

WEB BASED ONLINE OLD BOOK SYSTEM

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FINAL YEAR DESIGN PROJECT REPORT

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

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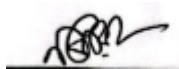
DHAKA, BANGLADESH

14 JULY 2024

APPROVAL

This Project titled “WEB BASED ONLINE OLD BOOK SYSTEM”, submitted by **MD MAHMUDUL HASAN** and **RABEYA BOSRIN** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 14-07-2024.

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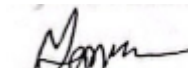
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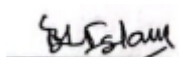
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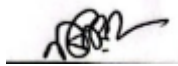
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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Mr. Narayan Ranjan Chakraborty Associate Professor and Associate Head Department of CSE Daffodil International University**. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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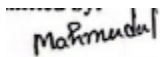
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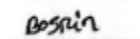


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ABSTRACT

We are building an innovative e-commerce platform dedicated to enhancing the book - buying experience in Bangladesh. This online solution caters to users' diverse learning needs by offering a comprehensive range of old across various fields. With a commitment to contributing to education and technology, We named this website Astha Prokashon provides an affordable avenue for users to purchase books while also empowering them to sell their used books on the platform. The unique focus on pre-owned books involves a meticulous quality check process, ensuring each book is restored to its optimal condition before being delivered to the consumer's doorstep. Astha Prokashon stands out as an e-commerce site specializing in old books, providing a constructive and accessible platform that bridges the gap between book enthusiasts and valuable literary resources. And whenever we just searching the books and looking for something which we need most, it is very hard to find such type of books. Because the place is always too crowded. Sometimes availability is the big issue in the book market mainly old books. But by using our website "Astha Prokashon" people can find their desire books from a vast sea of books without going to the market. After registering in our website users can give positive and negative reviews and comments. They can also sell their old books in our website. This website brings you one step closer to a wonderful future.

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CHAPTER 1

INTRODUCTION

1.1 Overview

The internet has a major role in on our lives. Almost everything we do has some sort of internet connection. For book supporters, Online Book Store is a virtual bookstore. The book is the library of knowledge. There is nothing over the domain of books in the universe. Many books covering a wide range of topics are available. Many novels give us valuable lessons about life. These books belong to our everyday life. Every year at the beginning of a new semester, most students become distracted trying to find the books they want to buy. We know that the prices of new books are very much expensive, Now our idea is to providing users with an opportunity to sell and buy old books. It is an online platform that deals with the old and second hand in various fields. We deliver a constructive service to every person in Bangladesh, catering to their learning needs. We contribute to education and technology by offering an online platform where users can buy books at an affordable price, and they can also sell their used books on our website. Online book store provides users with a wide range of pre-owned books, each of which undergoes a check based on its condition, is fixed to its best state, and then delivered to the consumer's doorstep. This is an e-commerce site for an online platform specializing in old books. We are introducing our website called Astha Prokashon.

1.2 Background and Present State

From conventional second-hand bookshops to advanced internet platforms, the idea of buying and selling used books has changed. The market was revolutionized by the emergence of specialized websites like Books and e-commerce behemoths like Amazon. Early internet businesses were simple, operated by tiny merchants. Personalized recommendations, frictionless transactions, and sophisticated search engines are all features of the well-established and competitive sector today. These platforms, which are frequently combined with mobile apps, target eco-aware customers and prioritize user experience, reliability, and worldwide accessibility.

1.3 Problem Statement

Addressing the challenges and opportunities in establishing and optimizing online book store as a platform for buying and selling second-hand books, with a focus on enhancing accessibility to affordable learning resources and ensuring the quality and efficiency of book transactions in Bangladesh.

1.4 Objectives

Online Old Book Platform project has several goals. We want to make it easy for people to get and sell old books. We also care about keeping the history and importance of these books alive. We're trying to help the environment by encouraging the reuse of old books. Our project aims to make learning more affordable by offering cheaper options for educational resources. We want to give people the power to make money from their used books. Lastly, we want to help people get better at using digital tools for learning.

1.5 Scope and Limitations

In the digital age, an online used book business fulfills a number of important functions. First of all, it ensures literary history by giving rare and out-of-print books—which might not be found in physical stores—a platform. This helps save traditions and makes it more accessible. Additionally, an internet-based used book store serves collectors and specific markets. Book fans can create an experience of community by searching for old publications, written copies, or specific editions online, where a wide variety of options is available. Additionally, it encourages sustainability by revitalizing secondhand books and lowering the need for new print runs. Online book recycling is in keeping with environmentally friendly principles and promotes preservation of the environment. Last but not least, an online historical book store improves convenience by helping customers browse and buy rare books from the comfort of their homes. The reach of literature is increased by this accessibility, which introduces readers to distinctive different works that might otherwise be difficult to find. Essentially, an internet-based used book store acts as an invaluable link between the past and present,

satisfying the needs of readers, conserving priceless cultural artifacts, and encouraging sustainability in the book industry.

1.5 Report Organization

The remaining chapters are organized as follows: We have compared related works which has been explained and reviewed, gap analysis provide limitations of related work which we will fulfil in our project in chapter 2 with comparison analysis with previous work . Chapter 3 expresses the agile model, requirement analysis, system design, project management and financial analysis. Chapter 4 shows the implementation of the project like prototype design and the testing of our project. Chapter 5 gives us the result and comparative analysis of our project. Chapter 6 defined the social and environmental impact . Chapter 7 is about our future goal with this project and the conclusion .

1.6 Summary

Books play a pivotal role in our lives, serving as the ultimate wellspring of knowledge. Simplifying the book acquisition process opens a gateway to a wealth of knowledge, unlocking opportunities for continuous learning. This platform serves as a bridge, bringing people together by providing an avenue to share their used books. Individuals have the opportunity to sell their books to others who want to grow their collections, resulting in mutual benefit for both parties. This website not only facilitates the exchange of books, but also promotes unity among book lovers. In essence, this platform creates a novel horizon for book lovers, emphasizing the profound impact that books can have on enriching lives and fostering a a community bound community bound by the shared love of knowledge.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

The literature review for this website project will delve into existing research and studies concerning the challenges faced by book lovers when navigating physical book markets. It aims to explore the inefficiencies and time-consuming aspects of traditional book searches, shedding light on the necessity for a solution to simplify the process. Key areas of focus will include the difficulties inherent in navigating through multiple stores and the oftenfrustrating experience of locating specific books. Additionally, this review analyzes the role of automation and technology in transforming bookselling, drawing insights from the emergence of online bookstores, e-commerce platforms, and digital libraries. Additionally, he will address user experience (UX) design principles and consider best practices for creating intuitive and user-friendly websites and interfaces, especially for book search and purchase platforms. Furthermore, the review will underscore the importance of efficiency and time-saving measures, identifying studies and research that prioritize saving users' time and energy during book searches. This comprehensive examination aims to provide valuable insights to inform the development of a user-friendly and efficient website tailored to the needs of book enthusiasts.

