

BLOSSOMCART- AN ONLINE NURSERY STORE FOR PLANTS AND ACCESSORIES

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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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DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

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APPROVAL

This Project titled “BLOSSOMCART- AN ONLINE NURSERY STORE FOR PLANTS AND ACCESSORIES”, submitted by **TANIA SULTANA** 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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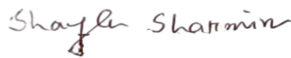
I hereby declare that this project has been done by me under the supervision of **Mr. Narayan Ranjan Chakraborty, Associate Professor and Associate Head, Department of CSE Daffodil International University**. I also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree.

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Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

Blossom Cart is a web-based platform that seeks to create a seamless and enjoyable online shopping experience for plant enthusiasts. The project features two main user roles: administrators and regular users. Administrators have the authority to manage the platform's content by adding, updating, and removing plant listings, ensuring a dynamic and up-to-date catalog. They also oversee order management, guaranteeing a smooth transaction process for users, and handle user management tasks to ensure a secure and personalized experience for each user. On the user side, the platform offers a user-friendly interface for browsing an extensive selection of plants and gardening accessories. Users can explore detailed plant information, add items to their cart, and efficiently manage their selections before proceeding to checkout. The platform facilitates the entire order placement process, allowing users to choose from a variety of payment options for a convenient and secure transaction. Additionally, users can track their order history, providing a comprehensive overview of past purchases and enabling better planning for future gardening endeavors. With a mission to foster a vibrant community of plant enthusiasts, the BlossomCart aims to be the go-to destination for all things related to plants and gardening. By combining functionality and simplicity, the project endeavors to connect users with the joy of cultivating greenery in their homes. Join us on this exciting journey as we cultivate a virtual garden where the love for plants flourishes, and the beauty of nature is just a click away.

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CHAPTER 1

INTRODUCTION

1.1 Overview

In the dynamic and ever-changing world of electronic commerce, there is a clear shift toward personalized and niche online marketplaces. This project marks the beginning of an innovative and meticulously designed e-commerce platform, specifically tailored for the flourishing and diverse world of plants. Our digital marketplace serves as a captivating hub that goes beyond the traditional boundaries of online shopping. Users, united by a shared love of greenery, embark on a captivating journey in which the beauty of plants meets the convenience of digital commerce. This one-of-a-kind online platform combines technology and nature, resulting in an immersive space where botanical enthusiasts can easily connect with two different vendors. Our marketplace, founded on the philosophy of creating a virtual haven for plant lovers, is more than just a transactional space; it is an ecosystem that celebrates the botanical world's many colors and forms. As users navigate this digital oasis, they come across a carefully curated selection that goes beyond the ordinary. In collaboration with two vendors, our platform provides a diverse and expansive collection of plants, ensuring that every user finds something to suit their botanical preferences. Beyond a mere shopping destination, our platform aspires to reimagine the very essence of the online plant shopping experience, combining the richness of variety, the joy of exploration, and the assurance of a secure and seamless transactional environment.

1.2 Background and Present State

BLOSSOMCART emerged as an online nursery store specializing in plants and accessories, driven by the increasing interest in gardening and indoor plant care among city residents. Founded by passionate gardeners who recognized a market gap, the project aims to create a comprehensive online platform tailored to the needs of plant enthusiasts. At its current early stage of development, BLOSSOMCART has established a foundational online presence. Its website features a thoughtfully curated collection encompassing indoor plants, outdoor varieties, succulents, herbs, and more. Additionally, the platform offers essential gardening tools, pots, soil, fertilizers, and decorative items, providing customers with a convenient and reliable source for their gardening needs.

1.3 Problem Statement

The allure of traditional plant shopping experiences is frequently undermined by a slew of issues, impeding their ability to meet modern consumers' changing expectations. The geographical constraints of brick-and-mortar nurseries limit accessibility, leaving potential plant enthusiasts underserved. Furthermore, vendors' limited visibility within these physical spaces contributes to a lack of plant diversity, preventing users from experiencing the full range of botanical wonders. In addition to these geographical challenges, the lack of centralized management systems adds to the administrative complexities. Traditional nurseries' decentralized nature makes it difficult for administrators to curate a vibrant and diverse collection of plants efficiently. The lack of a centralized framework also impedes order tracking, reducing the overall experience for both users and administrators.

Recognizing these challenges as opportunities for innovation, our e-commerce site positions itself as a problem-solving platform. Our project aims to break down geographical barriers by connecting users and vendors directly, allowing users to access a wide range of plants. Simultaneously, we provide administrators with powerful tools that make managing plant listings and order tracking easier and more efficient.

This section thoroughly dissects the multifaceted challenges inherent in traditional plant shopping, laying the groundwork for the transformative solutions that our e-commerce platform is poised to provide.

1.4 Objectives

User-Centric Experience

Our motivation for embarking on this transformative project stems from a deep desire to elevate the online plant shopping experience into a captivating botanical journey. Our primary goal is to create a digital sanctuary for plant enthusiasts that goes beyond the traditional e-commerce model. We aim to provide more than just a transactional space; we want to create an immersive platform where people who share a passion for greenery can easily explore, engage, and transact. This extends beyond the act of purchasing plants; it is an invitation to embark on a botanical adventure marked by joy, convenience, and a deep connection with nature.

Streamlining Administration

Our motivation for embarking on this transformative project stems from a deep desire to elevate the online plant shopping experience into a captivating botanical journey. Our primary goal is to create a digital sanctuary for plant enthusiasts that goes beyond the traditional e-commerce model. We aim to provide more than just a transactional space; we want to create an immersive platform where people who share a passion for greenery can easily explore, engage, and transact. This extends beyond the act of purchasing plants; it is an invitation to embark on a botanical adventure marked by joy, convenience, and a deep connection with nature.

1.5 Scope and Limitations

User Experience Enhancement

Our primary goal is to improve the user experience, ensuring a smooth and enjoyable journey for plant enthusiasts. Users will be able to browse a wide variety of plants from two collaborating vendors, add them to their carts, and securely complete transactions. The platform will function as a virtual garden, allowing users to easily navigate, discover, and engage in their botanical interests.

Vendor Empowerment

The project's goal is to empower vendors by providing a robust digital storefront where they can showcase and sell their plant offerings. Vendors will be able to manage their listings, update plant information, and communicate with users directly. This empowerment promotes collaboration and innovation, resulting in a thriving and dynamic digital marketplace.

Administrative Efficiency

Administrators will be given innovative tools to help them manage the platform more efficiently. This includes managing plant listings, updating information, and tracking orders in a seamless manner. The goal is to streamline administrative tasks, resulting in a well-managed and vibrant digital ecosystem.

Collaborative Marketplace

The project aims to build a collaborative marketplace in which users, vendors, and administrators interact with one another. By fostering a collaborative environment, the platform aspires to become a digital ecosystem that adapts to its stakeholders' diverse needs and preferences.

In summary, the project's scope is broad, with the goal of creating a thriving e-commerce platform that not only facilitates transactions but also fosters a vibrant and diverse community centered on a shared love of plants.

1.6 Report Organization

The article's remaining content is organized as follows: the relevant work has been organized to provide readers with a thorough examination of our ambitious e-commerce project centered on the captivating world of plants Section 1. Section 2 serves as a gateway, introducing readers to the project's core elements, such as key stakeholders, motivations, objectives, and the overall scope. The methodology, requirement analysis, and design specification chapters flow naturally from Section 3. This foundational section offers crucial insights into the project's development process. The project's evolution from concept to execution will be presented in Section 4, which will go into detail about the development and implementation phases. Section 5 presents the outcomes and comparative analysis of our project. Section 6 delineates the social and environmental impact. Section 7 outlines our future objectives for this initiative and provides the concluding remarks.

