have ✕

sprint 1 ✕

Bucket

Completed ▾

Progress

○ Not started ▾

Priority

! Important ▾

Start date

02/14/2025 📅

Due date

03/01/2025 📅

Repeat

🔄 Does not repeat ▾

Notes

☐ Show on card

As a user, I want to browse and search for books with advanced filters so that I can easily find the books I'm interested in.

Acceptance criteria

- 1)Design UI for search and filter functionality
- 2)Implement advanced filters (genre, author, price range, book condition)
- 3)Optimize search performance and accuracy
- 4)Review and debug issues

Checklist 4 / 4

☐ Show on card

✓ Design UI for search and filter functionality

✓ Implement advanced filters (genre, author, price range, book condition)

✓ Optimize search performance and accuracy

✓ Review and debug issues

○ Add an item

Attachments

🖼️

Screenshot 2025-04-09 15

https://srmist.sharepoint.com/

...

☒ Show on card

Figure 2.2 user story for browsing and searching

...

×

Online Bookstore (SEPM)

○

User Story 3 (Social Media Sharing)

👤

Assign

📌

Must Have

×

Urgent

×

Should Have

×

Non Functional

×

Bucket

Progress

Priority

Awaiting Review

▼

○ Not started

▼

●

Medium

▼

Start date

Due date

Repeat

02/26/2025

📅

04/30/2025

📅

🔄 Does not repeat

▼

Notes

☐ Show on card

As a user, I want to share app content on social media so that I can easily spread interesting or useful information with my friends, family, or followers.

Acceptance criteria

1)Design social media sharing buttons

2)Integrate with Facebook, Twitter, and Instagram APIs

3)Add custom metadata for rich link previews

4) Review privacy and permission settings

5) Fix any sharing-related bugs

Checklist 5 / 5

☐ Show on card

☒ Design social media sharing buttons

☒ Integrate with Facebook, Twitter, and Instagram APIs

☒ Add custom metadata for rich link previews

☒ Review privacy and permission settings

☒ Fix any sharing-related bugs

☐ Add an item

Attachments

Figure 2.3 User story for social media content

2.1.2 Functional Document

2.1.2.1. Introduction:

The Online Book Bazaar project aims to create a seamless platform for users to buy and sell old or new books. Sprint 2 focuses on implementing advanced features such as book cover customization and enhancing the user community experience. These updates are designed to offer users a personalized and social book marketplace.

2.1.2.2. Product Goal:

The primary goal of this sprint is to improve the platform by introducing book cover customization and a user community for sharing reviews, exchanging books, and interacting with other users. This aligns with the project's overall goal of providing a personalized and interactive marketplace for book lovers.

2.1.2.3. Demography (Users, Location)

- Target Users: Book Bazaar is built for people who love books in different ways:
 - Collectors looking for rare or special editions.
 - Casual and frequent readers who enjoy everything from fiction to textbooks.
 - Reviewers who like sharing opinions and helping others choose good reads.
- Location: Book Bazaar is made for a global audience:
 - It supports international users and plans to offer multilingual options soon.
 - Users can browse and order from anywhere in the world, with global shipping.
 - A cloud-based system ensures smooth access and performance across time zones.

2.1.2.4. Business Processes:

- User Account Management: Handles everything from signing up and logging in to updating personal profiles. It ensures a secure and smooth user experience.
- Book Listing Administration: Admins and verified sellers can easily add new books, update existing listings, or remove ones that are no longer available.
- User Feedback & Rating: Readers can leave reviews and rate books they've read, while

others can view these ratings to help guide their purchases.

2.1.2.5. Features

This sprint will focus on implementing the following key features:

- Enhanced User Authentication:
- Enable two-factor authentication for added security. Implement account recovery options.
- Book cover customization
- Introduce category filters for courses.
- User community

2.1.2.6. Authorization Matrix

Table 2.2 Access level Authorization Matrix Sprint-1

Role	Access Level
Standard User	Access to browse, buy, sell books, and participate in community discussions
Premium User	Access to advanced cover customization options and prioritized listings
Seller	Full access to list books, manage listings, and track sales

2.1.2.7 Assumptions

- The development environment and infrastructure will remain stable during the sprint.
- Users are interested in customizing book covers for a more personalized experience.
- The team has the skills and resources necessary to implement the community and customization features.

2.1.3 Architecture Document

2.1.3.1 Application

The **Book Bazaar** platform is built on a microservices architecture, where each functionality is managed by independent services to ensure scalability and flexibility. Key services include encapsulated within independent services. Key services include:

- **Authentication Service:** Manages events related to user registration and login. It validates user credentials, generates user sessions, and triggers personalized book recommendations and user-specific dashboards upon successful login.
- **Book Listing and Management Service:** Handles events related to book listings, allowing users to add new or second-hand books for sale, update prices, manage stock availability, and categorize books. The service dynamically updates listings and ensures real-time visibility of available books.
- **Customization Service:** Manages events related to book cover customization. Users can design and personalize book covers, choosing from a variety of templates and styles, with real-time previews before finalizing their purchase.
- **Feedback and Rating Service:** Listens for review and rating events after a user buys or sells a book. It collects feedback, calculates average ratings for books, sellers, and services, and notifies users and admins about new reviews. This helps maintain a high Trust.

2.1.3.2 System Architecture-

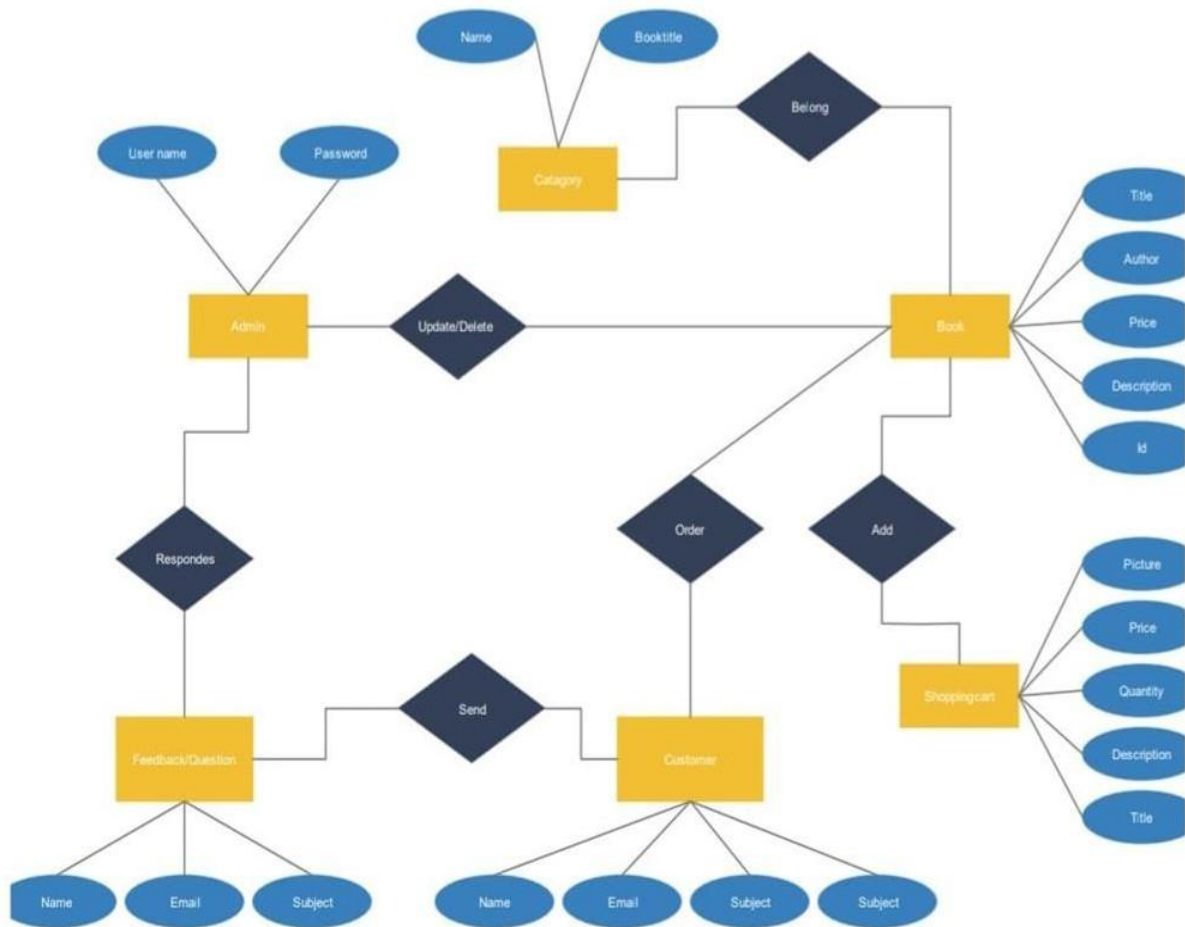


Figure 2.4 System Architecture Diagram

2.1.3.3. Data Exchange Contract:

Frequency of Data Exchanges:

Data exchanges are managed with careful consideration of timing and performance:

- **Real-Time Exchanges:** Critical actions like user registration, Book customization, subscription payments, and review submissions are processed instantly through API calls. This provides users with immediate confirmation and ensures seamless user interaction throughout the app.

- **Periodic Syncs:** Non-essential data, such as historical book orders and aggregate feedback, is synchronized at scheduled intervals to optimize system performance without affecting real-time interactions. These periodic syncs help maintain system efficiency while supporting analytics for improving book selling and user satisfaction.

2.1.3.4. Data Sets:

The platform handles several key data sets, each with specific exchange requirements:

- **User Registration and Login:** Facilitates data exchange for account management, including user credentials and personalized book preferences.
- **Book Customization by Users:** Involves data exchange for book customization, preferences, and information to ensure that users receive book options that meet their search goals.
- **Subscription Management:** Manages data exchange related to subscription details, payment statuses, and book choices.

2.1.3.5. Mode of Exchanges (API, File, Queue, etc.):

Various methods are used for data exchange across the platform:

- **API:** RESTful APIs facilitate real-time data exchanges between the front-end and back-end services.
- **File Exchange:** Utilized for bulk updates, including book descriptions, book information, and images. File exchanges may also occur for periodic updates, such as adjusting book pricing or updating lists.
- **Message Queues:** Employed for handling asynchronous processes like support ticket creation, feedback processing, and updates to feedback. This ensures that review submissions and feedback are processed without impacting real-time performance.