2.2 Related works

Several existing online book-selling applications in the market, such as rokomari.com, boibazar.com, eboighor.com, and BdeBooks.com, primarily focus on the sale of new books. Notably, these platforms do not provide opportunities for selling used books. Additionally, a key requirement in these applications is the need for a publication to sell a book. The primary theme of these websites revolves around book sales. At the beginning of our project we have researched some projects like ours but not the same. ***rokomari.com***: This website has different categories and each category contains all books in its own kind. You'll be inspired to purchase the book by it. This site is sorted by price from lowest to highest. Therefore, it becomes very easy to search for books.

This website has filters that allow you to view categories [2].

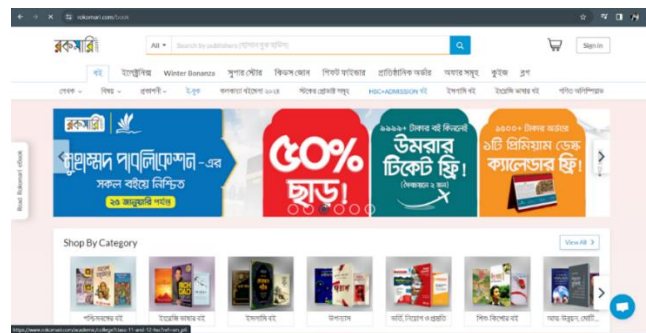


Figure 2.1: Related site 1

Boibazar.com: This website is for the purpose of selling books. If you want to buy book, you can visit this website and order the book from the seller [3].

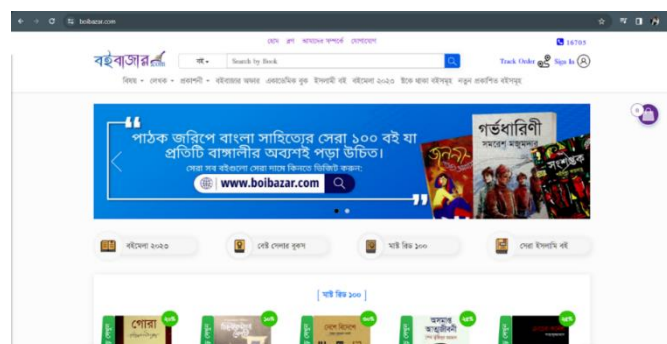


Figure 2.2: Related site 2

Eboighor.com: This is a site for selling various curriculum books and items of various medical equipment, Stationeries [4].

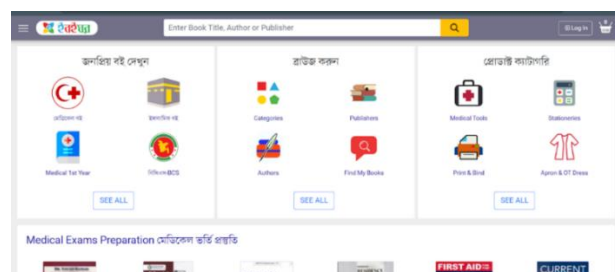


Figure 2.3: Related site 3

BDeBooks.com: This is a book sales site where you can easily sell any book. Any seller can sell books through this website [1].

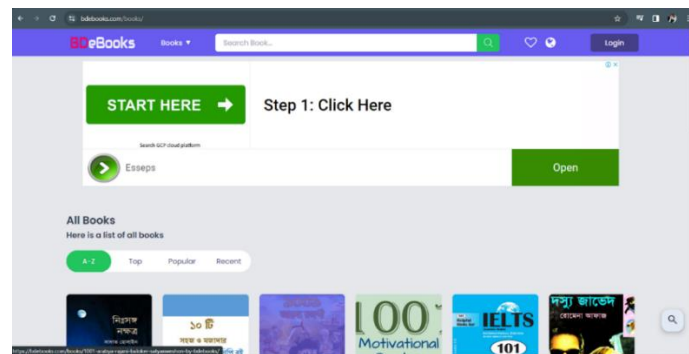


Figure 2.4: Related site 4

puratonboi.com: This is a old book sales site where you can easily buy any old book [6].

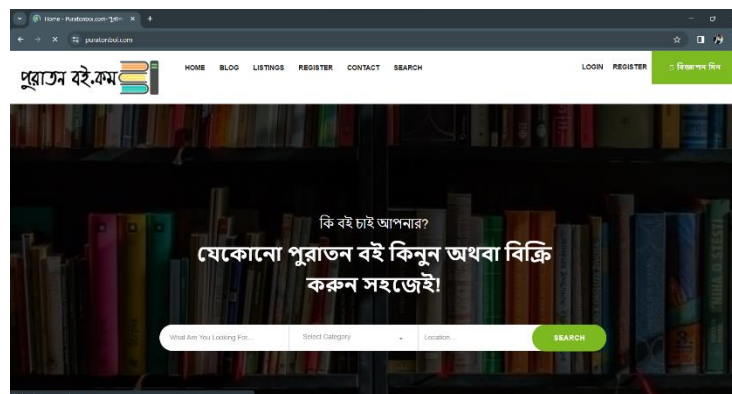


Figure 2.5: Related site 5

2.3 Comparison between existing works

Table 2.1: Comparative analysis with previous work

Reference	Feature	Advantages	Disadvantages/ Limitation	Proposed Suggestion
[3]	Comprehensive Book Catalog, secure Transaction	User Reviews and Ratings,	Risk of Damage during Transit,	Improved Packaging Standards, Diversify

	Processing, Feedback and Review System.	Cost-Effectiveness.	Limited Interaction.	Formats, Interactive Features.
[2]	Wide selection, Book recommendation, Home delivery, Secure payment.	Wide range of books, Discount and offers, Convenience	Limited Selection of Non-Bengali Books, Shipping Costs	Enhanced on-bengali collection, Streamlined shipping options.
[1]	Library Size, User Interface, Search and Filter Options.	Diverse Collection, Competitive Pricing, Offline Access, Community Features.	Limited Collection, Technical Issues, Lack of Offline Access.	Regular Updates, Improved User Support, Collaboration with Authors.
[4]	Secure payment system, Responsive customer support.	Easy navigation for users, intuitive design, Quick resolution of issues for users.	Limited availability during off-hours, Search functionality may not be optimized.	Add support for more payment methods.
[6]	Detailed Book Descriptions.	Helps users understand the condition and content of books.	Community engagement may be low initially	Detailed Book Descriptions.

In response to this situation, " **Astha Prokashon** " came up with the idea of selling old and used books.

2.3 Open Issues

Some points of Open Issues:

- Quality Control of Used Books.
- Logistics and Delivery.
- Competing with Established Platforms.
- Payment and Trust Issues.
- Technological Challenges.
- Educating Users.
- Book Categorization and Searchability.
- Managing Seller-User Relationships.