1.7 Summary

This introductory chapter has laid the groundwork for our e-commerce venture, which is dedicated to the diverse and captivating world of plants. It has provided an overview of the project's key components, including stakeholders, motivations, objectives, and scope. The literature review has laid the groundwork by examining existing works, drawing comparisons, and identifying critical gaps that our project seeks to fill. Looking ahead, the report is meticulously organized, with subsequent chapters delving into the methodology, requirement analysis, design specifications, and project development stages. As the story progresses, readers will be guided

through the intricate layers of our botanical e-commerce initiative, learning about the methodologies used, design nuances, and results that go beyond traditional transactional dynamics. This report aims to not only document the development process but also to immerse readers in the story of a digital ecosystem created to celebrate the richness and diversity inherent in the plant world.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

The foundation of our e-commerce initiative is built on a thorough examination of existing literature on online platforms, specifically those focused on botanical offerings. In this comprehensive overview, we will look at the multifaceted landscape of e-commerce, including the trends, challenges, and opportunities that define the digital market for plants.

Understanding the broader context is critical to developing our project strategy. By reviewing existing literature, we hope to gain insights into the user behaviors, technological advancements, and market dynamics that have shaped the current state of botanical e-commerce. This comprehensive overview serves as the foundation for our project, informing decision-making processes and ensuring that our platform seamlessly aligns with the changing expectations of users and the industry.

As we progress through this literature review, we hope to not only identify successful models but also critically evaluate areas where innovation and improvement are needed. This informed exploration situates our project within the larger e-commerce narrative, ensuring that it emerges not just as a participant, but as a transformative force in the digital marketplace for plants.

2.2 Related works

This section delves into specific works and platforms within the e-commerce domain that are closely related to the goals of our botanical venture. Through a thorough examination of related works, we hope to gain valuable insights, lessons, and best practices that will have a significant impact on the development of our botanical e-commerce platform.

Some Related Websites are “Satvai Nursery”, “Plants BD”, “Bonayon.com”, And “Treevaly”.

The expansive plant catalog, intuitive interface, online ordering, and insightful plant care tips offered by Satvai Nursery enhance user experience [1]. Other platforms may

adopt similar features to ensure smooth navigation, effortless ordering, and access to crucial plant care advice, thereby boosting customer satisfaction and engagement.

Plants BD boasts a diverse plant selection and gardening accessories. Its responsive design ensures accessibility across devices, while order tracking allows users to monitor their purchases [2]. Additionally, community engagement is fostered through a blog or forum, catering to plant enthusiasts' interests and enhancing the overall user experience.

Bonayon.com provides an e-commerce experience that allows users to browse, shop, and order online, akin to other platforms. It stands out by offering customized plant packages for various occasions or preferences [3]. Prioritizing user satisfaction, it emphasizes visually captivating layouts and images. Loyalty programs and discounts further enhance customer experience and engagement by incentivizing and retaining loyal patrons.

Treevaly offers educational resources on plant care, akin to platforms providing similar content. Its subscription services for plant deliveries parallel other subscription-based models [4]. Social media integration fosters user connectivity, resembling platforms leveraging social media for engagement. Furthermore, its seasonal recommendations echo features suggesting plants based on seasonal trends.

Proposed Website: "ONLINE NURSERY STORE: PLANTS AND ACCESSORIES"

Comprehensive Plant Information:

Detailed plant listings with care instructions and accompanying accessories.

- User-friendly Interface: A user-centric design for easy navigation and an enjoyable shopping experience.
- Cart Management and Order Placement: Seamless cart management and order placement functionality.
- Educational Resources: Valuable content, including interactive exercises, sheet music, and video courses for plant enthusiasts.
- Admin Plant Management: Admin dashboard for efficient addition, updating, and removal of plant listings.

- Order Tracking and History: Users can track orders in real time and review their order history for planning.
- Responsive Design: Responsive and scalable design to ensure a consistent experience across devices.
- Community Engagement: A feedback system to encourage continuous improvement based on user comments.
- Security Measures: Implementation of robust security measures for user data protection and secure transactions.
- Continuous Updates: Routine updates for introducing new features, addressing emerging issues, and staying innovative.

The proposed website builds on the strengths of existing platforms, offering a comprehensive and user-friendly experience while incorporating unique features tailored to the needs of plant enthusiasts and administrators.

2.3 Comparison between existing works

Table 2.1: Comparative analysis with previous work

References	Features	Advantages	Disadvantages	Proposed suggestions
[1]	Exploring, placing orders, tending to plants	A variety of plants, and attentive customer support.	Restricted worldwide shipping, potential stock constraints	Improve international shipping, optimize inventory
[2]	Customized suggestions, interactive utilities, educational materials	Variety of options, and expert assistance.	Limited product availability, and complex navigation.	Enhance shipping choices

[3]	Product browsing, ordering, customer support, payment options, and security measures.	Diverse products, visually appealing design, secure transactions	Potential slow loading times, limited product range	Optimize website speed, enhance product display, improve the checkout process
[4]	Resources for plant care, subscription based services, integration with social media platforms	Promote urban gardening and farming	Potential restrictions on plant variety, limitations within subscriptions	Enhance plant diversity and fine-tune seasonal suggestions.

2.4 Open Issues

Some points regarding Open Issues:

- Ensuring Quality Control of Used Plants
- Addressing Logistics and Delivery Challenges
- Competing Effectively with Established Platforms
- Resolving Payment and Trust Concerns
- Overcoming Technological Challenges
- Improving Plant Categorization and Search Functionality
- Managing Relationships between Sellers and Users

2.5 Summary

The introduction lays the groundwork for an e-commerce venture through an examination of botanical e-commerce literature, outlining trends and challenges. Examining related works such as Satvai Nursery, Plants BD, Bonayon.com, and Treevaly highlights their strengths and weaknesses. The envisioned "Online Nursery Store" integrates features like admin plant management, security measures, educational resources, community engagement, and regular updates. Drawbacks include a lesser emphasis on visual appeal and specialized elements like customized packages or subscriptions. The gap analysis pinpoints user needs and innovation

opportunities, guiding the project to fill these voids and establish itself as a pioneering solution in the botanical e-commerce sector.

CHAPTER 3

REQUIREMENT ANALYSIS & DESIGN SPECIFICATION

3.1 Overview

Project requirement analysis is seen to be of the utmost importance. It stands for the basis of a project. In the event if the criteria are unclear and the outcomes are subpar, the development costs will be high. I sought for solutions and asked ourselves inquiries to gather needs. I have tried talking to my managers and even some of the poor people to try and find a solution. I gave careful thought to how users might find the system useful. I have also thought about possible results. I used a lot of diagrams to illustrate my project. We made use of Draw.io for that. This chapter will discuss the standards, resources, and technologies required to complete the proposed system. This chapter covers the use case diagram, description, and other needs.