2.1.4 UI DESIGN

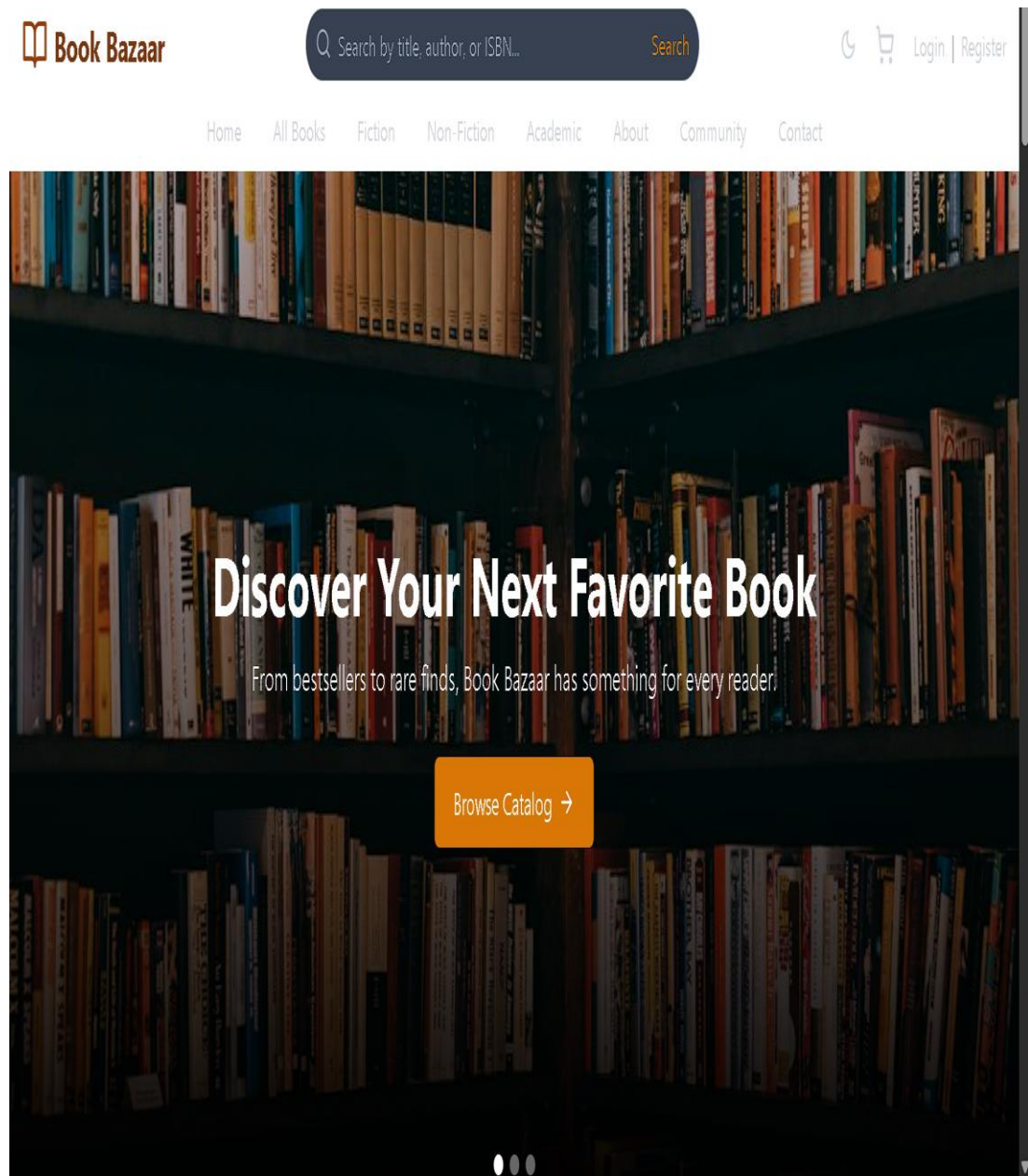


Figure 2.5 UI Design for Landing page

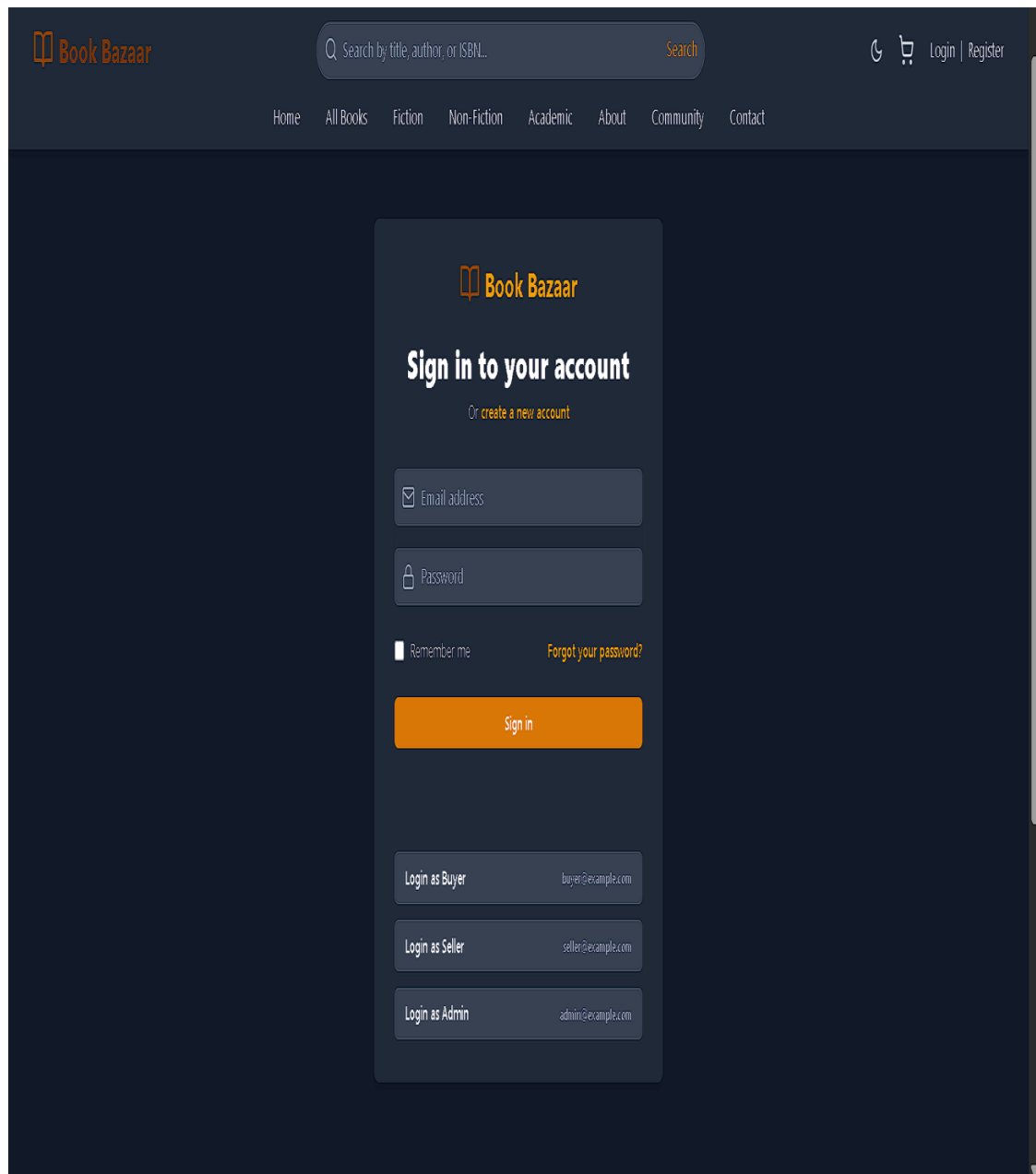


Figure 2.6 UI design for login page

2.1.5 Functional Test Cases

Table 2.3 Detailed Functional Test Case

Functional Test Case Template						
Feature	Test Case	Steps to execute test case	Expected Output	Actual Output	Status	More Information
User Login	Valid User Login	Open the application's login page.				
		Enter a valid username.	The user should be successfully logged into the system.	The user is successfully logged in.	Pass	No error messages are displayed.
		Enter a valid password.				The user profile information is correctly displayed on the home page.
		Click on the "Login" button.	The application should redirect the user to the home page.	The application redirects the user to the home page.		Check if the login time is recorded for the user.
Password Recovery	Forgot Password	Open the application's login page.	The system should send a password reset email to the provided email address.	The system successfully sends a password reset email.	Pass	Verify the content of the password reset email.
		Click on the "Forgot Password" link.				
		Enter a valid email address.	The user should receive an email with instructions on resetting the password.	The user receives the email with reset instructions.		Check that the link in the email redirects the user to the password reset page.
		Click on the "Submit" button.				
Sharing on social media	Social media integration	Click the 'Share' button.			Pass	Ensure the verification of the user to their social media accounts.
		Choose the social media platform.	The user can share the books, reviews	The user has successfully shared		Ensure number of likes and shares accurately displayed
Secure Payment	Payment Gateway	Click on 'Post'.			Pass	
		Check likes, comments, and shares.				
		Click on 'Buy'.				
		Choose the payment method.				
		Proceed with the payment procedure of the selected method.	The user can choose their preferred p	The user is able to pay securely		Ensure transactions proceed accurately in a timed manner.
						Ensure the user payment is user friendly.
Book Listings	Search and Filter					
		Click on 'Search'. Enter the keyword that has	The search option displays the matchi	The search gives the books relate		Consider factors such as title matching, and keyword frequency.
						Provide various filter options to the user

2.1.6 Daily Call Progress

	A	B	C	D
1	Date	Day	Time	Meeting Notes
2	01.02.2025	Saturday	8:15 PM	Standup meeting: Discussed that we need to finish in this sprint: 1) Login page 2) Sign up page
3	04.02.2025	Tuesday	8:15 PM	Standup meeting: Discussed that we need to finish in this sprint: 1) Main menu page of the app 2) Profile creation 3) Browsing of the content
4	07.02.2025	Friday	8:15 PM	Standup meeting: Discussed that we need to finish in this sprint: 1) Uploading of the videos
5	10.02.2025	Monday	8:15 PM	Standup meeting: Discussed that we need to finish in this sprint: 1) Firebase Database 2) UI/UX design for the app
	13.02.2025	Thursday	8:15 PM	Standup meeting: Discussed that we need to finish in this sprint: 1) Login page 2) Sign up page