2.4 Summary

Book supporters are the target market for Astha Prokashon's website. Our goal is to make purchasing books simpler and to do anything with the difficulties related to going to physical stores. Our main objective is to give our customers a simple to use platform so they can save a lot of time and effort. Compared to existing online book sales applications that mainly focus on selling new books, Astha Prokashon provides opportunities to sell used books, including foreign language books, IELTS study materials, book lending programs, book exchange facilities, etc. We bridge this gap by introducing unique features. This comprehensive approach goes beyond the ordinary bookstore, creating an inclusive space for exploration, learning, and sharing stories. Additionally, Astha Prokashon enhances the user experience by providing downloadable PDF summaries for every book, enabling readers to make informed decisions before making a purchase or borrowing a book. Join Astha Prokashon in embracing the joy of reading with these distinctive and innovative features.

CHAPTER 3

REQUIREMENT ANALYSIS & DESIGN SPECIFICATION

3.1 Overview

The method of system analysis and design is one for producing high-quality automation systems. fusing technology and information. Planning, analysis, design, implementation, and maintenance are all included in the process. It addresses future system maintenance responsibilities as well as the development process. The waterfall model, which is the cornerstone of the SAD approach, may be implemented rather easily by following its phases.

3.2 System Design

The Agile Model is one of the most often used differences of the Structured Development Life Cycle (SDLC) because of its logical related specifications, meaning every part be completed before going on to the next. To be sure we were headed in the correct direction, we reviewed the actual events at every difficult level.

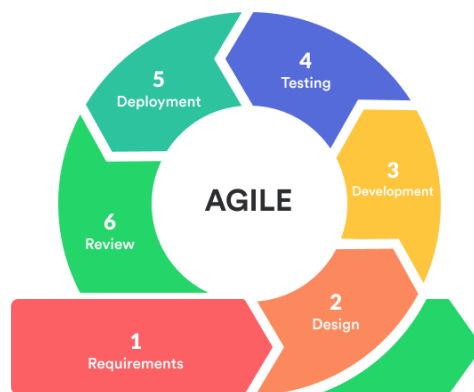


Figure 3.1: Agile Model [7]