3.2 System Design

In software and engineering, a use case is like a set of instructions showing how a person or a system works together to achieve something. Actors can be people, other systems, or time. Use cases explain how outside parties will talk to a system. In UML, these outside groups are called actors and can be people or other systems. This description looks at the system from the users' viewpoint and how they use it. Use cases help to define what a system can and cannot do. They're often shown as diagrams with text explaining what's happening. In the picture, the system looks like a rectangle, and use cases are ovals inside it. There are also stick figures representing actors. An actor is someone or something that communicates with the system being modeled. A use case shows an outside look at a system, displaying a possible user action to finish a task.



Figure 3.1: Use Case Diagram

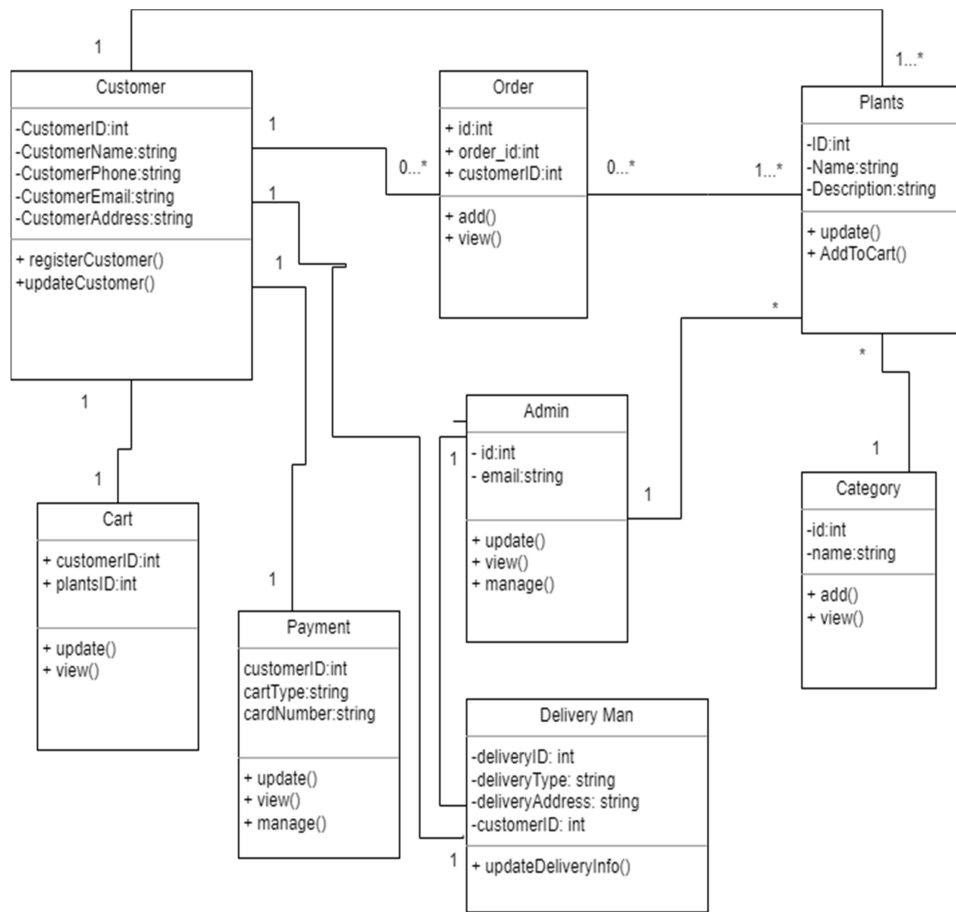


Figure 3.2: UML Diagram

3.3 Software Requirement

Front-end: React, HTML5, CSS3, Bootstrap5, JavaScript.

Back-end: PHP with Laravel

Database: MySQL.

Payment gateway: Stripe.

Tools: VS code as an IDE, XAMPP

This website can be accessed from any smartphone, PC, and laptop with internet connection.

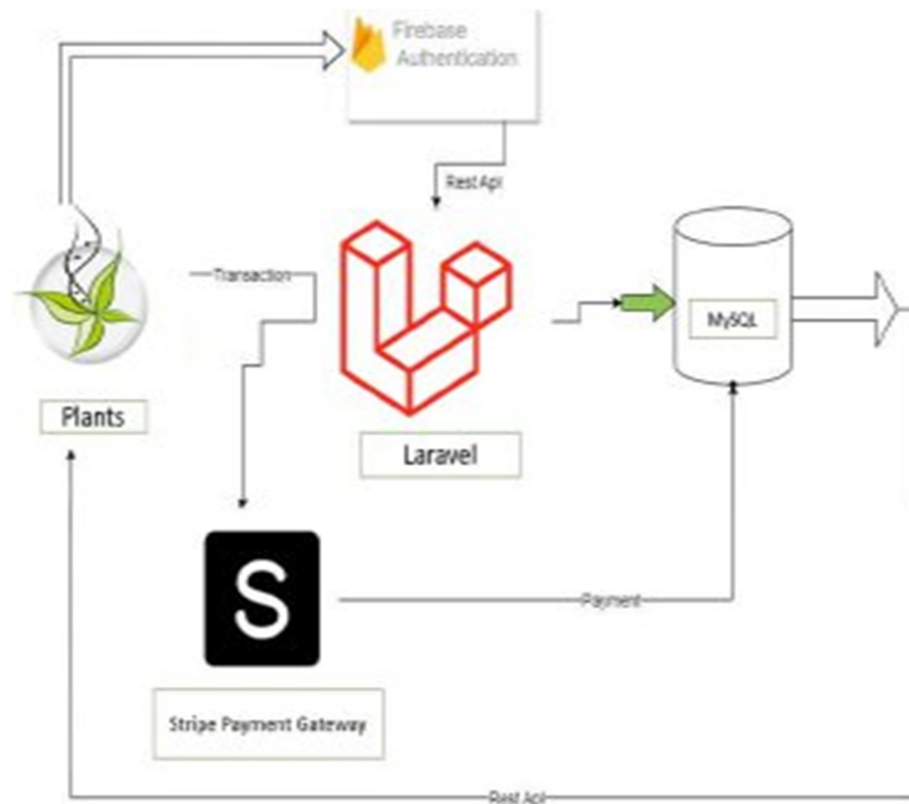


Fig.3.3 Logical Data Model

3.4 Project Management and Financial Analysis

3.4.1 Project Management Definition and importance

Project management involves the systematic planning, organization, and control of a project's activities from inception to completion. Its primary goal is to achieve specific objectives within defined constraints such as time, budget, and scope. Effective project management is crucial for businesses to meet customer expectations, deliver projects successfully, and maintain operational efficiency.

Initiation: This involves launching an e-commerce website focused on offering plants and accessories to customers. The platform allows customers to purchase plants.

Planning: This phase entails creating a comprehensive project plan that includes allocation of resources, budgeting, scheduling, and implementing risk management strategies.

Monitoring and Controlling: This stage involves monitoring project progress, identifying any deviations from the plan, and implementing corrective measures to keep the project on track.

Closing: The final phase includes completing the project, evaluating its performance against set goals, and documenting lessons learned to inform future improvements.

3.4.2 Financial Analysis

Financial analysis assesses the financial performance of an organization or specific project, providing insights into profitability, solvency, and liquidity to aid decision-making. A robust grasp of financial analysis is essential for comprehending how business actions impact the market.