Figure 2.7 Standup meeting

2.1.7 Committed Vs Completed User Stories

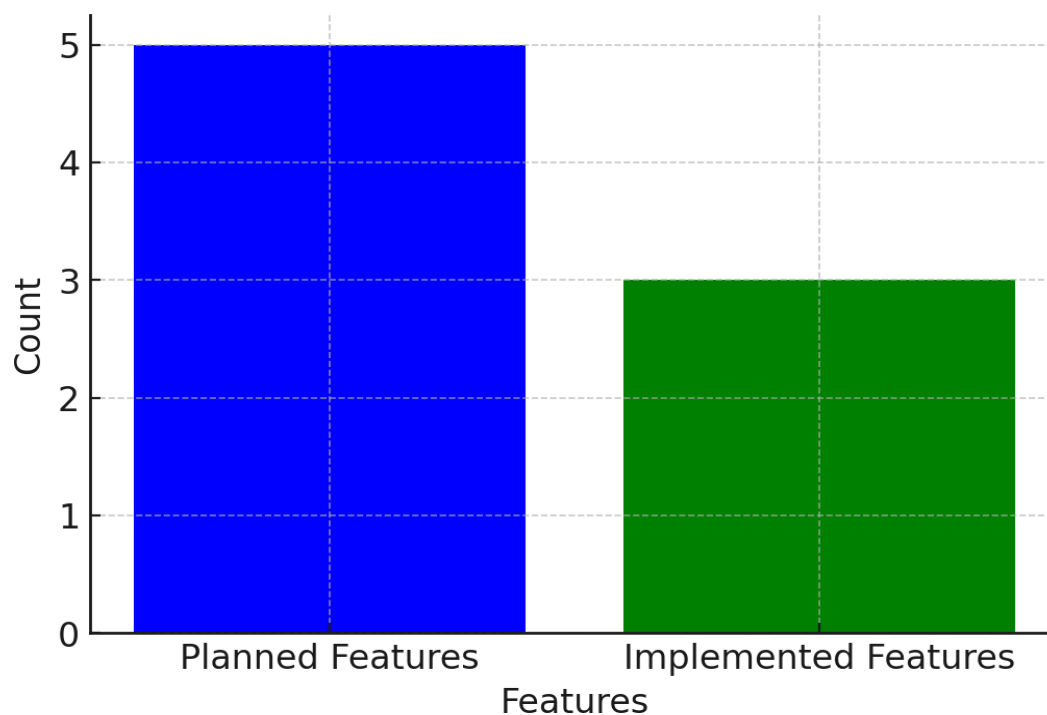


Figure 2.8 Bar graph for Committed Vs Completed User Stories

2.1.8 Sprint Retrospective

Sprint Retrospective			
Liked	Learned	Lacked	Longed For
<i>Share aspects of the sprint that you enjoyed or found particularly effective.</i>	<i>Discuss lessons learned, whether they are related to processes, technical aspects, or teamwork.</i>	<i>Identify areas where the team felt a lack of resources, support, or information.</i>	<i>Discuss any desires or expectations that the team had but were not met during the sprint.</i>
Users were able to submit reviews successfully, and ratings were reflected in the overall score of properties.	Learned the importance of moderation in reviews to prevent inappropriate content.	Lacked a mechanism to allow users to edit or delete their reviews after submission.	Longed for a more engaging review system that lets users upload images and videos.
Room details and photos were displayed well, with a clean UI for users to browse.	Learned how to optimize images for faster load times and improve user experience.	Lacked advanced search filters like price range, amenities, or location radius.	Longed for a virtual tour or 360° view feature to give users a better sense of the property.
The overall design is intuitive, with a clean and simple layout for users to navigate the app.	Learned how user feedback can drive UX improvements.	Lacked a consistent design language across different pages, causing some visual inconsistency.	Longed for more advanced design features like dark mode and personalized themes to enhance user experience.

Figure 2.9 Sprint Retrospective for the Sprint

2.2 SPRINT 2

2.2.1 Sprint Goal with User Stories of Sprint 2

The goal of the second sprint is to build a secure payment process and implement essential features, such as customizing books.

The following table 2.4 represents the detailed user stories of the sprint 2

S.NO	Detailed User Stories
US #4	As a user, I want to make secure payments using my preferred method so that I feel confident in the safety of my transactions.
US #5	As a user, I want to customize the cover of my book before purchasing so that I can have a personalized book that suits my taste.
US #6	As a user, I want a bug-free experience so that I can use the app smoothly without encountering any issues or disruptions

Table 2.4 Detailed User Stories of sprint 2

Planner board representations of user stories are mentioned below figures

The image shows a user story card in a planner board. The card is titled 'Book Bazaar' and contains the following information:

- User Story:** US#4 As a user, I want to make secure payments using my preferred method s...
- Status:** Completed on moments ago by you
- Assign:** Assign
- Tags:** User Story, Sprint 2, Must Have
- Bucket:** Completed Items
- Progress:** Completed
- Priority:** Medium
- Start date:** Start anytime
- Due date:** Due anytime
- Repeat:** Does not repeat
- Notes:**
 - USER STORY:**

Users demand a high level of security when making online payments. They expect the flexibility to choose their preferred payment method, whether it be a credit card, digital wallet, bank transfer, or other options. Ensuring the security of these transactions is crucial for building trust and encouraging repeat purchases. The app should provide robust security measures, such as encryption and fraud detection, while supporting a variety of payment methods that cater to the user's preferences.
 - Acceptance criteria:**
 - 1.Users can select their preferred payment method and complete the payment securely.
 2. The system confirms payment success or failure and updates the order status accordingly.
 - Target Audience:**
 1. General Users
 2. Business Users

Figure 2.10 User story for Payment Gateway

US#5As a user, I want to customize the cover of my book before purchasing s...

Completed on moments ago by you

Assign

User Story

Sprint 2

Must Have

Bucket

Completed Items

Progress

Completed

Priority

Medium

Start date

Start anytime

Due date

Due anytime

Repeat

Does not repeat

Notes

☐ Show on card

USER STORY:

For users who seek a personal touch in their purchases, and book covers offer a unique opportunity for customization.

Allowing users to customize the cover of a book before purchasing not only enhances their engagement with the product but also makes the book feel more special and tailored to their preferences.

This feature should enable users to modify various elements of the cover, such as images, text, colors, and designs, to reflect their individual tastes or to create a unique gift.

Acceptance criteria:

1. Users can choose from various cover designs or upload their own image for customization.
2. Users can preview the customized cover before finalizing the purchase.

Target Audience:

1. Book Buyers
2. Gift Givers
3. Book Collectors
4. Self-Publishers
5. Authors

Figure 2.11 User story for customization

2.2.2 Functional Document

2.2.2.1. Introduction:

The Online Book Bazaar project aims to create a seamless platform for users to buy and sell old or new books. Sprint 2 focuses on implementing advanced features such as book cover customization and enhancing the user community experience. These updates are designed to offer users a personalized and social book marketplace.

2.2.2.2. Product Goal:

The primary goal of this sprint is to improve the platform by introducing book cover customization and a user community for sharing reviews, exchanging books, and interacting with other users. This aligns with the project's overall goal of providing a personalized and interactive marketplace for book lovers.

2.2.2.3. Demography (Users, Location)

- Users:
 - Target Users: Book collectors, avid readers, students, and casual buyers/sellers.
 - User Characteristics: Wide range of reading preferences, from casual readers to those seeking rare or old books.
- Location:
 - Global usage with a focus on book-enthusiastic communities and academic circles.

2.2.2.4. Features:

- Feature #4: Secure Payments
 - Description: Users demand a high level of security when making online payments.

They expect the flexibility to choose their preferred payment method, whether it be a credit card, digital wallet, bank transfer, or other options.

Ensuring the security of these transactions is crucial for building trust and encouraging repeat purchases.

The app should provide robust security measures, such as encryption and fraud detection, while supporting a variety of payment methods that cater to the user's preferences.

- User Story: As a user, I want to make secure payments using my preferred method so that I feel confident in the safety of my transactions.
- Acceptance Criteria: Users can select their preferred payment method and complete the payment securely. The system confirms payment success or failure and updates the order status accordingly.
- Feature #5: Customization of Book Covers

- Description: For users who seek a personal touch in their purchases, book covers offer a unique opportunity for customization.

Allowing users to customize the cover of a book before purchasing not only enhances their engagement with the product but also makes the book feel more special and tailored to their preferences. This feature should enable users to modify various elements of the cover, such as images, text, colors, and designs, to reflect their individual tastes or to create a unique gift.

- User Story: As a user, I want to customize the cover of my book before purchasing so that I can have a personalized book that suits my taste.
- Acceptance Criteria: Users can choose from various cover designs or upload their own image for customization. Users can preview the customized cover before finalizing the purchase.
- Feature #6: Bug Fixing

- Description: Bugs and technical issues can disrupt functionality, cause crashes, and lead to frustration, impacting overall satisfaction. Ensuring that the app operates smoothly involves rigorous testing, debugging, and continuous monitoring to identify and resolve issues before they affect users. A focus on stability and reliability helps in maintaining user trust and encourages regular use of the app.
- User Story: As a user, I want a bug-free experience so that I can use the app smoothly without encountering any issues or disruptions
- Acceptance Criteria: Resolved login error for users with special characters in passwords

2.2.2.5. Authorization Matrix

Table 2.5 Access level Authorization Matrix Sprint-2

Role	Access Level
Admin	Full access to user management, platform settings, and transaction monitoring.
Premium Users	Access to browse, buy, sell books, and participate in community discussions
Standard Users	Access to advanced cover customization options and prioritized listings.

2.2.2.6. Assumptions

The development environment and infrastructure will remain stable during the sprint.

Users are interested in customizing book covers for a more personalized experience.

The team has the skills and resources necessary to implement the community and customization features

2.2.3 Architecture Document

2.2.3.1. Application Microservices:

- Book Bazar employs a microservices architecture to deliver a flexible, efficient, and highly scalable online bookstore experience. Each service communicates independently, facilitating seamless integration and responsiveness.
- Book Inventory Service: Manages the catalog of new and secondhand books available for purchase or sale, allowing users to browse and search by genre, author, condition, and other preferences, ensuring a diverse and user-centered selection.
- Cover Customization Service: Provides options for users to customize book covers, enabling a personalized touch to their purchases, which can be particularly appealing for

gift options or special collections.

- **Order and Delivery Tracking Service:** Offers users real-time updates on the status of their orders, including tracking details and estimated arrival times (ETA), ensuring a smooth and transparent delivery process.

2.2.3.2. System Architecture-

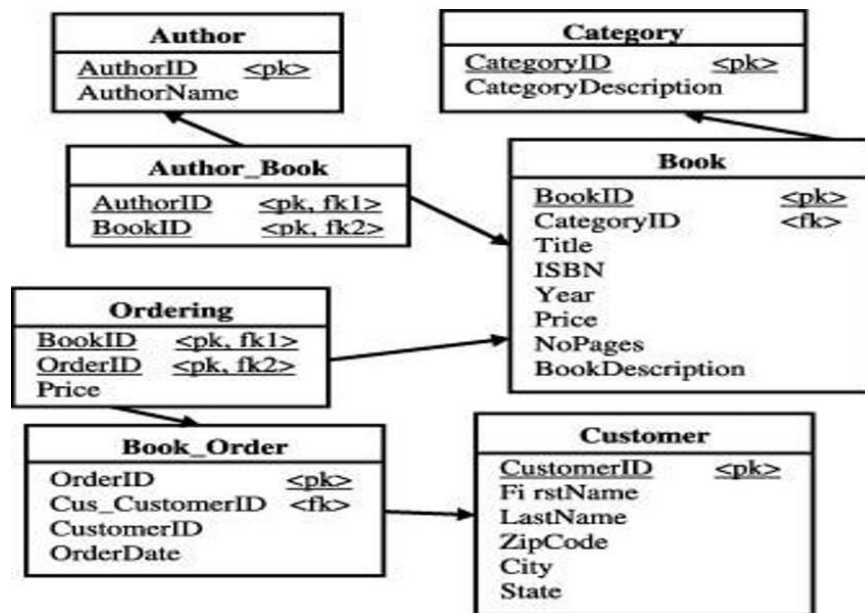


Figure 2.13 System Architecture

The system architecture is based on a modular design that incorporates microservices for scalability, reliability, and efficient communication. The following components are integral:

Frontend (User Interface): React-based web and mobile applications that allow users to interact with the system, customize book covers, subscriptions, and track deliveries in real-time.