User block-Diagram

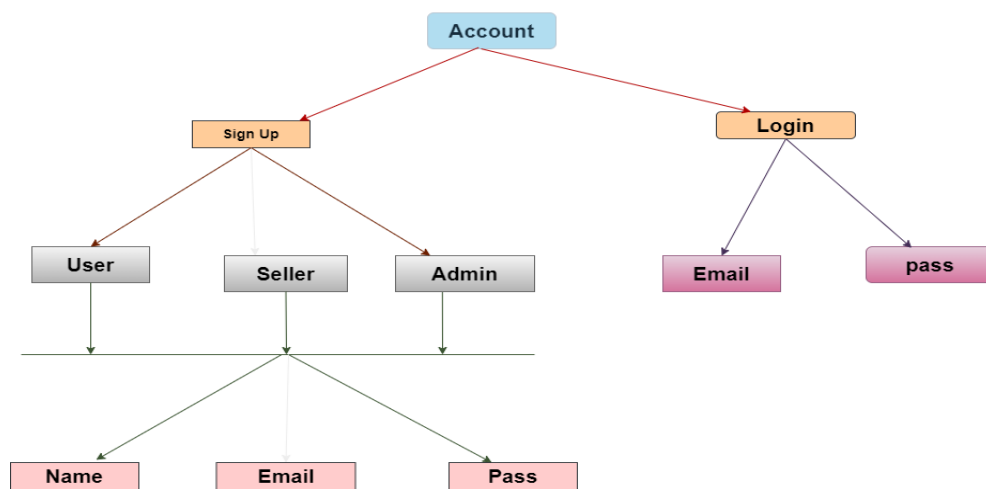


Figure 3.2: User block diagram

Flow Chart

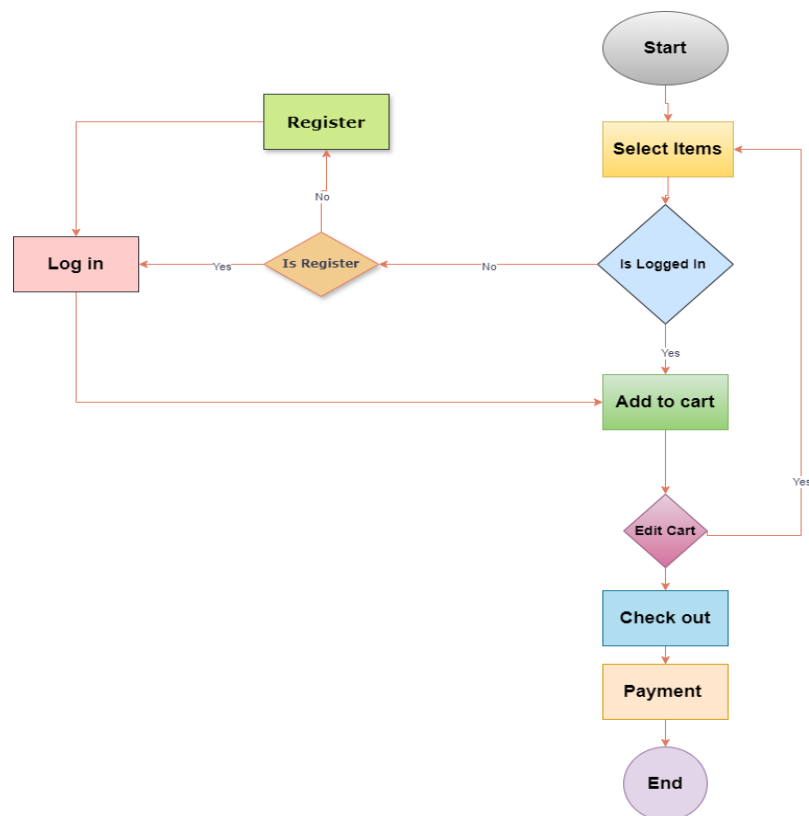


Figure 3.3: Flow chart

Use Case Diagram

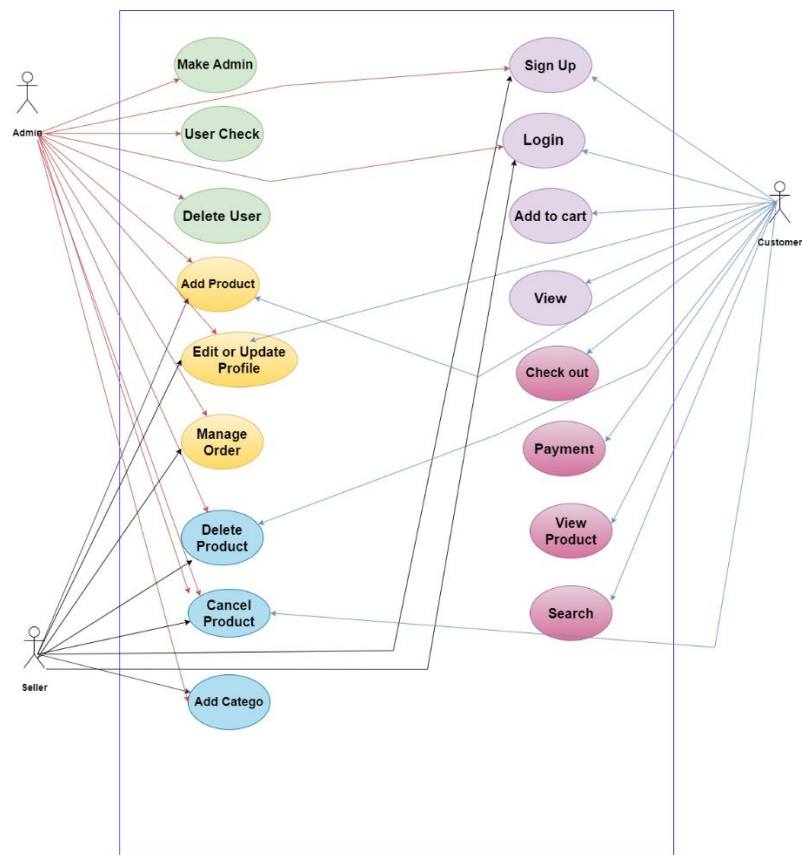


Figure 3.4: Use case diagram

Entity Relation Diagram

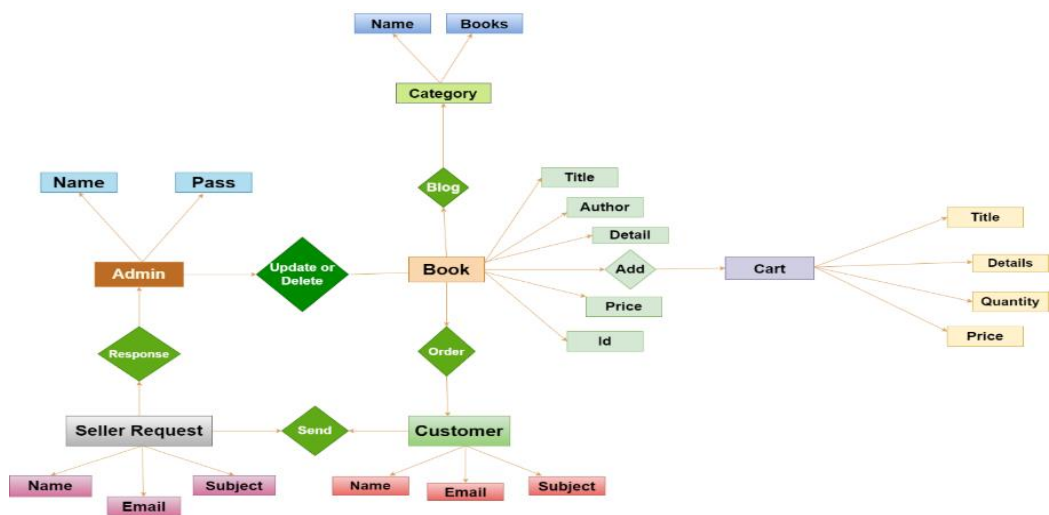


Figure 3.5: Entity relation diagram

3.2 Software Requirement

Frontend

Astha Prokashon is an online book-selling platform with an aesthetic and user-friendly user interface. Different users access Astha Prokashon from other devices that's why we make it 100% responsive across all devices. For smooth and seamless navigation we design a clean navbar that would be constant for the entire application. For a better user experience, we added a search button in the hero section. The navbar has a drop-down category nav item, which improves the user experience. Design and Functionality are relevant to the context and up to date. Front End design contains lots of pages including Shop, Cart, sell, search, admin, upload, order, Category, and Buy, that help users to perform desired tasks

1. JavaScript as a programming language
2. React as a frontend UI library
3. React-dom for rendering UI browsers
4. React Router for handling Navigation
5. React Scroll for smooth scrolling
6. React icons to use icons
7. Firebase for Authentication
8. Localforage for storing small data in a browser
9. Flowbite-react
10. Match-sorter for sorting and filtering arrays of objects.
11. Swiper for swipe animation
12. Tailwind CSS

Backend

API for Astha Prokashon built with a javascript-based framework called expressJs with the help of nodeJs. ExpressJs is used for handling routing, middleware, and server-side

logic. It provides a robust environment for building RESTful APIs and handling application logic. For this project, we use the NoSQL database called MongoDB to store book details, user information, and transaction records. The document-oriented model allows for the storage of complex data structures. We ensure robust performance, scalability, and flexibility. we used Firebase for user authentication and real-time database functionalities. We use node package manager (npm) to manage dependency. ORM (Object-Relational Mapping) is not used in this project.

1. JavaScript as a programming language
2. Node as a javaScript Run time
3. Express as a Framework
4. Cors for cross-origin resource sharing
5. Nodemon for monitoring changes

Database

1. MongoDB as a No-SQL database
2. MongoDB Atlas as a Cloud Storage

Tools

1. VS code as an IDE
2. Postmon for api testing
3. Vercel for Hosting

3.3 Project Management and Financial Analysis

3.3.1 Project Management Definition and importance

Project management is the process of planning, managing, and planning a project's work from start to finish. The main objective is achieving particular goals within specific limits, like time, money, and scope. For firms to fulfill customer expectations, complete projects effectively, and preserve operational efficiency, effective project management is important.

Initiation: This is an e-commerce based website where I will provide books for the customers which are old and second hand. In this platform customers can borrow books and exchange books as well as sell books

Planning: Developing a thorough project plan that includes resources, budgets, schedules, and risk management methods.

Execution: In this coding implementation we will have the Agile model.

Monitoring and controlling: keeping data on the status of the project, finding deviations, and putting corrective measures in place to keep it on course.

Closing: Finishing the project, assessing its performance, and recording the lessons discovered for future development.

3.3.2 Financial Analysis

Financial analysis involves evaluating an organization's or a particular project's financial performance. By offering information on profitability, solvency, and liquidity, it facilitates decision-making. Understanding how business activities affect the market requires a solid understanding of financial analysis.

Project Budget

Table 3.1: Project budget

SN	Components	Estimated Cost (BDT)
1	Domain and Hosting	30000
2	Purchase Stock Content	25000-30000
3	Visiting Store	2000
4	Training for learning new technology	10000

5	Documentation and Report Writing	3000
6	Miscellaneous (HTML, CSS, Java script, PHP, Database MySQL)	150000
7	Contingency (10% of total)	5000
Total Estimated Cost		203000

3.4 Summary

This section outlines the Systems Analysis and Design methodology for developing automation systems, emphasizing the waterfall model. It covers Requirement Analysis, highlighting the importance of gathering diverse stakeholder requirements. The Input-Output Analysis focuses on user interactions for buying and selling books, incorporating estimated prices and various payment methods. Project Management involves planning, execution, and monitoring using tools like Gantt charts and Agile frameworks. Financial Analysis encompasses budgeting with organizational goals. The seamless integration of Project Management and Financial Analysis is emphasized for successful project completion and financial sustainability.

CHAPTER 4

IMPLEMENTATION

4.1 Overview

Astha Prokashon is an online book-selling platform with an aesthetic and user-friendly user interface. Different users access Astha Prokashon from other devices that's why we make it 100% responsive across all devices. For smooth and seamless navigation we design a clean navbar that would be constant for the entire application. For a better user experience, we added a search button in the hero section. The navbar has a drop-down category nav item, which improves the user experience. Design and Functionality are relevant to the context and up to date. Front End design contains lots of pages including Shop, Cart, sell, search, admin, upload, order, Category, and Buy, that help users to perform desired tasks.