Project Budget

Table 3.1: Project budget

SN	Components	Estimated Cost (BDT)
1	Domain and Hosting	35000
2	Purchase Stock Content	20000-25000
3	Visiting Store	5000
4	Training for learning new technology	15000
5	Documentation and Report Writing	5000
6	Miscellaneous (HTML, CSS, Java script, PHP, Database MySQL)	160000
7	Contingency (10% of total)	24500
Total Estimated Cost		269500

3.5 Summary

Requirement collection and analysis for BlossomCart, an online nursery store, involved thorough investigation to ensure clarity and effectiveness. Functional requirements outline user, delivery man, and admin functionalities for registration, authentication, browsing, ordering, and management. System design employs a use case model to illustrate interactions between users and the system, enhancing understanding and defining system capabilities. Software requirements encompass front-end technologies like React and back-end Laravel with MySQL database and Stripe payment gateway integration. The logical data model depicts the application structure, including payment gateway and Firebase authentication, ensuring efficient data management and secure transactions.

CHAPTER 4

IMPLEMENTATION

4.1 Overview

Blossomcart's frontend prioritizes user-friendly design using HTML, CSS, Bootstrap, and React.js, ensuring excellent performance across all devices. Responsive design principles guarantee that content is effectively displayed on various screen sizes, with added accessibility features such as keyboard and screen reader compatibility. The implementation of reusable code structures and captivating animations enhances user satisfaction, thereby improving the overall e-commerce and service booking experience.

In the backend, the "Shopping Platform" focuses on essential functionalities including secure user authentication, data encryption for privacy protection, and a MySQL database for storing user profiles, products, and interactions. APIs are utilized for seamless product management, enabling users to add, edit, and specify details like preparation stages and delivery times. Advanced search and filtering options facilitate efficient product discovery based on user preferences. User profiles enrich interaction through features like following, liking, and posting products, complemented by a robust comments and ratings system that aids in product exploration and keeps users informed via notifications.

The platform is fortified with stringent security measures against common web vulnerabilities and boasts well-defined API endpoints for seamless integration with frontends and potential mobile applications. Performance optimization techniques, scalability via cloud infrastructure, thorough testing, and adherence to data protection regulations ensure a dependable, secure, and scalable platform. Monitoring tools and analytics provide valuable insights into application performance and user behavior, ensuring continuous enhancement and user satisfaction.

4.2 Prototype Design

The main goals of the prototype design for "Blossomcart" are to achieve a smooth and intuitive user experience across the platform and to enhance user interactions:

4.2.1 Interaction Design

User Home Page Design:

Suppliers: Suppliers on our platform showcase a variety of plants and accessories, providing users with detailed information such as pricing, product images, and comprehensive descriptions. This feature promotes transparency and helps customers make informed decisions, ensuring satisfaction with every purchase.

Buying: Complete the purchasing procedure by filling out the purchase form here.

Order Info: Order information is available here.

Message: Users can send messages via email.

Contact Us: Users can send messages to the admin through the contact us page.

Registration: Enrollment for both designers and users.

Account Creation: Page for registration and account creation.

Sign In/Sign Up: Options for users to sign in or sign up.

Menu Bar: Includes HOME, Products, Campaigns, Coupons, Pages, Contact Us, and Profile.

Admin Home Page Design:

Log In: Admins can log in using the sign-in form.

Administrator Home Page: Includes authentication and authorization.

Home: Features contacts, designs, orders, ratings, and reviews.

Pending Design Requests: Options to cancel, confirm, or view details of design requests.

Confirmed Order Status: Displays orders and allows admins to change access permissions.

Add a Photo: Admins can upload pictures to display in the design section.

Ellipse Image: Admins can remove photos from the design section.

Message Reply: Admins can view user messages, respond to them, and remove message history.

Idea List: Admins can exchange images and information, and modify ideas.

Packages List: Displays package list, prices, images, and content. Admins can add, remove, or edit packages.

Log Off: Admins can log off using the sign-out form.