Backend (API Layer): A RESTful API backend that facilitates communication between the user interface and backend services, handling requests such as cover customization, subscription management, payment processing, and delivery tracking.

Event-Driven Messaging Layer: A messaging system that handles real-time event propagation (e.g., order updates, payment confirmations, delivery tracking updates) using message queues and event streams to provide users with immediate feedback.

2.2.3.3. Data Exchange Contract:

Frequency of Data Exchanges:

Real-time Data Exchanges:

- **Order Status:** Updates on order requests, confirmations, cancellations, and shipping statuses for both new and second-hand books.
- **Book Listings:** Updates to book descriptions, media uploads (cover images, condition photos for second-hand books), and customization options.
- **Customer Support Interactions:** Real-time updates on support tickets, user queries, and resolutions.
- **Inventory and Pricing Adjustments:** Changes in book stock availability and pricing, including special discounts and customizable cover options.
- **Payment and Transaction Records:** Daily reconciliation of transactions, payment status, and processing updates.

2.2.3.4. Data Sets:

- **Book Listings:** Detailed descriptions of new and used books, including title, author, ISBN, genre, condition (for second-hand books), customizable cover options, and media files (images, videos).
Availability data such as stock levels, shipping options, and estimated delivery times for physical books.
Information on special promotions, discounts, or bundles (e.g., buy 1 get 1 free).
- **Order Information:** Order requests, confirmations, cancellations, transaction records, shipping information, and payment details.
- **Pricing Detail:** Information on book pricing tiers, special offers, customizable cover fees, discounts, and seasonal pricing adjustments.
- **User Reviews and Ratings:** Review content, star ratings, reviewer details (usernames, verified purchase status), and timestamps. Sentiment analysis on review trends and keyword data to identify popular or critical aspects of books and sellers.

2.2.3.5. Mode of Exchange:

- **API:** APIs allow real-time updates for book customization, subscription management, payment processing, and real-time delivery tracking.
- **Message Queues:** Used for event-driven updates like order status notifications, subscription updates, and real-time delivery tracking notifications to keep users engaged and informed.
- **File-Based Exchanges:** Used for bulk data management, such as updates for subscription plans, enabling administrators to manage large sets of book listings.

2.2.4 UI Design

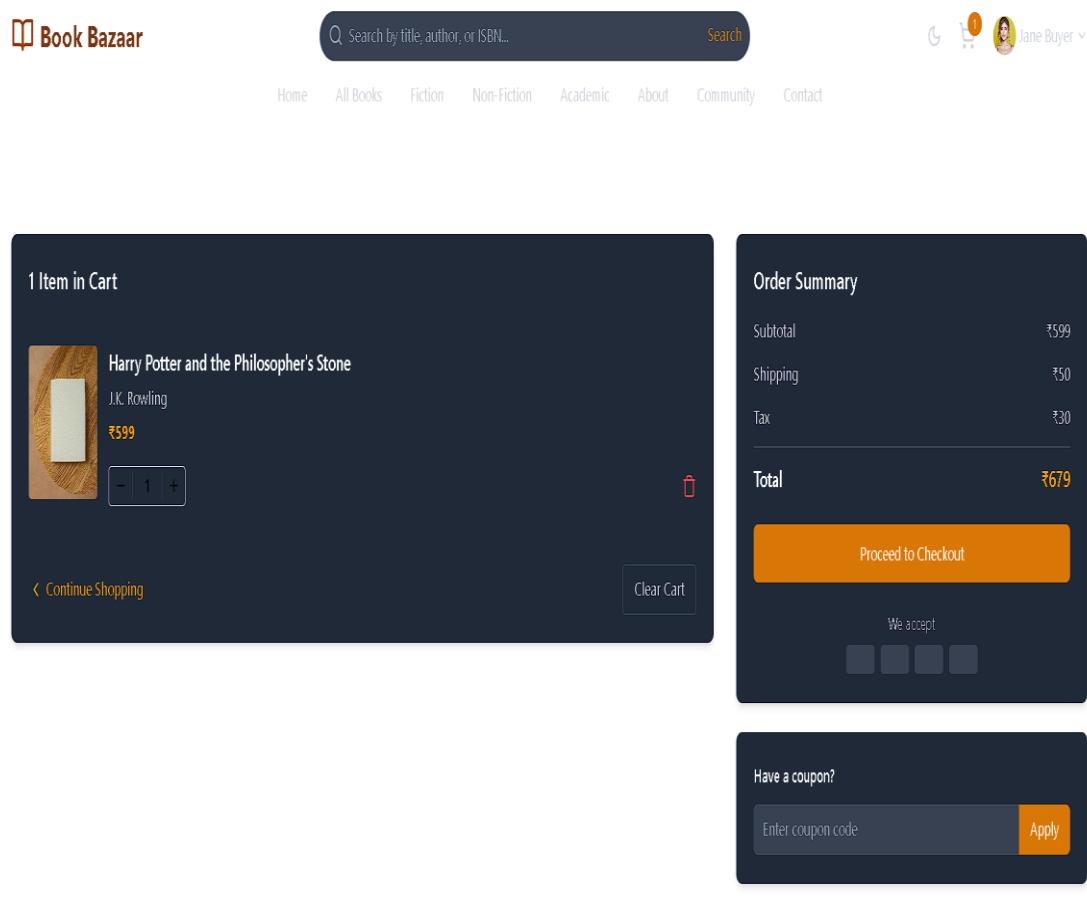


Fig-2.14 UI design for checkout

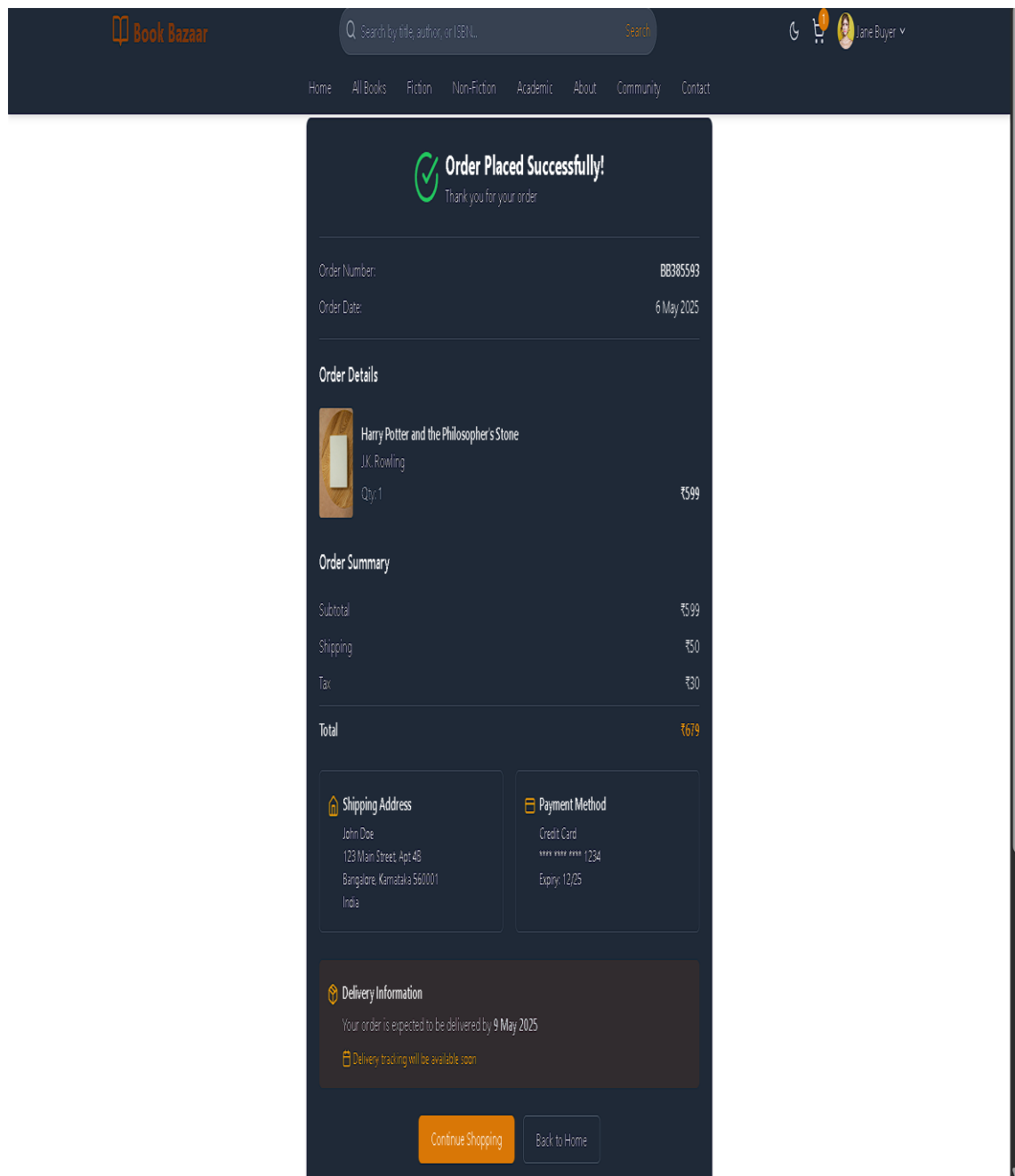


Fig 2.15 UI design for order summary

2.2.4 Functional Test Cases

Feature	Test Case	Steps to execute test case	Expected Output	Actual Output	Status	More Information
User Login	Valid User Login	Open the application's login page. Enter a valid username. Enter a valid password. Click on the "Login" button.	The user should be successfully logged into the system. The application should redirect the user to the home page.	The user is successfully logged in. The application redirects the user to the home page.	Pass	No error messages are displayed. The user profile information is correctly displayed on the home page. Check if the login time is recorded for the user.
Password Recovery	Forgot Password	Open the application's login page. Click on the "Forgot Password" link. Enter a valid email address. Click on the "Submit" button.	The system should send a password reset email to the provided email address. The user should receive an email with instructions on resetting the password.	The system successfully sends a password reset email. The user receives the email with reset instructions.	Pass	Verify the content of the password reset email. Check that the link in the email redirects the user to the password reset page.
Sharing on social media	Social media integration	Click the 'Share' button. Choose the social media platform. Click on 'Post'. Check likes, comments, and shares.	The user can check the number of likes, comments and shares received on his/her post	The user can see the likes, comments and shares received.	Pass	Ensure the verification of the user to their social media accounts.
Book Listings	Search and Filter options	Click on 'Search'. Enter the keyword that has to be searched. Select 'Find'. Click the 'Filter' option. Apply the related filters for the book. Choose from the given listings.	The search option displays the matching book. The filter gives only those book options which are applicable for the particular filter. The search filter should allow any length of the query.	The search gives the books related to the applied filter options. The search allows query entry and gives results accordingly.	Pass	Consider factors such as title matching, and keyword frequency. Provide various filter options to the user
Customizable Book	Customize Book Covers	Select the book from the search results. Add the book to your shopping cart. Proceed to checkout and choose the Customization Option. Customize according to your needs.	The book should appear in the search results. The book should be added to the cart successfully with customization option. Payment should be processed, and a confirmation order should appear.	The book appears in the search results with the customization option.	Pass	User customizes the book cover during checkout. Once the design is finalized, the order is processed, and the custom cover is printed.