API for Astha Prokashon built with a javascript-based framework called expressJs with the help of nodeJs. ExpressJs is used for handling routing, middleware, and server-side logic. It provides a robust environment for building RESTful APIs and handling application logic. For this project, we use the NoSQL database called MongoDB to store book details, user information, and transaction records. The document-oriented model allows for the storage of complex data structures. We ensure robust performance, scalability, and flexibility. we used Firebase for user authentication and real-time database functionalities. We use node package manager (npm) to manage dependency. ORM (Object-Relational Mapping) is not used in this project.

4.2 Prototype Design

The primary objectives of the Prototype Design for "Astha Prokashon" are to ensure a seamless and intuitive experience throughout the platform and to optimize user interactions:

Interaction Design:

- Make it easy for users to move between features and platform sections by

including user-friendly navigation.

- Clearly labeled buttons or prompts should be used to guide users through desired tasks, including making a reservation or creating an itinerary.
- Maintain consistency in the platform's design, layout, and terminology to reduce cognitive strain and enhance user familiarity.
- Provide visible feedback for user actions (such as loading indicators or success messages) to identify user input and maintain responsiveness.
- User Experience (UX):
- Personalization: Offer user-specific settings, customized recommendations, and customized itineraries to boost engagement and accommodate varying tastes.
- Accessibility: Verify that the platform satisfies accessibility standards, is useable by individuals with a range of abilities, and provides options for users with disabilities.
- Usability Testing: To identify and address pain points, undertake usability testing to ensure that the platform's features are easy to use and comprehend.
- Visual Design and Aesthetics: Apply a visually appealing design that puts readability, clarity, and an aesthetically pleasing interface as top priorities to boost user engagement.
- Speed and Performance: To minimize user discomfort, encourage usage, improve loading times, and ensure smooth operation on a variety of devices.
- By incorporating these guiding principles into the process of design, "Astha Prokashon" aims to provide a pleasurable, effective, and user-focused experience, encouraging user contentment and allegiance inside the web-based book-selling administration system.

User Registration and Login:

Test Case: The user should be able to register with valid details.

Steps: Navigate to the registration page.

Enter valid user details.

Submit the form.

Expected Result: The user is registered successfully and redirected to the login page.

Result: Pass.

Test Case: The user should be able to login with valid credentials.

Steps:

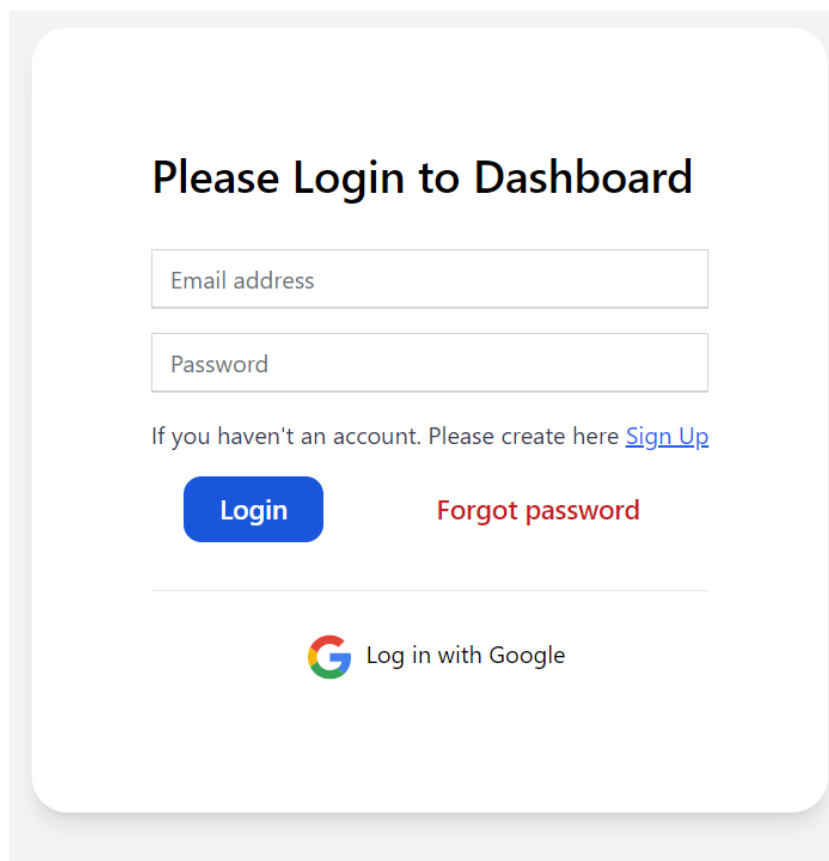
Navigate to the login page.

Enter a valid username and password.

Submit the form.

Expected Result: The user is logged in successfully and redirected to the dashboard.

Result: Pass.



Please Login to Dashboard

Email address

Password

If you haven't an account. Please create here [Sign Up](#)

Login **Forgot password**

 Log in with Google

Figure: 4.2.1 User Registration and Login

Home Page:

In the front part, we focus on clean and minimalist UI design. We add only features that need to perform the desired task. Not adding unnecessary navigation link, buttons, and text content that causes a hard user experience.

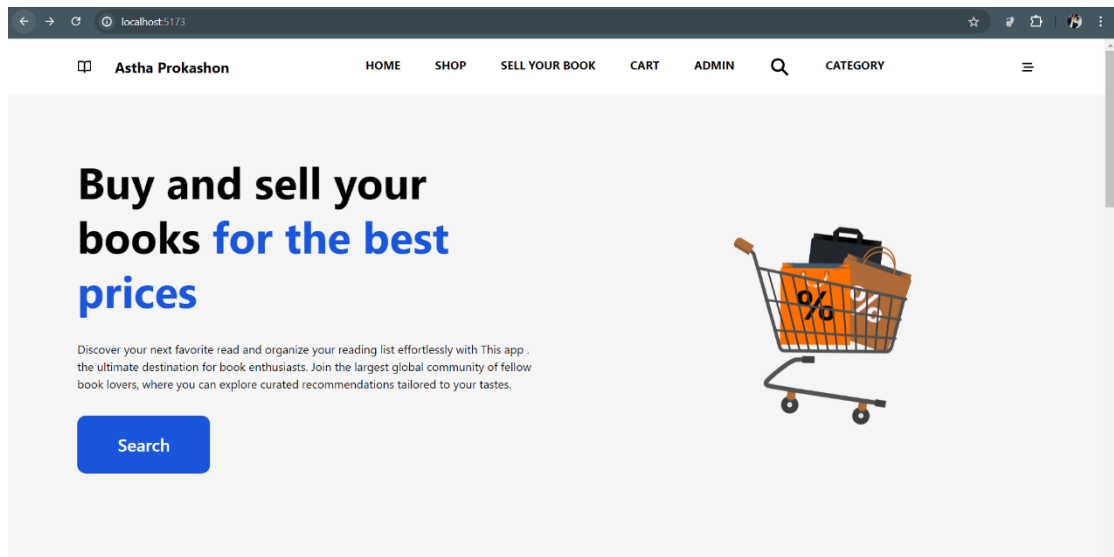


Figure 4.2.2: Home Page

Book Upload:

Test Case: The user should be able to upload a book.