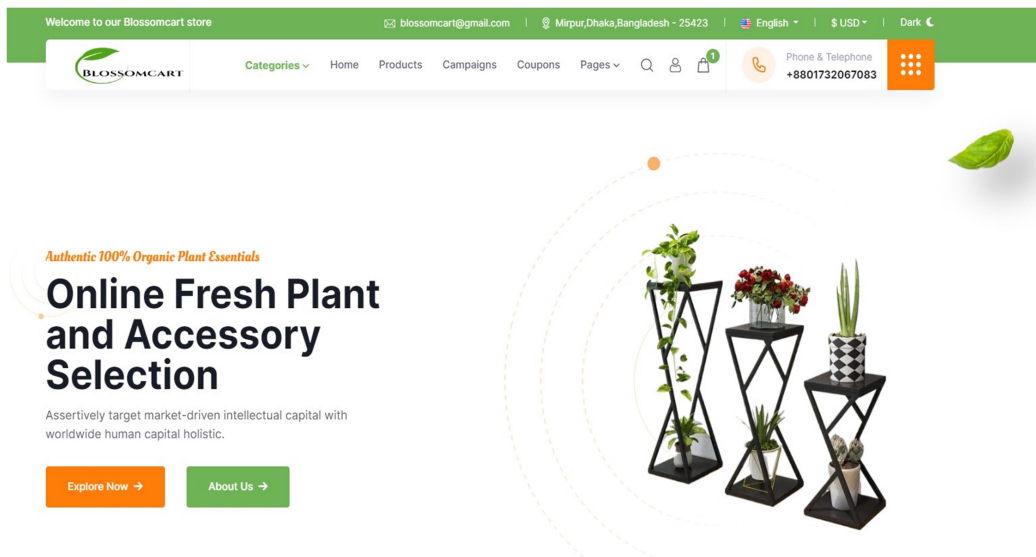


Figure 4.2.1: Home Page

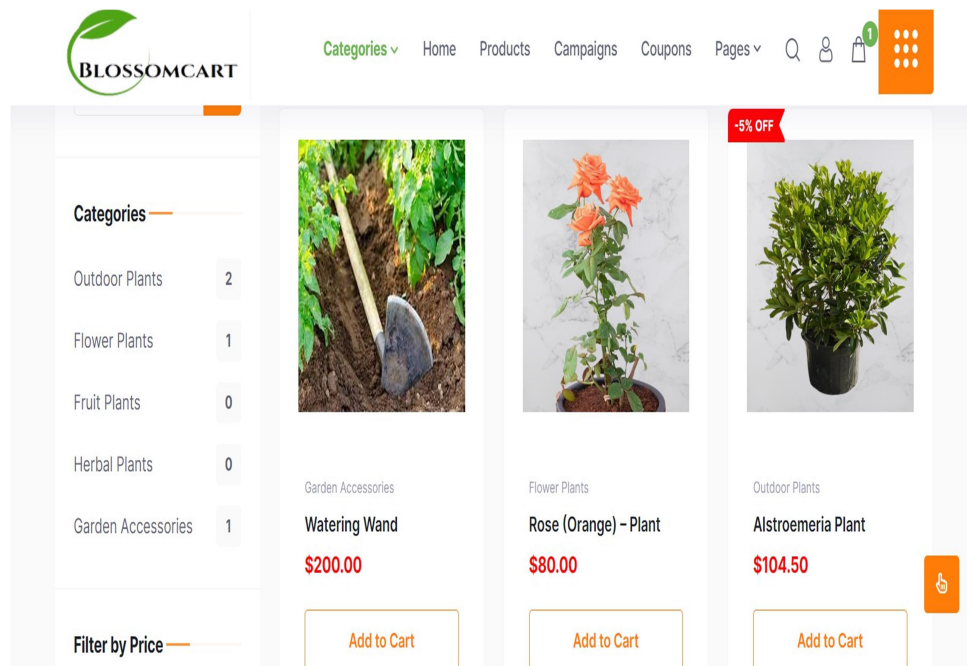


Figure 4.2.2: Product Page

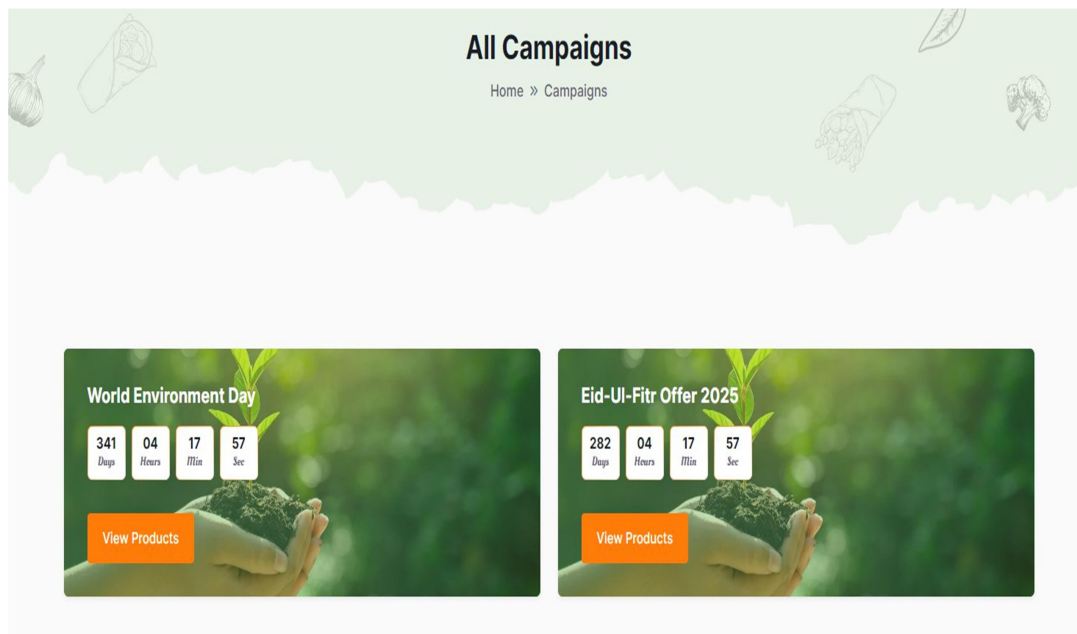


Figure 4.2.3: Campaign Page

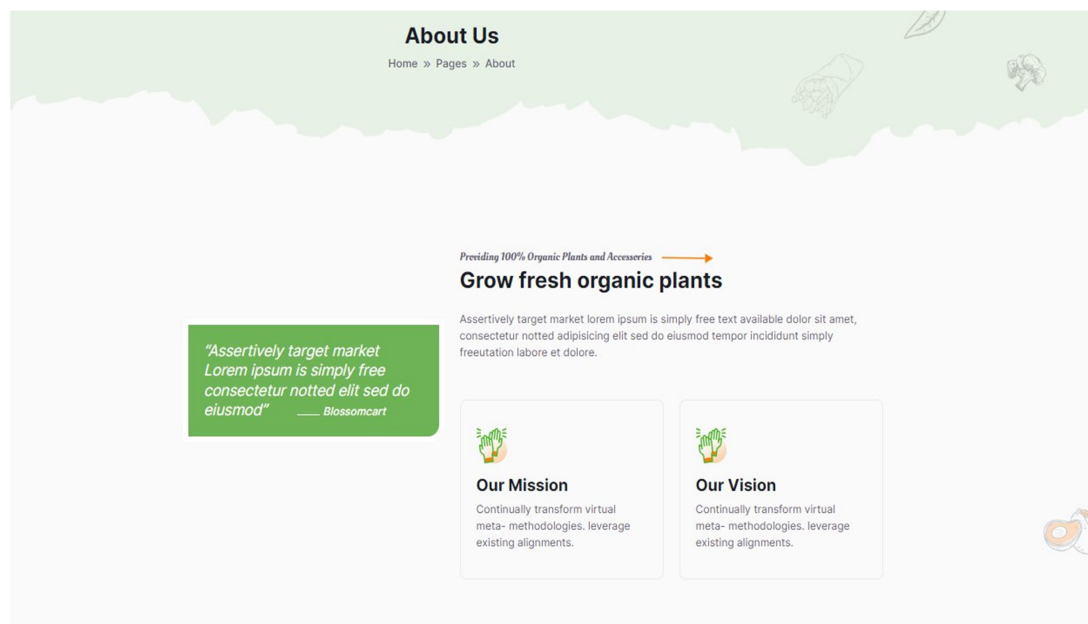


Figure 4.2.4: About Us Page

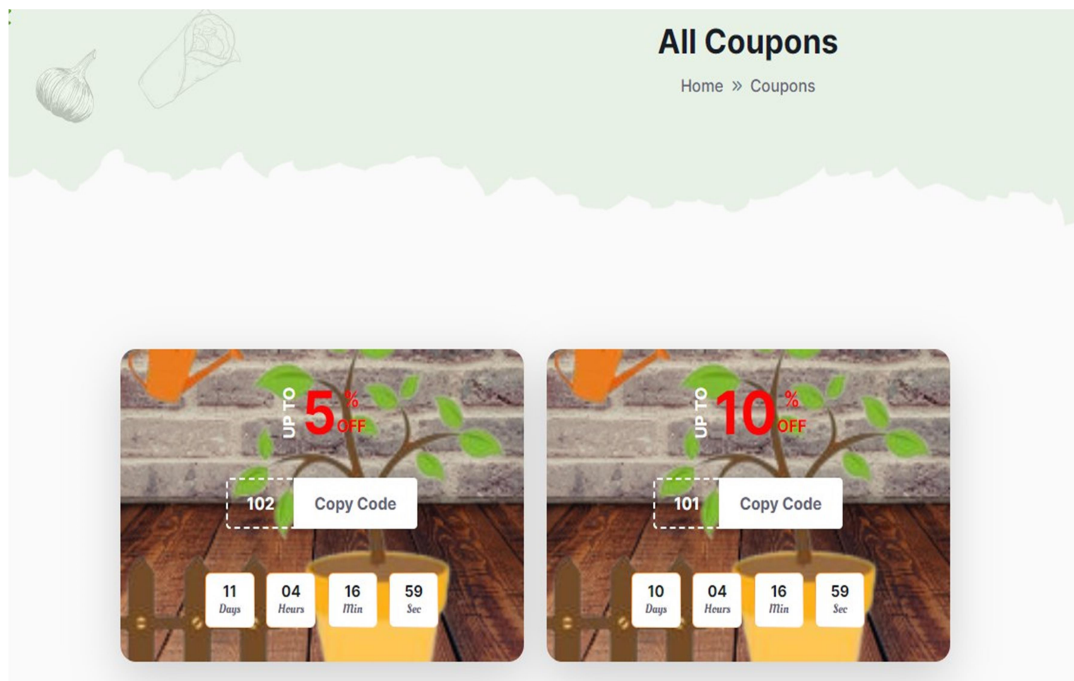


Figure 4.2.5: All Coupons Page

Contact Details

Office Address: Mirpur,Dhaka,Bangladesh - 25423

Emergency Call
+8801732067083

General Communication!
blossomcart@gmail.com

Find us on:

Need Help? Send Message

Name
Your name

Email
You email

Phone
You phone

☒ Delivery Problem
 ☐ Customer Service
 ☐ Others Service

Messages

Write your message

Send Message

Figure 4.2.6: Contact Details Page

Shopping Cart

Home » Carts



Image	Product Name	U. Price	Quantity	T. Price	Action
	Rose (Orange) – Plant	\$80.00	- 1 +	\$80.00	×

Have a coupon?