Fig 2.16 Functional test case for sprint 2

2.2.5 Daily Call Progress

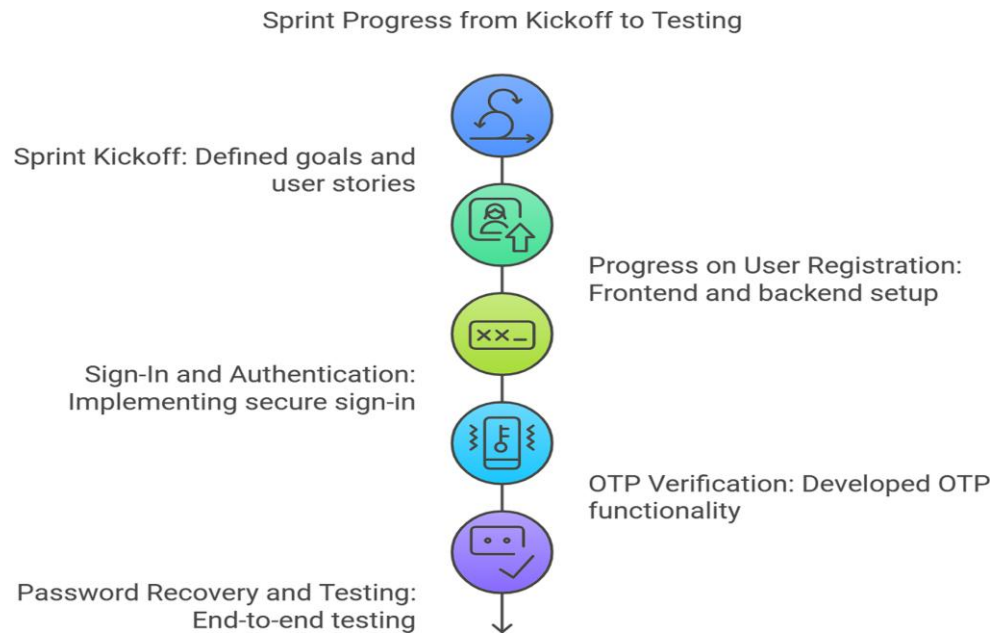


Fig 2.17 Call progress for sprint 2

2.2.6 COMMITTED Vs COMPLETED USER STORIES

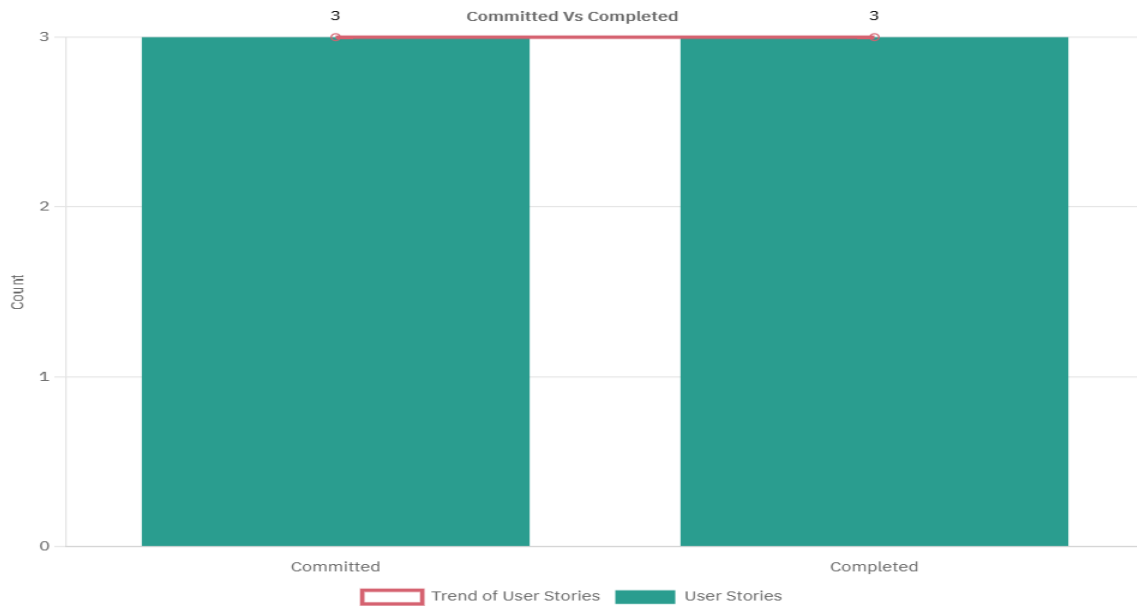


Fig 2.18 Bar chart for user stories

2.2.7 Sprint Retrospective

		Sprint Retrospective		
	Liked	Learned	Lacked	Longed For
	<i>Share aspects of the sprint that you enjoyed or found particularly effective.</i>	<i>Discuss lessons learned, whether they are related to processes, technical aspects, or teamwork.</i>	<i>Identify areas where the team felt a lack of resources, support, or information.</i>	<i>Discuss any desires or expectations that the team had but were not met during the sprint.</i>
Customizable book covers	The ability to personalize book covers before purchase was well-received by users, allowing them to create a book that matched their preferences and style.	The team learned how to implement a dynamic customization feature, which allowed real-time preview of the cover designs based on user selections.	There was a lack of diverse templates and design options, limiting users' creativity in customizing their book covers.	Users expressed a desire for more advanced customization features, such as adding personal photos or collaborating with professional designers for unique covers.
Participation in forums and discussions	Users appreciated the forum feature, which enabled them to discuss books, share their thoughts, and engage with a community of like-minded readers.	driven forum that allows users to post reviews, ask questions, and join ongoing discussions about different books and genres.	The forum lacked moderation tools and categories for specific genres, which made it difficult for users to navigate and find relevant discussions.	Users wanted more structured forums with features like book-specific threads, voting on reviews, and direct author interactions to enhance engagement.
To provide valuable feedback	Users appreciated the in-app feedback system, which allowed them to easily share their thoughts and report issues directly to the developers.	The team learned the importance of gathering user feedback to identify areas of improvement, making the app more user-friendly and responsive to user needs.	The feedback system lacked an acknowledgment or follow-up process, leaving users unsure if their feedback was received or addressed.	Data collection to improve personalized recommendations was pushed back, limiting the system's ability to learn from user behavior.
Bug free experience	Users appreciated the overall stability of the app, which provided a smooth and consistent experience with minimal crashes or interruptions.	The team learned how to implement rigorous testing and bug-tracking processes to ensure that major bugs were identified and resolved before the app's release.	Despite efforts, some users still encountered occasional glitches, particularly on older devices or under specific conditions, which disrupted their experience.	Users desired a more polished experience with fewer bugs, along with faster response times for fixes and updates, ensuring seamless usage across all devices and platforms.
Order tracking	Users appreciated the order tracking feature, which provided real-time updates on their book's status, offering clarity on when their package would arrive.	The team learned how to integrate third-party shipping APIs to display accurate tracking information and estimated delivery times directly within the app.	Some users found that the estimated delivery times were occasionally inaccurate or delayed, which affected their ability to plan around the expected delivery.	Users wanted more precise tracking updates, including notifications for any delivery delays, and the ability to track the delivery route in real-time for better transparency.

Fig 2.19 Sprint Retrospective for sprint 2

2.3 Sprint 3

2.3.1 Sprint Goal with User Stories of Sprint 3

The goal of the second sprint is to add a community forum for discussions and implement essential features, such as user feedback.

The following table 2.6 represents the detailed user stories of the sprint 3

Table 2.6 Detailed User Stories of Sprint-3

S.NO	Detailed User Stories
US #7	As a user, I want to participate in forums and discussions about books so that I can share my thoughts, read reviews, and connect with other readers.
US #8	As a user, I want to provide feedback on the app so that the developers can improve the user experience and address any issues
US #9	As a user, I want to track my order and see the estimated delivery time so that I know when to expect my book.

US#6As a user, I want to participate in forums and discussions about books so...

Completed on moments ago by you

Assign

User Story
Sprint 2
Should have

Bucket
 Completed Items

Progress
 Completed

Priority
 Medium

Start date
 Start anytime

Due date
 Due anytime

Repeat
 Does not repeat

Notes
☐ Show on card

USER STORY:
 Providing a space for users to participate in forums and discussions allows them to share their thoughts on books, engage with reviews, and connect with other readers who have similar interests. This interaction not only enhances user engagement but also builds a sense of community around the shared love of reading.

Acceptance criteria:
 1. Users can join discussions, post comments, and reply to other users in the forums.

Target Audience:
 1. Book Readers
 2. Book Reviewers
 3. Literary Enthusiasts
 4. Authors
 5. Publishers

Linked Tasks:
 Development of Forum and Discussion Features

Figure 2.20 user story for Community Forums

US#7As a user, I want to provide feedback on the app so that the developers c...

Completed on 2 minutes ago by you

Assign

User Story

Sprint 3

Could have

Bucket

Completed Items

Progress

Completed

Priority

Medium

Start date

Start anytime

Due date

Due anytime

Repeat

Does not repeat

Notes

☐ Show on card

USER STORY:

Gathering user feedback for continuous improvement of an app. It will allow users to voice their opinions, report problems, and suggest enhancements, which helps developers understand user needs and prioritize updates. A robust feedback system should be easy to access and use, enabling users to submit their thoughts and experiences effectively. This process will not only help in identifying and fixing issues but also contribute to making the app more user-centric and aligned with user expectations.

Acceptance criteria:

1. Users can submit feedback through the in-app form.
2. Feedback is recorded and visible to admin in the admin dashboard.
3. Feedback form includes necessary user information for follow-up.

Target Audience:

1. Book Readers
2. Book Collectors
3. Publishers

Figure 2.21 user story for customer feedback mechanism

US#9As a user, I want to track my order and see the estimated delivery time s...

Completed on moments ago by you

Assign

User Story X

Sprint 3 X

Should have X

Bucket

Completed Items ▾

Progress

Completed ▾

Priority

Medium ▾

Start date

Start anytime

Due date

Due anytime

Repeat

Does not repeat ▾

Notes ☐ Show on card

USER STORY:

Users want to stay informed about the status of their purchases and know when they will receive their items.

Implementing an order tracking system allows users to monitor the progress of their shipments in real-time, from the moment the order is placed until it arrives at their doorstep.

Providing accurate delivery estimates helps users plan accordingly and reduces uncertainty.

Acceptance criteria:

1. Users receive a tracking number after purchase and can track the delivery status online.
2. Users can see the estimated delivery date and any changes to the delivery schedule.

Target Audience:

1. Book Buyers
2. Online Shoppers
3. Gift Giver
4. Frequent Readers

Linked Tasks:

Figure 2.22 user story for real-time order tracking

2.3.2 Functional Document

2.3.2.1. Introduction

The Online Book Bazaar project aims to create a seamless platform for users to buy and sell old or new books. Sprint 2 focuses on implementing advanced features such as book cover customization and enhancing the user community experience. These updates are designed to offer users a personalized and social book marketplace.