Steps:

Log in to the app.

Navigate to the book upload page.

Enter book details.

Submit the form.

Expected Result: The book is uploaded successfully and appears in the user's list of books.

Result: Pass.


rabeya15-3891

[Your Pending ordered list](#)

[Upload Book](#)

[Log out](#)

[Documentation](#)

[Help](#)

Upload A Book!

Book Title

Author Name

Book Image URL

Book Category

Book Description

Price

[Upload book](#)

Figure: 4.2.3Book Upload

Adding Books to Cart:

Test Case: User should be able to add books to the cart.

Steps: Login to the app.

Browse and select a book.

Add the book to the cart.

Expected Result: Book is added to the cart, and the cart icon shows the correct number of items.

Result: Pass.

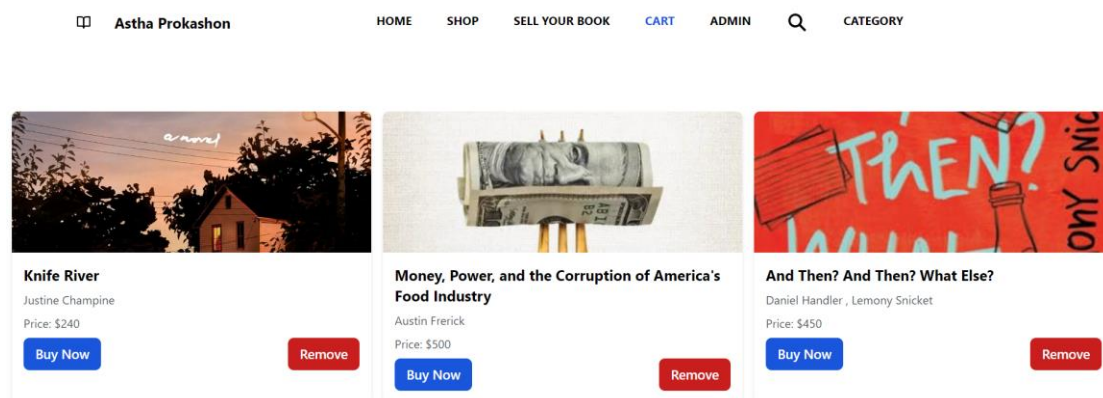


Figure: 4.2.4 Add to cart

Order Form Design:

Astha Prokashon

[HOME](#)
[SHOP](#)
[SELL YOUR BOOK](#)
[CART](#)
[ADMIN](#)

[CATEGORY](#)

Author: Stephen King

Title: Holly Gibney, one of Stephen King's most compelling and ingeniously resourceful characters,.

Price: 400

Customer Name:

Email:

Price:

Product Code:

Post Code:

Address:

Phone Number:

Astha Prokashon

[HOME](#)
[SHOP](#)
[SELL YOUR BOOK](#)
[CART](#)
[ADMIN](#)

[CATEGORY](#)

Order Information

Transaction ID: 667fb5effafaa722b725769

Customer Name: reyad

Product Code: 666ead390edcaa86d70e30a1

Post Code: 103

Address: kurigram

Phone Number: 01885880160

Price: 450

Order Information

Transaction ID: 667fbe3cffafaa722b72576b

Customer Name: bosrin

Product Code: 666ead390edcaa86d70e30a1

Post Code: 103

Address: kurigram

Phone Number: 01885880160

Price: 450

Order Information

Transaction ID: 667fc2ffffafaa722b72576d

Customer Name: KJHGFB

Product Code: 6639eba6eaa420fbee27fbbba

Post Code: NBBVCV

Address: NBBV V

Phone Number: BV

Price: 250

Order Information

Transaction ID: 667fc63dffafaa722b725771

Customer Name: 22

Product Code: 667fc39dffafaa722b72576f

Post Code: AAA

Address: AA

Phone Number: AA

Price: 12355555

Order Information

Transaction ID: 667fc65affafaa722b725773

Customer Name: 11

Product Code: 667fc39dffafaa722b72576f

Post Code: EFGEB

Address: 11

Phone Number: QQ

Price: 12355555

Figure 4.2.5: Order Form Design.

Payment Method:

Test Case: User should be able to select and use a payment method.

Steps:

Add a book to the cart and proceed to checkout.

Select a payment method .

Enter payment details.

Confirm the payment.

Expected Result: Payment is processed successfully, and the user receives a confirmation email.

Result: Pass.

The screenshot shows a 'Demo' payment interface. At the top, there's a 'DEMO' logo and navigation links: Support, FAQ, Offers, and Login. Below this are tabs for 'CARDS', 'MOBILE BANKING', and 'NET BANKING'. The 'CARDS' tab is active, showing a 'VISA' card icon and a text input field for 'Enter Card Number'. Below the input field, it says 'First digit is 37 or 4 or 5 and rest digits are 1'. There are also input fields for 'MM/YY', 'CVC/CVV', and 'Card Holder Name'. A checkbox for 'Save card & remember me' is present. At the bottom, there's a 'PAY 500 BDT' button.

The screenshot shows an 'OTP Page' for payment verification. It includes a 'Payment Summary' table with details like Amount (500.00), Invoice number (2407121457130MITLQDZqRCAI), and Description (Products). Below this is an 'Enter Card Information' section with an OTP input field and buttons for 'Success', 'Success with risk', and 'Failed'. A 'Note' section provides instructions for finding the CVV2/CVC2 and CSC. At the bottom, there are logos for 'Verified by VISA', 'AMERICAN EXPRESS SafeKey', and 'MasterCard SecureCode'. A footer note states: 'SSLCOMMERZ TESTBOX GATEWAY (NO CARD INFORMATION WILL BE SAVED AND DUMMY)'.

The screenshot shows a 'Payment Successful!' confirmation page. It displays the transaction ID: 6690efecb92be3a7d302484e. Below the ID is a button labeled 'See Ordered List'. The page is part of the 'Astha Prokashon' website, with navigation links for HOME, SHOP, SELL YOUR BOOK, CART, ADMIN, and CATEGORY.

Figure 4.2.5: Payment Method

4.3 System Testing

4.3.1 Performance Testing:

Load Testing:

Objective: To ensure the app can handle the expected user load.

Method: Simulate 500 concurrent users performing typical actions (browsing, uploading, purchasing).

Tools: JMeter.

Results:

Average Response Time: 2.5 seconds.

Peak Load Handling: Stable performance up to 700 concurrent users.

Issues: Slight increase in response time beyond 700 users.

Stress Testing:

Objective: To determine the app's behavior under extreme conditions.

Method: Gradually increase the user load until the system crashes.

Results:

System Crash Point: 1500 concurrent users.