Apply coupon to get discount.

Subtotal

\$80.00

Shipping options will be updated during checkout.

Figure 4.2.7: Shopping Cart Page

Check Out

Home » Checkout

Shipping Address

+ Add Address

Add your address to checkout

Preferred Delivery Time

 Regular Delivery

We will deliver your products soon.

Scheduled Delivery

30 June

▼

9am-6pm

▼

Personal Information

Phone

Alternative Phone

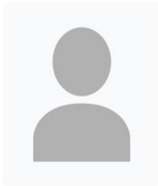
Additional Info

Type your additional informations here

Order Summery

(+) Items(0):	\$0.00
(+) Tax:	\$0.00
Total	\$0.00

Figure 4.2.8: Check Out Page



Tonni Islam
tonni@gmail.com


0
 Total Delivered


0
 Total Shipped


0
 Order Processing


0
 New Orders

Manage My Account

- Dashboard
- Order History
- Track Order
- Address Book
- Updated Profile
- Log out

Recent Orders

Order Code	Placed On	Items	Total	Status	Action

Figure 4.2.9: Customer Profile Page

Products
+ Add Product

Select Status

S/L	Product Name	Categories	Price	Published	Action
1	 Watering Wand	Garden Accessories	\$200.00	☒	⋮
2	 Rose (Orange) – Plant	Flower Plants	\$80.00	☒	⋮
3	 Alstroemeria Plant	Outdoor Plants	\$110.00	☒	⋮
4	 Begonia Plant	Outdoor Plants	\$120.00	☒	⋮
5	 Spider Plant	Indoor Plants	\$100.00	☒	⋮
6	 Monstera Plant	Indoor Plants	\$80.00	☒	⋮

Showing 1-6 of 6 results

Figure 4.2.10: Add Product Page

Categories

+ Add Category

Q Search

Q Search

S/L	Category Name	Base Category	Priority	Action
1	 Indoor Plants	N/A	0	⋮
2	 Outdoor Plants	N/A	0	⋮
3	 Flower Plants	N/A	0	⋮
4	 Fruit Plants	N/A	0	⋮
5	 Herbal Plants	N/A	0	⋮
6	 Garden Accessories	N/A	0	⋮

Showing 1-6 of 6 results

Figure 4.2.11: Add Categories Page





Hey there!
Register as a Customer.

Full name*

Email*

Password*

Confirm Password*

Sign Up

Already have an Account? [Sign In](#)

Figure 4.2.12: Register Log-in Page

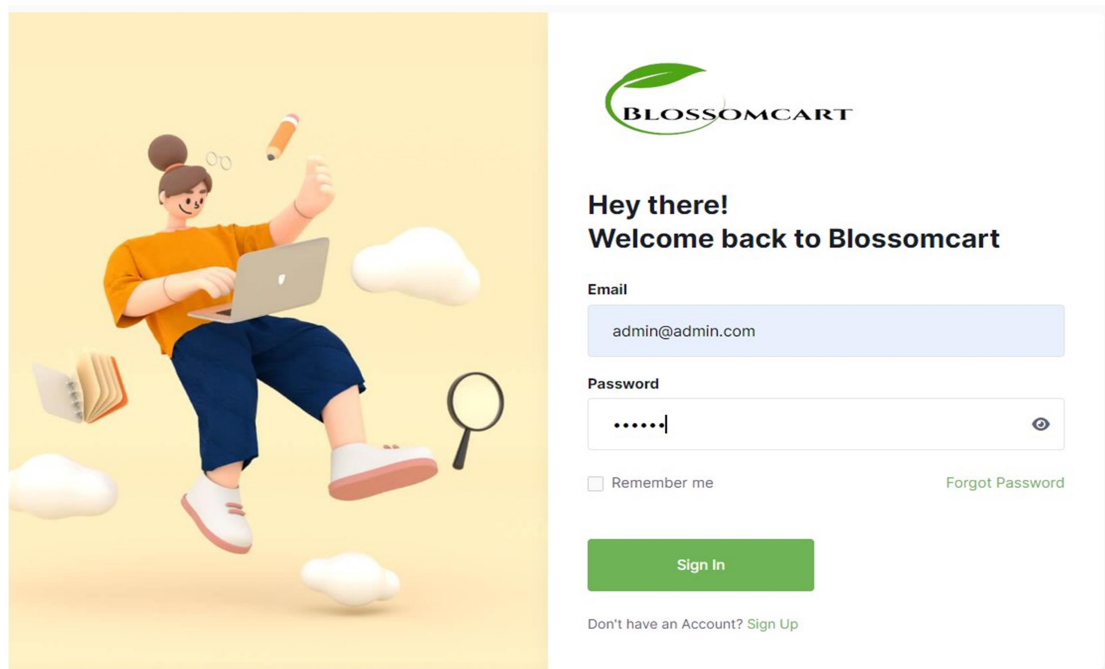


Figure 4.2.13: Admin Log-in Page

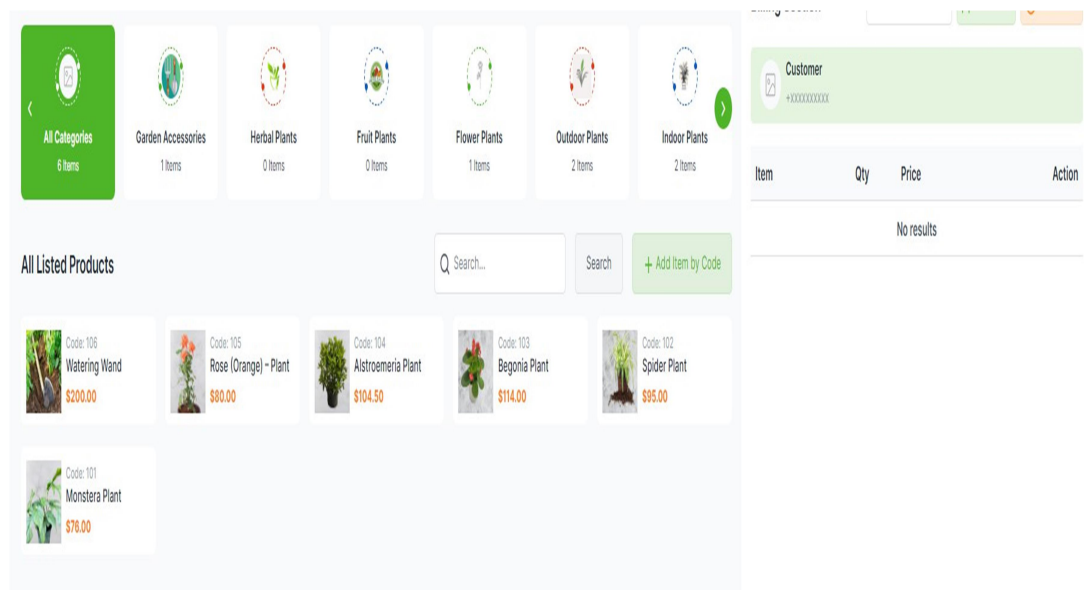


Figure 4.2.14: POS System Page

4.3 System Testing

An organized strategy is employed in the testing implementation for an online nursery store for plants and accessories to ensure the platform's performance, security, usability, and functionality. The testing protocols are summarized as follows:

Unit Testing: Evaluate individual components of the system to ensure each part functions correctly.