2.3.2.2. Product Goal

The primary goal of this sprint is to improve the platform by introducing book cover customization and a user community for sharing reviews, exchanging books, and interacting with other users. This aligns with the project's overall goal of providing a personalized and interactive marketplace for book lovers.

2.3.2.3. Demography (Users, Location) Users:

- Users Target Users: Book collectors, avid readers, students, and casual buyers/sellers.
- User Characteristics: Wide range of reading preferences, from casual readers to those seeking rare or old books.
- Location Target Location: Global usage with a focus on book-enthusiastic communities and academic circles

2.3.2.4. Business Processes

The key business processes include:

- User Onboarding: Process for users to create accounts and set up profiles with their reading preferences and book categories of interest.
- Buying and Selling Books: Process for users to browse, list, buy, and sell both old and new books.
- Book Cover Customization: Users can personalize book covers they purchase, either by selecting from preset templates or uploading their own designs.
- User Community Engagement: Process for users to engage in the community by writing reviews, joining book discussions, trading books, and connecting with others.

2.3.2.5. Features

- Feature #7: Community Forums User Story:
 - Description: Providing a space for users to participate in forums and discussions allows them to share their thoughts on books, engage with reviews, and connect with other readers who have similar interests. This interaction not only enhances user engagement but also builds a sense of community.
 - Acceptance criteria: Users can join discussions, post comments, and reply to other users in the forums.

- Feature #8: Customer Feedback System User Story:
 - Description: Gathering user feedback for continuous improvement of an app. It will allow users to voice their opinions, report problems, and suggest enhancements, which helps developers understand user needs and prioritize updates. A robust feedback system should be easy to access and use, enabling users to submit their thoughts and experiences effectively. This process will not only help in identifying and fixing issues but also contribute to making the app more user-centric and aligned with user expectations.
 - Acceptance criteria:
 - a) Users can submit feedback through the in-app form.
 - b) Feedback is recorded and visible to admin in the admin dashboard.
 - c) Feedback form includes necessary user information for follow-up.

- Feature #9: Real-Time Delivery Tracking
 - Description: Users want to stay informed about the status of their purchases and know when they will receive their items. Implementing an order tracking system allows users to monitor the progress of their shipments in real-time, from the moment the order is placed until it arrives at their doorstep. Providing accurate delivery estimates helps users plan accordingly and reduces uncertainty.
 - Acceptance Criteria:
 - a) Users receive a tracking number after purchase and can track the delivery status online.
 - b) Users can see the estimated delivery date and any changes to the delivery schedule.

2.3.2.6. Authorization Matrix

Table 2.7 Access level Authorization Matrix Sprint-3

Role	Access Level
Admin	Full access to user management, platform settings, and transaction monitoring
Standard User	Access to browse, buy, sell books, and participate in community discussions
Premium User	Access to advanced cover customization options and prioritized listings

2.3.2.7. Assumptions

The development environment and infrastructure will remain stable during the sprint.

Users are interested in customizing book covers for a more personalized experience.

The team has the skills and resources necessary to implement the community and customization features

2.3.3 Architecture Document

2.3.3.1 Application

The platform adopts an event-driven architecture, where each service communicates through events to ensure real-time updates and a seamless user experience. Key services include:

2.3.3.2 Implementation

Event-Driven Uses events to trigger and communicate between microservices, allowing real-time data processing and communication. Implementation for Book Bazaar: User Registration.

- Event 1: User submits registration details (e.g., name, email, password). • Event Handler: Validates user input, stores user details in the database, and sends a welcome or confirmation email.
 - Event Loop: Monitors registration submission, validates the data, adds the event to the event queue, and once processed, it triggers an email confirmation event.
 - Event Producer: User.
 - Event Consumer: Authentication Service (handles registration), Email Service (sends confirmation).

- Event Channel/Router: API Gateway. 2 Book Listing Creation
- Event 2: Seller submits a new book listing with details such as title, author, condition (new/old), price, description, and customizable cover options.
 - Event Handler: Processes the listing data, saves it to the database, and triggers customization options.
 - Event Loop: Ensures that the book listing is correctly saved and customizable cover options are made available. Event Producer: Seller.
 - Event Consumer: Book Listing Service (saves book details), Customization Service (provides cover options).
 - Event Channel/Router: API Gateway or Message Queue. Book Purchase Request Submission
- Event 3: Buyer submits a purchase request for a book (new or old).
 - Event Handler: Validates the purchase request, checks stock availability, reserves the book, and sends a confirmation of the purchase.
 - Event Loop: Manages the purchase process, ensures stock availability checks, processes the payment, and confirms the order.
 - Event Producer: Buyer.
 - Event Consumer: Purchase Service (handles request), Notification Service (sends 4. Customizable Book Cover Creation
- Event 4: Buyer opts for customizable book covers for a book purchase.
 - Event Handler: Processes the customization options selected by the buyer and sends the design to be applied to the book.
 - Event Loop: Ensures that the customizable options are processed, stored, and sent to the print service. • Event Flow Layers:
 - Event Producer: Buyer.
 - Event Consumer: Customization Service (handles cover designs), Print Service (applies designs to the book).
 - Event Channel/Router: API Gateway or Messaging Queue. 5 Community Engagement between Readers
- Event 5: Reader posts a comment, review, or engages with other users in the community section of the platform.

- Event Handler: Validates the post, stores it in the community database, and sends notifications to relevant users.
- Event Loop: Monitors the engagement process, ensuring that community rules are adhered to and that notifications are sent in real-time.
- Event Producer: Reader.
- Event Consumer: Community Service (stores comments/posts), Notification Service (sends engagement alerts).

2.3.3.3 Data Exchange Contract

The system exchanges data both in real-time and periodically to ensure smooth operations:

1. Real-Time Updates:

- Order Status: Updates on order requests, confirmations, cancellations, and shipping statuses for both new and second-hand books.
- Inventory and Pricing Adjustments: Changes in book stock availability and pricing, including special discounts and customizable cover options.
- Customer Support Interactions: Real-time updates on support tickets, user queries, and resolutions.

2. Daily Syncs:

- Book Listings: Updates to book descriptions, media uploads (cover images, condition photos for second-hand books), and customization options.
- User Reviews and Ratings: Daily aggregation of new reviews and ratings to keep the information current on books and sellers.
- Payment and Transaction Records: Daily reconciliation of transactions, payment status, and processing updates.

3. Weekly Reports:

- Analytics Data: Reports on book sales trends, pricing performance, popular books, and user engagement.
- Review Insights: Aggregated data on review trends, average ratings, and customer feedback for analysis.
- Seller Performance: Weekly summaries of seller activity, response times, and order fulfillment rates.

2.3.3.4 Data Sets:

- **Book Listings:** Detailed descriptions of new and used books, including title, author, ISBN, genre, condition (for second-hand books), customizable cover options, and media files (images, videos). Availability data such as stock levels, shipping options, and estimated delivery times for physical books. o Information on special promotions, discounts, or bundles (e.g., buy 1 get 1 free).
- **Order Information:** Order requests, confirmations, cancellations, transaction records, shipping information, and payment details. Status updates on order fulfillment, shipping progress, and delivery confirmations.
- **Pricing Details:** Information on book pricing tiers, special offers, customizable cover fees, discounts, and seasonal pricing adjustments. Historical pricing data to track changes over time for both new and second-hand books.
- **User Reviews and Ratings:** Review content, star ratings, reviewer details (usernames, verified purchase status), and timestamps. Sentiment analysis on review trends and keyword data to identify popular or critical aspects of books and sellers.
- **Customer Support Interactions:** Support tickets, communication logs between users and customer service or sellers, resolution statuses, and user feedback on service. Escalation events related to disputes or complex inquiries, such as order issues or customization requests.
- **Payment Information:** Payment records including transaction amounts, payment methods (credit card, digital wallet, etc.), payment statuses (pending, successful, failed), and refund requests. Payment gateway integration details for secure transactions, including verification data, fees.

2.3.3.5 Functional Requirement:

The platform should use load balancing and auto-scaling to accommodate high traffic during peak times. Real-time monitoring will ensure smooth operation without disruptions.

User Story 3: Admins Will Be Available to Manage User Accounts and Address Issues in Real-Time

User Story4: As an admin, I want to be available to manage user accounts and address issues in real-time to ensure a seamless user experience.

Functional Requirement:

Admins should have real-time access to user accounts, enabling them to resolve issues, modify user profiles, and manage book preferences promptly.