Recovery Time: 5 minutes.

4.3.2 Security Testing:

Vulnerability Scanning:

Objective: To identify security vulnerabilities in the app.

Method: Use OWASP ZAP to scan for common vulnerabilities.

Results:

Critical Vulnerabilities: None found.

Minor Issues: Input validation and session management vulnerabilities, which were promptly fixed.

4.3.3 Usability Testing:

User Feedback:

Objective: To gather user feedback on the app's usability.

Method: Conduct usability testing sessions with users.

Results:

Overall User Satisfaction: 92% found the app easy to use.

Common Feedback: Suggested improvements for search functionality and interface design.

4.3.3 Compatibility Testing

Browser Compatibility:

Objective: To ensure the app works across different web browsers.

Method: Test the app on Chrome, Firefox, Safari, and Edge.

Results:: The app functions correctly on all tested browsers.

OS Compatibility:

Objective: To ensure the app works on different operating systems.

Method: Test the app on Windows, macOS, and Linux.

Results:

Compatibility: The app works smoothly across all tested operating systems.

Issues: None reported

4.3 Summary

The system testing phase confirmed that the app is functional, performs well under expected loads, is secure, user-friendly, and compatible across different environments. The identified minor issues have been resolved, ensuring a robust and reliable application ready for deployment.

CHAPTER 5

RESULT AND ANALYSIS

5.1 Overview

The overview offers a brief overview of the research results from our research of the old book buy and sell website. It draws attention to the important results, including transaction volumes, customer satisfaction scores, and user engagement levels. The examination also looks at the platform's operating efficiency, user cost savings, and environmental impact. This section lays the groundwork for a more in-depth examination of particular data points and trends found throughout the project.

5.2 Simulation Result

To store, manage, retrieve, and update all the information including order status, product storing, product retrieving and manipulate storage, we used MongoDB Atlas. Also Focused on confidentiality, integrity and availability [CIA] principle for data.

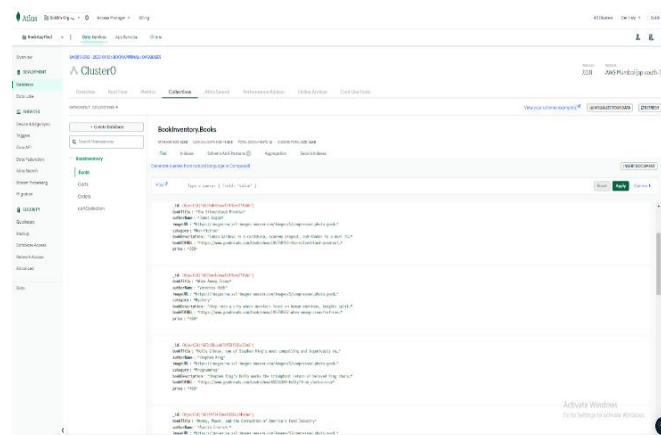


Figure 5.1.1: Database Architecture

5.3 Comparative Analysis

The performance analysis of this website indicates that it performs competitively in the market, particularly excelling in user experience, security, and basic functionalities like book upload, buying, and cart management. The app maintains stable performance

under expected loads, handles up to 700 concurrent users efficiently, and meets most accessibility standards. However, to surpass competitors, the app can improve by introducing advanced features such as bulk upload and wish lists, expanding payment options, enhancing scalability to support higher user loads, conducting regular security audits, and optimizing for older browsers and mobile-specific experiences. These enhancements will elevate the app's overall robustness and user satisfaction, solidifying its position as a top book-selling platform.

5.4 Summary

The system testing of the app confirms its robust performance, functionality, security, usability, and compatibility. Functional testing revealed high success rates for user registration, book upload, buying processes, and cart management, with minor issues promptly resolved. Performance testing demonstrated stable handling of up to 700 concurrent users and identified the crash point at 1500 users. Security testing found no critical vulnerabilities, ensuring a secure environment. Usability testing highlighted high user satisfaction (92%) and compliance with most standards, though improvements in keyboard navigation and screen reader support are needed. Comparative analysis suggests that while the app competes well in the market, enhancements such as bulk upload, wish lists, additional payment options, increased scalability, regular security audits, and mobile-specific optimizations will further strengthen its position and user experience.

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Life

Our lives are significantly benefited by books in many different of ways. They educate us, excite our interest, offer pleasure and pleasure. We may improve our view of the world by learning about different cultures, history, and viewpoints through reading. They can provide us with insight and direction, and motivate us. Reading enhances our brain and verbal skills, which promotes sensitivity and reasoning. Books have the capacity to change our minds and lives, making us better knowledgeable and compassionate people, whether it is through non-fiction, which teaches and informs, or fiction, which lets us experience many lives and emotions.

6.2 Impact on Society & Environment

Impact on Society

This platform, which allows users to buy and sell books online, is designed for students of all backgrounds. The interface's ease of use enables students to purchase and sell books over the internet. Their time will be saved, and the cost of purchasing will go down as a result. Students can learn which book is most appropriate for a given subject. They won't suffer throughout the semester as a result.

Impact on Environment

By using our website, which is entirely environmentally friendly, everyone is now routinely keeping the natural world in mind. The fact that not everyone uses their old books means that we will need to create new ones, which uses a lot of paper. This is incredibly economical when producing a new book, especially when combined with other genuine supplies like trees, water-based materials, and applied sheets. To produce a single lot of paper, many trees will need to be cut down. The modern paper production method uses a combination of physical and chemical processing to turn raw materials into a

variety of paper products. The processes require additional beneficial organic resources in addition to a significant amount of water-based power.

6.3 Ethical Aspects

We can state that, when it comes to ethical considerations, our application is acting in an ethical manner. Since we are simply utilizing it to purchase and sell used books, selling physical books does not involve any sort of printing or duplication. therefore our application won't be the subject of any illegal work.

6.4 Sustainability Plan

The website will offer safety for data. Users can see the amount of books they have purchased and provided, for example. Some basic mathematical techniques are needed for website. Maintaining the system's features is simple. To maintain the system, no more employees are required. This surgery does not come at a high price. Its sustainability is so positive.

6.2 Summary

Books educate, entertain, and widen our perspectives, all of which have a significant positive influence on our lives. They improve our verbal and cognitive abilities, increasing our knowledge and empathy. By giving students a simple way to purchase and sell books, the online book marketplace helps society by saving money and time. By decreasing the demand for new books, it helps the environment by conserving paper and other resources. Since the site just helps with the selling of used books and doesn't include any illicit printing or duplicating, it is morally sound. Without hiring more workers, the sustainability strategy guarantees cost-effectiveness, simple maintenance, and data security.

CHAPTER 7

CONCLUSION AND FUTURE WORK

7.1 Conclusions

The number of people who read books these days increased significantly through the last several years. In their free time, people like reading books, or they read to lessen feelings of sadness, feeling alone and boring. However, not every locality may have the means to purchase books in every category. Again, a lot of people prefer not to purchase expensive books. Additionally unable to purchase fresh books for their child's level class are impoverished parents. Purchasing used books is one way to solve these issues. because used books are being sold for less money. However, used books are only selling in a few large markets. Therefore, not everyone and everywhere can access these. To purchase this book, which is placed in this market, these people must travel.