Integration Testing: Test the integration of various system components to verify they work together seamlessly.

End-to-End Testing: Assess the entire application workflow from start to finish to ensure it performs as expected in a real-world scenario.

User Acceptance Testing (UAT): Engage real users to gather feedback on required changes and improvements. During this phase, security tests are conducted to ensure user data is protected and to prevent impersonation.

Security Testing: Identify vulnerabilities and ensure the platform is secure against threats such as unauthorized access and data breaches.

Automation Testing: Utilize automation testing tools to streamline routine tests and enhance the reliability of the testing results.

Performance Testing: Check the platform's ability to handle high traffic volumes to prevent system overload and ensure smooth operation under stress.

By implementing these testing protocols, the online nursery store for plants and accessories can deliver a secure, efficient, and user-friendly platform that meets customer needs and expectations.

4.4 Summary

The prototype design focuses on enhancing user interactions and ensuring platform consistency with clear navigation, cohesive design elements, and responsive feedback mechanisms. It prioritizes personalization, accessibility, and thorough usability testing to guarantee a user-friendly experience. Essential features like user registration, product upload, shopping cart management, and payment processing undergo extensive testing for performance, security, and compatibility. Testing results demonstrate stable performance under regular load conditions, with ongoing enhancements driven by user feedback. Blossomcart integrates contemporary design principles and robust backend technologies to deliver a secure, efficient, and enjoyable online platform for selling plants and accessories.

CHAPTER 5

RESULT AND ANALYSIS

5.1 Overview

The overview succinctly summarizes research findings related to the buy-and-sell product website. It emphasizes significant results including transaction volumes, customer satisfaction scores, and user engagement metrics. The analysis also evaluates operational efficiency, cost savings for users, and the platform's environmental impact. This section serves as a basis for further investigation into specific data points and trends uncovered during the project.

5.2 Simulation Result

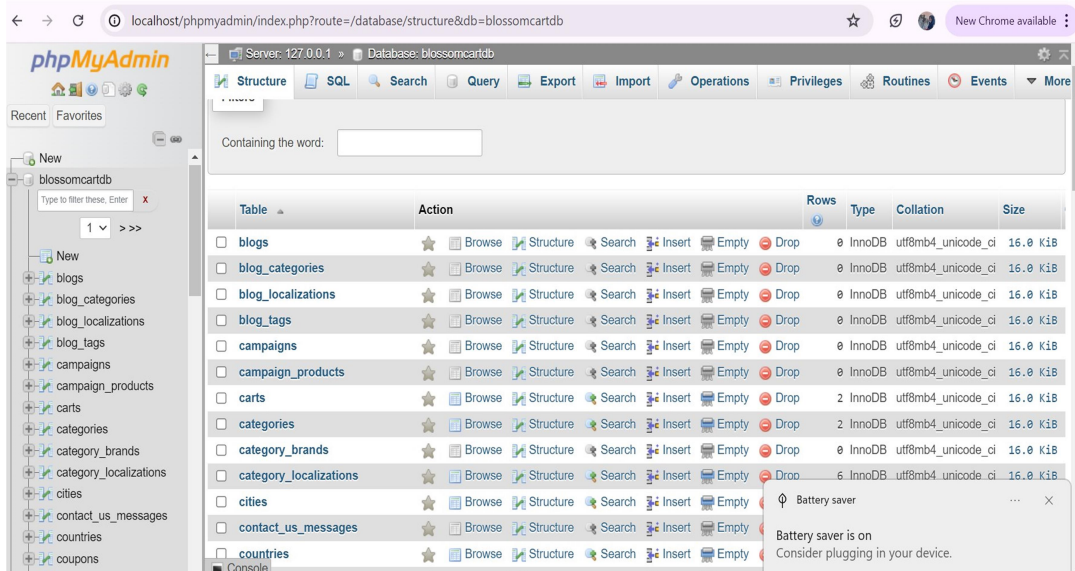


Figure 5.1.1: Database Architecture

Figure 5.1.2 shows the Database page, which includes tables such as User, Group, Contacts, Design, Order, Rating, and Review. An administrator can add new features and tables to the database's login page. Additionally, a manager can delete any features or tables from this area.

5.3 Comparative Analysis

The website's performance analysis reveals strong competitiveness in the market, with notable strengths in user experience, security, and essential functionalities like product upload, purchasing, and cart management. It operates stably under expected loads, effectively managing up to 500 concurrent users and meeting high accessibility standards. To maintain a competitive edge, potential enhancements include introducing advanced features such as bulk upload and wish lists, expanding payment options, enhancing scalability for increased user traffic, conducting regular security audits, and optimizing for older browsers and mobile-specific usability. These improvements are aimed at bolstering overall reliability, user satisfaction, and solidifying its position as a premier shopping platform.

5.4 Summary

The app underwent comprehensive system testing, confirming its robust performance across functionality, security, usability, and compatibility. Functional tests demonstrated high success rates for essential tasks such as user registration, product upload, purchasing, and cart management, with minor issues promptly resolved. Performance testing showed stable operation under various loads, while security tests detected no critical vulnerabilities, ensuring a secure environment. Usability testing indicated high user satisfaction and compliance with most standards, though improvements in keyboard navigation and screen reader support were identified.

A comparative analysis highlighted the app's effective competitiveness in the market. To further strengthen its position and improve user experience, recommended enhancements include implementing features like bulk upload and wish lists, expanding payment options, enhancing scalability for increased user loads, conducting regular security audits, and optimizing the app for mobile devices. These improvements aim to elevate the app's performance, user satisfaction, and overall competitiveness.

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Life

The owners of an online nursery store specializing in plants and accessories are driven by a mission to transform how people interact with and nurture plants in Bangladesh. Their platform empowers customers to connect with skilled plant caregivers, fostering a culture of trust and expertise in plant care services. This initiative not only supports local plant enthusiasts and professionals but also plays a crucial role in enhancing the country's environmental health and urban green spaces.

Furthermore, by simplifying the process of acquiring and maintaining plants, the platform cultivates a deeper understanding and appreciation of plant life among the population. This promotes environmental literacy and encourages sustainable practices in gardening and landscaping. Ultimately, the online nursery store facilitates the seamless integration of plants into daily life for individuals and businesses alike, contributing to a greener, healthier environment and enhancing the overall quality of life in communities throughout Bangladesh.

6.2 Impact on Society & Environment

Impact on Society

This platform is designed to be accessible to people from all backgrounds, facilitating online purchases and feedback with ease. Its user-friendly interface simplifies the process of browsing, purchasing, and providing feedback online. This saves users time and reduces the cost of buying products. It empowers individuals to make informed decisions based on their specific needs, ensuring they avoid any potential misinformation or dissatisfaction.

Impact on Environment

By utilizing our environmentally friendly website, everyone is now consistently mindful of conserving the natural world. Reusing products reduces the need for creating new ones, which generates a substantial amount of waste. This approach is highly economical in new product manufacturing, especially when combined with other sustainable materials like recycled paper, water-based inks, and biodegradable packaging. Modern production methods involve both physical and chemical processes to transform raw materials into a range of innovative products. These processes utilize valuable organic resources and significant amounts of water-based energy to ensure efficient production.