2.3.4 UI Design

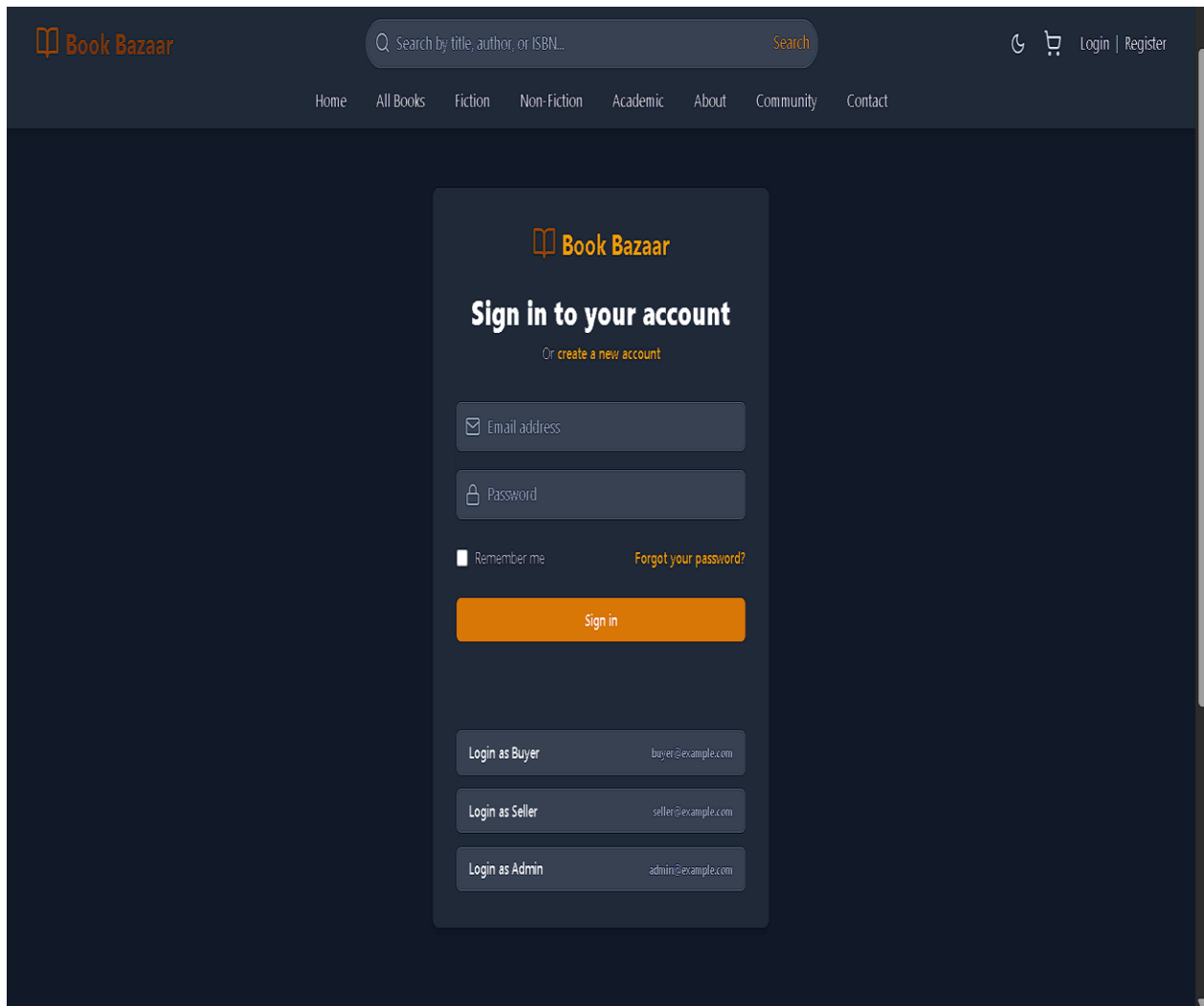


Fig 2.23 UI design for product details

2.3.5 Functional Test Cases

B	C	D	E	F	G	H
Feature	Test Case	Steps to execute test case	Expected Output	Actual Output	Status	More Information
User Login	Valid User Login	Open the application's login page. Enter a valid username. Enter a valid password. Click on the 'Login' button.	The user should be successfully logged into the system. The application should redirect the user to the home page.	The user is successfully logged in. The application redirects the user to the home page.	Pass	No error messages are displayed. The user profile information is correctly displayed on the home page. Check if the login time is recorded for the user.
Password Recovery	Forgot Password	Open the application's login page. Click on the 'Forgot Password' link. Enter a valid email address. Click on the 'Submit' button.	The system should send a password reset email to the provided email address. The user should receive an email with instructions on resetting the password.	The system successfully sends a password reset email. The user receives the email with reset instructions.	Pass	Verify the content of the password reset email. Check that the link in the email redirects the user to the password reset page.
Sharing on social media	Social media integration	Click the 'Share' button. Choose the social media platform. Click on 'Post'. Check likes, comments, and shares.	The user can check the number of likes, comments and shares received on his/her post.	The user can see the likes, comments and shares received.	Pass	Ensure the verification of the user to their social media accounts.
Secure Payment	Payment Gateway	Click on 'Buy'. Choose the payment method. Proceed with the payment procedure of the selected method.	The user can choose their preferred payment option. The user is redirected to the payment app if upi chosen. The user is able to pay securely by entering their pin.	The user is able to pay securely.	Pass	Ensure transactions proceed accurately in a timed manner. Ensure the user payment is user friendly.
		Click on 'Search'. Enter the keyword that has to be searched. Select 'Find'. Click the 'Filter' option.	The search option displays the matching book. The filter gives only those book options which are applicable for the particular filter.	The search gives the books related to the selected filter option.	Pass	Consider factors such as title matching, and
Sheet1						
Customizable Book	Customize Book Covers	Select the book from the search results. Add the book to your shopping cart. Proceed to checkout and choose the Customization Option. Customize according to your needs.	The book should appear in the search results. The book should be added to the cart successfully with customization option. Payment should be processed, and a confirmation order should appear.	The book appears in the search results with the customization option.	Pass	User customizes the book cover during checkout. Once the design is finalized, the order is processed, and the custom cover is printed.
Community Forums	Community Integration & Discussions	Click on "Community Forum". Navigate to the community forum and engage in a discussion.	User can interact with each other within a community, post, comment, and reply in discussion threads.	Users interacted with each other within a community, post, comment, and reply in discussion threads.	Pass	Provide a space for users to discuss books, authors, genres, and share reviews or opinions.
Delivery Tracking	Tracking	Select a book from the search results. Click "Add to Cart" and confirm if the item is added. Checkout Process: Go to the cart, verify the details. Proceed to checkout and click "Track your Order"	Book is successfully added to the cart, and the cart count is updated. Order confirmation is displayed with an order ID. Real-Time Delivery Tracking.	Order confirmation is displayed with an order ID with Real-Time Delivery Tracking	Pass	Show current order status such as "Order Confirmed", "Shipped", "Out for Delivery", and "Delivered".

Fig 2.24 Functional test cases for sprint 3

2.3.6 Daily Call Progress

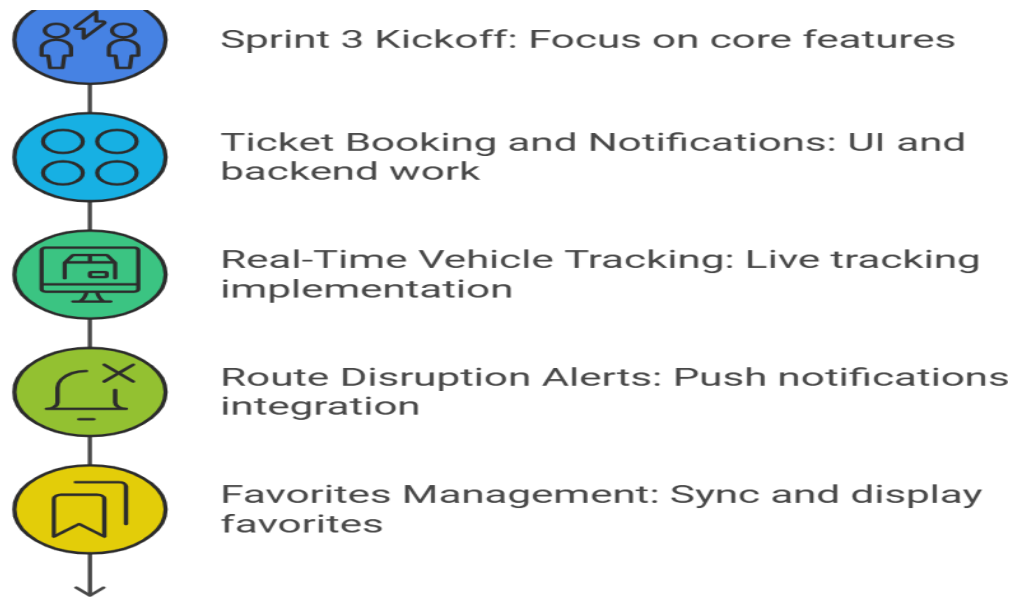


Fig 2.25 Daily call progress for sprint 3

2.3.7 Committed Vs Completed User Stories

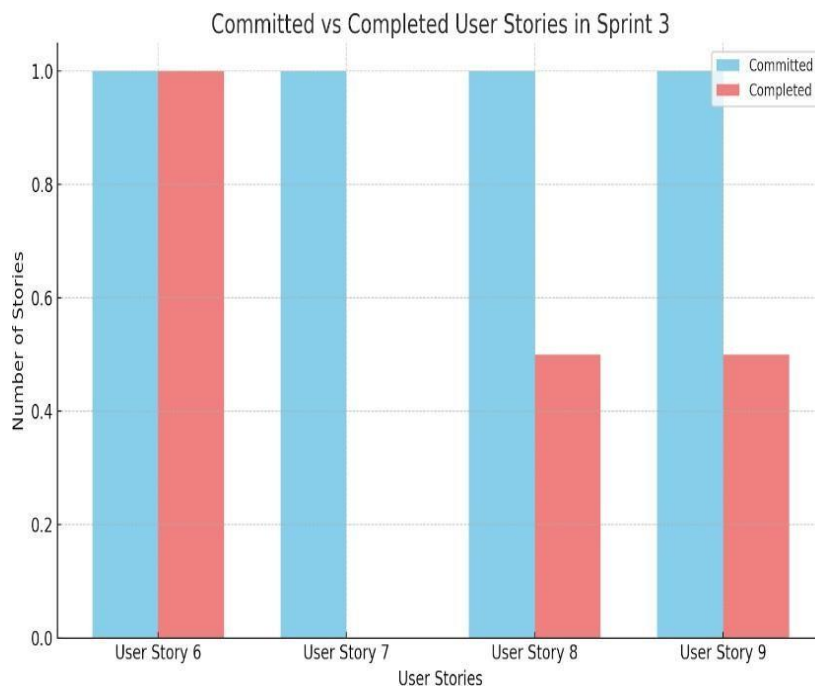


Fig 2.26 Bar chart for sprint 3

2.3.8 Sprint Retrospective

	Sprint Retrospective			
	Liked	Learned	Lacked	Longed For
	<i>Share aspects of the sprint that you enjoyed or</i>	<i>Discuss lessons learned, whether they are</i>	<i>Identify areas where the team felt a lack of</i>	<i>Discuss any desires or expectations that the team</i>
User Registration	The registration and login system was secure	The team learned about handling user sessions	Social media login options (Google, Facebook)	Customizing the password reset flow was postponed
Book Search and	The search bar returned accurate results	The team learned how to implement real-time	The filtering options were limited, lacking more	improving fuzzy search functionality (handling typos or
Book	The recommendation system showed users	The team gained experience in building a	The recommendation system wasn't as refined,	Data collection to improve personalized
Shopping Cart and	The shopping cart was easy to use, dynamically	The team learned how to handle persistent cart	The checkout process wasn't fully integrated with	The "Apply Discount Code" feature was delayed to
Book Detail Page	The book detail pages were informative,	The team improved their skills in dynamically	There was no "related books" section, which could	The effort to add an interactive "Add to Wishlist"
Social Media	The ability to share books and user reviews	The team learned how to effectively utilize	There were issues with the social media login	The integration of a feature to display user activity on
Delivery Tracking	The real-time tracking feature allowed users to	The team learned how to effectively integrate	There were occasional delays in updating the	Enhanced notifications for users regarding status
Secure Payment	The payment process was smooth and	The team learned how to implement secure	The payment gateway integration was not fully	Enhanced fraud detection mechanisms and better
Community	The forums provided a platform for users to	The team learned how to implement user	There were limitations in user engagement	Additional features such as tagging topics, private
Customize book	The customization options allowed users to	The team learned how to dynamically render	There were limited design templates available, and	Additional customization options, such as uploading

Fig 2.27 Sprint retrospective for sprint

CHAPTER 3

RESULTS AND DISCUSSION

3.1 Project Outcomes

Book Bazar has successfully enhanced user satisfaction by creating a marketplace where book lovers can conveniently buy and sell both new and secondhand books. This approach promotes sustainable reading habits and encourages a diverse reading experience by offering a broad selection of titles across genres and authors. The platform's customization options for book covers bring a unique, personalized element to users' collections, keeping them engaged and excited about their purchases. With reliable delivery tracking and secure online payment, Book Bazar ensures a smooth and convenient shopping experience that aligns with modern customer expectations. By helping users find specific titles through a robust search feature, the platform aids readers in effortlessly discovering books they desire, from bestsellers to rare finds, and enriches their reading journey.