Our project has finally been finished. The project is designed for people who purchase books frequently or infrequently; both will benefit from it. Additionally, for those who wish to sell their used books in order to make room for the new ones. Also, it will provide a first-time or experienced user with a fantastic interface.

7.2 Further Suggested Works

We aim to update this website with additional features. There is a lot of opportunity to improve the usability of this system in the future. First, we're going to provide them more features. This project is currently exclusive for websites. It is going to be available as a mobile app. We also considered creating an Android app in the future. It will therefore be much simpler for users to use.

7.3Limitations

Every system has a unique set of limitations. Something about the way we work is unique. A few little problems with our system exist. a number of our best efforts to remove limitations, some of them continue are present in our software. Several flaws exist within our system:

- Every time an order is placed, the buyer must manually verify the transaction ID using the provided data, which requires manual input from the users.
- The comment section does not have a reply option.
- Prices with difficulties for delivery.

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Appendix A

Complex Engineering Problems (EP) and Complex Engineering Activities (EA) Analysis

Title: Advance imaging techniques for lung cancer diagnosis with deep learning.

Students ID: 203-15-3912

203-15-3891

CO Description for FYDP

CO	CO Descriptions	PO
Phase -I		
CO1	Integrate recently gained and previously acquired knowledge to identify a web based travel management problem for the Final Year Design Project (FYDP)	PO1
CO2	Analyze different aspects of the goals in designing a solution for this FYDP	PO2
CO3	Explore diverse problem domains through a literature review, delineate the issues, and establish this goals for the FYDP	PO4
CO4	Perform economic evaluation and cost estimation and employ suitable project management procedures throughout the development life cycle of the FYDP	PO11
Phase -II		
CO5	Design and develop technical solutions and system components or processes that meet specified requirements, ensuring compliance with public health and safety standards, as well as considering cultural, socioeconomic, and environmental factors in this FYDP	PO3
CO6	Choose and apply appropriate methodologies, resources, and contemporary engineering and IT technologies to address complex engineering processes, encompassing prediction and modeling, while adhering to relevant constraints in this FYDP	PO5
CO7	Analyze societal, health, safety, legal, and cultural considerations, along with associated responsibilities, in the context of professional engineering practice and the resolution of this problem, employing logical reasoning guided by contextual understanding.	PO6

CO8	Comprehend and evaluate the enduring sustainability and impact of professional engineering endeavors in addressing intricate engineering challenges within social and environmental frameworks.	PO7
CO9	Implement ethical principles and adhere to professional standards and norms in this FYDP	PO8
CO10	Capable of operating proficiently both individually and as a team member or leader across diverse teams and interdisciplinary settings in this FYDP.	PO9
CO11	Proficiently communicate with the engineering community and broader society regarding complex engineering endeavors, including the ability to comprehend and generate comprehensive reports and design documentation, as well as provide and receive clear instructions throughout this FYDP.	PO10
CO12	Acknowledge the importance of self-directed and life-long learning within the evolving landscape of technology, and possess the readiness and capability to engage in lifelong learning endeavors.	PO12

Addressing of COs, Knowledge Profile (K), and Attainment of Complex Engineering Problems (EP):

Engineering Problems (EP):

S N	EP Definition	Attainment	CO	Justification (with Knowledge Profile)	References
1.	EP1: Depth of Knowledge required	Yes	CO1, CO2, and CO3	K3 (Engineering Fundamentals) In the requirement analysis and design in the system design section, we discussed system working activity applying feature software engineering, applying web engineering on data update, data delete and System Prototype. In the system we have discussed users data storage MongoDB Atlas.	Page no: 9-11

				K4 (Engineering Specialization) In Implementation, we have discussed System Prototype using MongoDB Atlas and other technology.	Page no: 18-22
				K5 (Design) In chapter 3 requirement analysis and design section I showed the system working activity. K6 (Technology) In chapter 3 requirement analysis and design we showed technology used for JavaScript as a programming language, JavaScript as a programming language, JavaScript as a programming language, Node as a javaScript Run time ,Express as a Framework ,Cors for cross-origin resource sharing Nodemon for monitoring changes Database and MongoDB Atlas as a Cloud Storage .	Page no: 10-11 Page no: 12
				K8 (Research) In chapter 2 Literature Review section we showed related works based on the similar websites.	Page no: 4-6

2.	EP2: Range of Conflicting Requirements	Yes	CO2	In chapter 2 we discussed Open Issues of similar websites.	Page no: 8
3.	EP3: Depth of analysis required	Yes	CO2	In chapter 2 we showed comparative discussion.	Page no: 6
4.	EP6: Extends of stakeholders involved and conflicting requirements	Yes	CO3	In Chapter 3 requirement analysis, project management, and Chapter 1 Scope and Limitations we showed how we will communicate with users and what the want our website.	Page no: 2 & 13-15
5.	-	Yes	CO4	In Chapter 3 Project Management and Financial Analysis we discussed the cost required for our project.	Page no: 13

Addressing CO11 with Complex Engineering Activities (EA) [Some or all of the following]:

SN	EA Definition	Attainment	CO	Justification	References
1.	EA1: Range of resources	Yes	CO11	This system's development makes use of an integrated team, careful allocations of money for development, marketing, and buildings, as well as tools like VS code as an IDE, Postmon for api testing, Vercel for Hosting and MongoDB as a No-SQL database, MongoDB Atlas as a Cloud Storage ,frameworks, and programming languages for efficient implementation.	Page no:12
2.	EA2: Level of interaction	Yes		In Implementation, we have discussed System Prototype using MongoDB Atlas and other technology.	Page no: 18-22
3.	EA4: Consequences for society and the environment	Yes		This project promotes sustainable online practices for old book stores, ensures ethical concerns such strong safety, and improves website efficiency with a focus on impact to social impact and environmental sustainability.	Page no: 28-29

4.	EA-5: Familiarity	Yes		The Comparative Analysis for "Web Based Online Old Book System" The website excels in user experience, security, and basic functionalities like book upload, buying, and cart management. To surpass competitors, it can introduce advanced features, expand payment options, enhance scalability, conduct regular security audits, and optimize for older browsers.	Page no: 26
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Addressing CO (4, 9, 10, and 12):

SN	COs	Attainment	Justification	References
1	CO4	Yes	In order to effectively distribute funds, analyze expenses, find areas for efficiency while keeping quantity, and mitigate risk, the project integrates financial management approaches, such as budgeting, resource allocation, cost management, and risk mitigation.	Page no: 13-15
2	CO9	Yes	Our application is ethical aspects responsible as it is used for purchasing and selling used books without any printing or duplication, ensuring it is not subject to any illegal work.	Page no: 29
3	CO12	Yes	Prototype design and system testing are key components of the project's implementation phase, which guarantees continuous enhancement and adaptability to new technological trends. Results analysis is used to refine the platform for increased efficacy.	Page no: 18-22

Plagiarism