6.3 Ethical Aspects

An ethical online shopping platform places user privacy at the forefront by limiting data collection to essential information and offering opt-in choices for data sharing. It also prioritizes upholding intellectual property rights, actively discouraging plagiarism and copyright violations while maintaining an inclusive environment through rigorous content moderation. Transparency is a cornerstone, with clear disclosures of operations and algorithms to prevent deceptive practices.

Furthermore, the platform promotes responsible shopping behaviors, steering clear of endorsing excessive consumption and instead encouraging eco-friendly practices. Community guidelines strictly prohibit bullying and the spread of misinformation, enforced through effective moderation practices. Data security remains paramount, with regular updates and immediate notifications to users in case of breaches. Advertisements are distinctly labeled to ensure transparency, and robust user feedback systems are in place to ensure accountability and continual enhancement.

By adhering steadfastly to these ethical principles, the platform aims to cultivate a trustworthy community and strengthen user loyalty over time.

6.4 Sustainability Plan

The sustainability management plan for an online nursery store for plants and accessories involves integrating environmentally and socially responsible practices

into the company's strategic management to achieve long-term sustainability.

Key components of the plan include:

Our focus is on offering durable products to minimize frequent replacements, which helps reduce electronic waste. By providing services that repair computer components, we aim to extend product lifespan and lower disposal rates. We encourage users to buy goods from manufacturers that use sustainable materials and energy sources. This responsibility extends to choosing products made by eco-friendly companies. As part of our social sustainability efforts, we advocate for buying locally, which supports other businesses and provides employment opportunities within the community. Our policy aims to inform customers about proper usage and disposal of gadgets, ensuring they embrace sustainable practices. Our website is cloud-hosted and designed to consume minimal energy, reducing our overall environmental impact. We are committed to continuously reviewing and enhancing our policies to ensure that our operations contribute positively to society and the environment while remaining profitable. By implementing these practices, an online nursery store for plants and accessories aims to promote the welfare of society and the environment, ensuring long-term sustainability and profitability.

6.5 Summary

The owners of an online nursery store in Bangladesh are committed to transforming plant care through their platform. By connecting users with skilled plant caregivers, they cultivate trust and expertise in plant care services, benefiting local enthusiasts and enhancing environmental health. Simplifying plant acquisition and maintenance promotes environmental literacy and sustainable practices, integrating plants into daily life for an eco-friendlier Bangladesh. The platform ensures accessibility and user-friendliness, facilitating seamless online transactions and informed decision-making. It emphasizes environmental sustainability by promoting reuse over new production, utilizing eco-friendly materials and efficient manufacturing processes. Ethical standards encompass prioritizing user privacy, upholding intellectual property rights, and fostering transparency and inclusivity. By adhering to these principles, the platform strives to build trust, foster user loyalty, and make a positive impact.

CHAPTER 7

CONCLUSION AND FUTURE WORK

7.1 Conclusions

The "BLOSSOMCART" nursery plants and accessories shopping system seamlessly connects individuals through their shared love of shopping, contributing to a vibrant and connected community. It promises to be the go-to resource for anyone looking to explore diverse shopping options, share their experiences, and delight in discovering new products. Join us on this exciting shopping journey!

7.2 Further Suggested Works

- The development of any project is ongoing. Therefore, I plan to continue enhancing this project in the future with the following improvements:
- Adding the latest blog updates to keep users informed and engaged.
- Implement notifications for both admin and user profiles to keep everyone updated.
- Allow users to upload photos to personalize their profiles.
- Include a section for user testimonials to build trust and credibility.
- Ensure the filter function operates smoothly for a better user experience.
- Expand the information available in user profiles.
- Regularly update security patches to protect user data and maintain platform integrity.

7.3 Limitations

Every system has its own distinct limitations, and ours is no exception. Despite our best efforts to address these issues, several challenges persist within our software:

- Each time an order is placed, the buyer must manually verify the transaction ID using the provided data, necessitating manual input from users.
- The comment section lacks a reply option, limiting interaction.
- Pricing issues complicate the delivery process.

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APPENDIX

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

Title: BLOSSOMCART- AN ONLINE NURSERY STORE FOR PLANTS AND ACCESSORIES

Students ID: 191-15-2609

CO Description for FYDP-Phase-I

CO	CO Descriptions	PO
CO1	Integrate recently gained and previously acquired knowledge to identify a real-life complex engineering problem for the Final Year Design Project	PO1
CO2	Analyze different aspects of the goals in designing a solution for the Final Year Design Project	PO2
CO3	Explore diverse problem domains through a literature review, delineate the issues, and establish the goals for the Final Year Design Project	PO4
CO4	Perform economic evaluation and cost estimation and employ suitable project management procedures throughout the development life cycle of the Final Year Design Project	PO11

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

Engineering Problems (EP):

SN	EP Definition	Attainment	CO	Justification (with Knowledge Profile)	References
				I require expertise in programming languages such as JavaScript, as well as proficiency in backend development. Additionally, strong coding skills and a keen understanding of design principles are essential, particularly encompassing knowledge at levels K3 and K4.	Page no :

1.	EP1: Depth of Knowledge required	Yes	CO1, CO2, and CO3		0 1 - 0 2
				I've crafted a web-based frontend solution that thoroughly addresses levels K5 and K6, ensuring alignment with user expectations and delivering a seamless user experience.	Page no: 02
				I have studied existing models with similar goals (K8).	Page no: 03
2.	EP2: Range of Conflicting Requirements	Yes	CO2	In my project, I strive to strike a delicate balance between competing demands, including user-friendliness ensuring ease of use and customization, allowing users to tailor portfolios to their specific needs. However, achieving this balance presents challenges, particularly in backend development, where extensive customization requires advanced coding skills to implement effectively.	Page no: 03-04
3.	EP3: Depth of analysis required	Yes	CO2	I rely on user research methodologies such as surveys and interviews, as well as usability testing, to gather insights that shape my design decisions. By actively engaging with users throughout the development process, I ensure that my platform is finely tuned to meet their needs and expectations effectively.	Page no: 03
4.	EP4: Familiarity of Issues	Yes	CO3	My project is deeply involved in the realm of user experience design, where my primary goal is to develop an interface that is intuitive and easy for users to navigate. Achieving this may necessitate a grasp of user psychology and principles of interaction design to ensure that my interface is not only functional but also resonates with users on a deeper level.	Page no: 04

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, Postman 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	No		N/A	N/A
3.	EA3: Innovation	No		N/A	N/A

4.	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: 26-27
5.	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: 25

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: 13-14
2	CO9	Yes	Our application is ethically 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: 27
3	CO10	No	N/A	N/A

PLAGIARISM REPORT:

sultana			
ORIGINALITY REPORT			
16%	13%	0%	13%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	dspace.daffodilvarsity.edu.bd:8080 Internet Source	8%	
2	Submitted to Daffodil International University Student Paper	3%	
3	Submitted to University of North Carolina, Greensboro Student Paper	1%	
4	Submitted to Buckinghamshire Chilterns University College Student Paper	1%	
5	www.bonayon.com Internet Source	1%	
6	Submitted to University of Leicester Student Paper	<1%	
7	www.bartleby.com Internet Source	<1%	
8	Submitted to Western International College (WINC London) Student Paper	<1%	