The subscription model supports steady revenue and operational efficiency, allowing Book Bazar to expand its community-focused features. Interactive forums provide a space for readers within local communities to discuss book recommendations, review recent reads, and share insights, fostering a sense of belonging and enriching the reading experience. Social media sharing options encourage users to showcase their favorite books and connect with others who share their interests, broadening Book Bazar's reach. Future opportunities include AI-driven recommendations based on reading preferences, enhancing the personalization of user experiences, as well as potential partnerships with independent authors and publishers to diversify offerings and support local talent. These elements establish Book Bazar as a comprehensive destination for readers, balancing the convenience of a modern online bookstore with the charm of community engagement and sustainability in reading.

3.2 Committed Vs Completed User stories

Committed vs. Completed

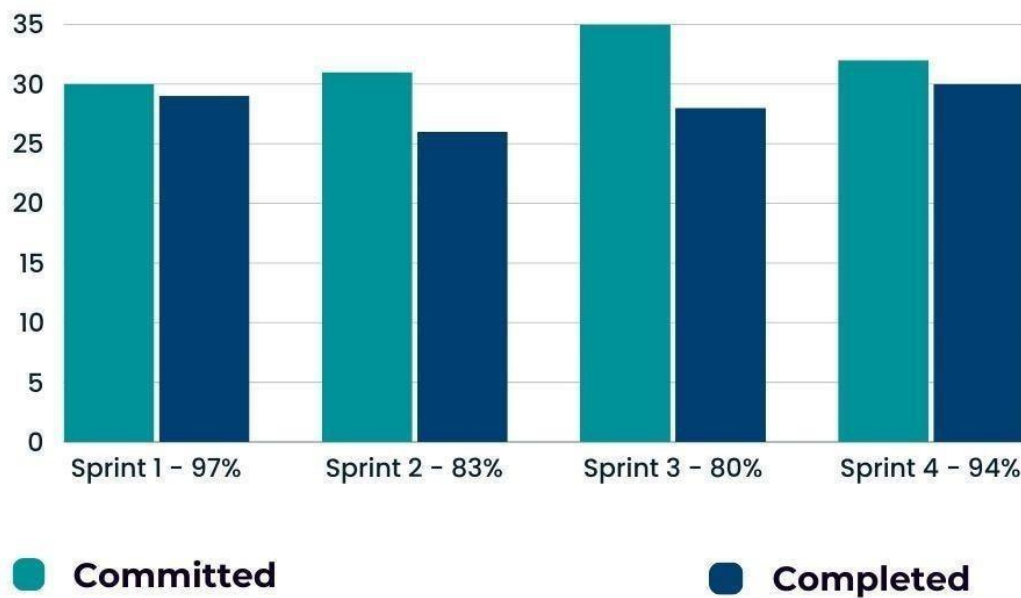


Fig 3.1 Bar chart for all user stories

CHAPTER 4

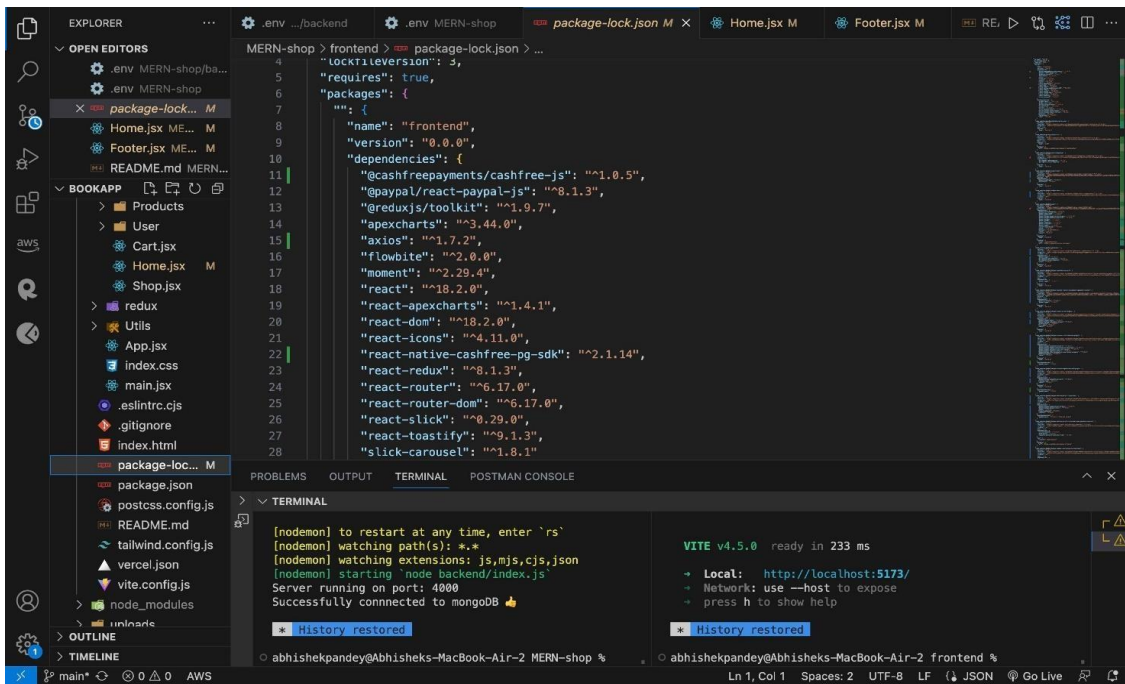
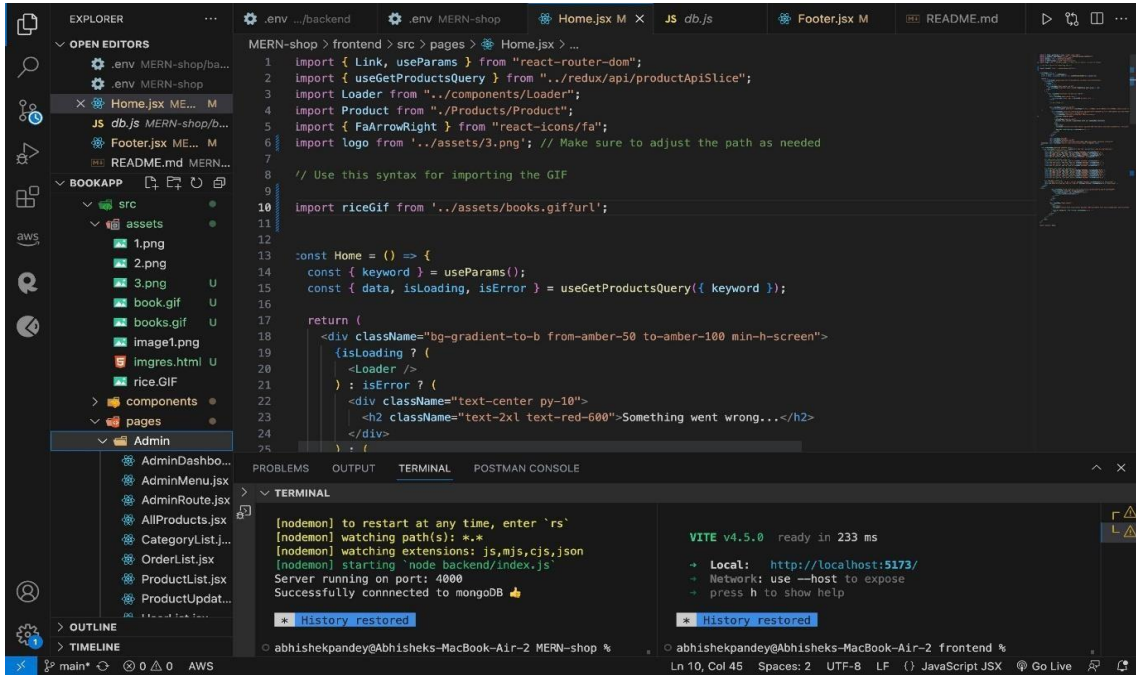
CONCLUSION & FUTURE ENHANCEMENTS

Book Bazar has the potential to redefine the book-buying and reading experience, creating a dynamic, community-centered marketplace for both new and secondhand books. By offering users the option to buy and sell books, the platform promotes sustainable reading habits while giving book lovers easy access to a wide array of genres and formats. Unique customization options for book covers add a personalized touch, allowing users to create a collection that reflects their individuality. Delivery tracking and secure online payment features streamline the shopping process, offering convenience and peace of mind with every order. The addition of a comprehensive search function enhances discoverability, helping users find exactly what they're looking for, from rare finds to trending bestsellers.

To further amplify user engagement, the bookstore includes community forums where readers within a particular community can discuss their favorite books, recommend reads, and share insights. Social media sharing options foster connectivity beyond the platform, making it easy for users to share their book collections, reviews, and recommendations, thereby expanding the community of readers. Future enhancements could integrate AI-driven recommendations based on reading history, genre preferences, or specific interests, further enriching the personalized shopping experience. A points or rewards system for active participants in community discussions and content sharing would encourage a lively, interactive environment. Partnerships with local book clubs and indie publishers would add a curated element, introducing users to unique voices and fostering a deeper connection to the world of literature. These developments would not only deepen user satisfaction but also strengthen the platform as an all-in-one destination for book enthusiasts, encouraging a love for reading while supporting sustainable practices and community engagement.

APPENDIX

A. SAMPLE CODING




```
1 import jwt from "jsonwebtoken";
2 import User from "../models/userModel.js";
3 import asyncHandler from "../asyncHandler.js";
4
5 const authenticate = asyncHandler(async (req, res, next) => {
6   let token;
7
8   // Read JWT from the 'jwt' cookie
9   token = req.cookies.jwt;
10
11   if (token) {
12     try {
13       const decoded = jwt.verify(token, process.env.JWT_SECRET);
14       req.user = await User.findById(decoded.userId).select("-password");
15       next();
16     } catch (error) {
17       res.status(401);
18       throw new Error("Not authorized, token failed.");
19     }
20   } else {
21     res.status(401);
22     throw new Error("Not authorized, no token.");
23   }
24 });
```

PROBLEMS OUTPUT TERMINAL POSTMAN CONSOLE

TERMINAL

[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node backend/index.js'
Server running on port: 4000
Successfully connected to MongoDB

VITE v4.5.0 ready in 233 ms

- + Local: <http://localhost:5173/>
- + Network: use --host to expose
- + press h to show help

* History restored

```
1 // packages
2 import path from "path";
3 import express from "express";
4 import dotenv from "dotenv";
5 import cookieParser from "cookie-parser";
6 import cors from "cors";
7
8 // Utilities
9 import connectDB from "../config/db.js";
10 import userRoutes from "../routes/userRoutes.js";
11 import categoryRoutes from "../routes/categoryRoutes.js";
12 import productRoutes from "../routes/productRoutes.js";
13 import uploadRoutes from "../routes/uploadRoutes.js";
14 import orderRoutes from "../routes/orderRoutes.js";
15
16 dotenv.config();
17 const port = process.env.PORT || 5000;
18
19 connectDB();
20
21 const app = express();
22
23 app.use(cors({
24   origin: true,
25   credentials: true,
26 }));
```

PROBLEMS OUTPUT TERMINAL POSTMAN CONSOLE

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