PROJECT REPORT ON

GROWSPHERE E-COMMERCE WEBSITE

SUBMITTED BY

ASMIT YADAV

ANIKET SHARMA

(TY BBA-CA)[SEM VI]

UNDER GUIDANCE

PROF. DEEPAK SINGH

PROF. MONALI MEGHAL

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IN FULFILLMENT OF BACHELORS OF BUSINESS ADMINISTRATION

(COMPUTER APPLICATION)

2024-25

Declaration

I hereby declare that the project report entitled “Growsphere ECommerce Website” is original work done by us & not submitted at any other purpose earlier. It is my own contribution in fulfilment of the requirement for the award of Degree BBA(CA).

Place: Pune

Date:

(Sign)

Acknowledgement

I am grateful to Suryadatta College of Management, Information, Research and Technology for providing me this opportunity to work on this topic I have taken efforts on this project. However, it would not have been possible without the kind support of Faculties, Teachers. I also Extent My Gratitude to SPPU for Designing this Course. My sincere Thanks to project guide Prof. Deepak Singh and Prof. Monali Meghal who not only encouraged me through his venture but also took great efforts, giving valuable suggestions and correction which improved the quality of the project. Sincere Thanks to all the teacher for his support guidance and ideas during the field work.

Place: Pune

Date:

(Sign)

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Project Synopsis: Growsphere

Project title: Growsphere: Cultivating a Greener Future through Gardening Excellence and Sustainability.

Vision for Growsphere

Growsphere's vision is to empower individuals to transform their living spaces and communities into green, sustainable environments by providing easy access to high-quality gardening products, resources, and expert advice. We aspire to become the go-to online destination for gardening enthusiasts of all levels, from beginners seeking guidance to experts in need of specialized tools and plants.

Objective : The primary goal of the Growsphere website is to provide an all-encompassing platform for individuals who are passionate about gardening, whether they are beginners or experts. The objectives of Growsphere can be summarized as follows:

- **Offer a Wide Range of Products**: Growsphere provides a diverse range of products that cater to all types of gardening needs. This includes plants, seeds, gardening tools, fertilizers, pots, and soil.
- **Customer Education**: One of Growsphere's core objectives is to educate customers about gardening. Through blog posts, plant care guides, and how-to articles, Growsphere helps customers gain better knowledge of plant care and gardening techniques.
- **User-Friendly E-Commerce Experience**: Growsphere focuses on creating a seamless shopping experience for customers. The website has a simple and intuitive design, allowing customers to browse, select, and purchase products easily.
- **Providing Expert Advice**: In addition to products, Growsphere aims to offer expert gardening advice. This includes tips on plant maintenance, pest control, seasonal gardening advice, and other gardening-related services.
- **Sustainability**: Growsphere also seeks to promote sustainable gardening by offering eco-friendly products, promoting the use of organic fertilizers, and encouraging the growth of native plants.

Introduction:

Growsphere is a premier online platform for gardening products, plants, and accessories, offering a comprehensive range of items that cater to gardening enthusiasts. It serves customers in India, providing them with gardening solutions, plant care tips, and all essential products to grow and maintain a garden. Through its user-friendly website, Growsphere allows customers to shop for gardening tools, plants, seeds, fertilizers, and other related products while simultaneously offering educational content about gardening techniques and best practices.

Key Features of Growsphere Website

- **Wide Range of Gardening Products**:Growsphere offers a vast selection of gardening essentials, including plants, seeds, fertilizers, gardening tools, pots, planters, and pest control products. Customers can find everything they need to nurture and grow plants in their homes and gardens.
- **Educational Content and Guides**:The platform provides comprehensive care guides, expert tips, how-to articles, and instructional videos. These resources help both novice and experienced gardeners understand plant care, pest control, and seasonal gardening tips.
- **Seasonal Offers and Discounts**: Growsphere offers seasonal sales, special promotions, and discounts, allowing customers to buy products at competitive prices. Loyalty programs reward repeat customers with exclusive offers.
- **Delivery and Return Policies**: Growsphere offers reliable pan-India delivery, ensuring fast and secure shipping. The website also features a hassle-free return policy for customer satisfaction.

Entity Relationship Diagram

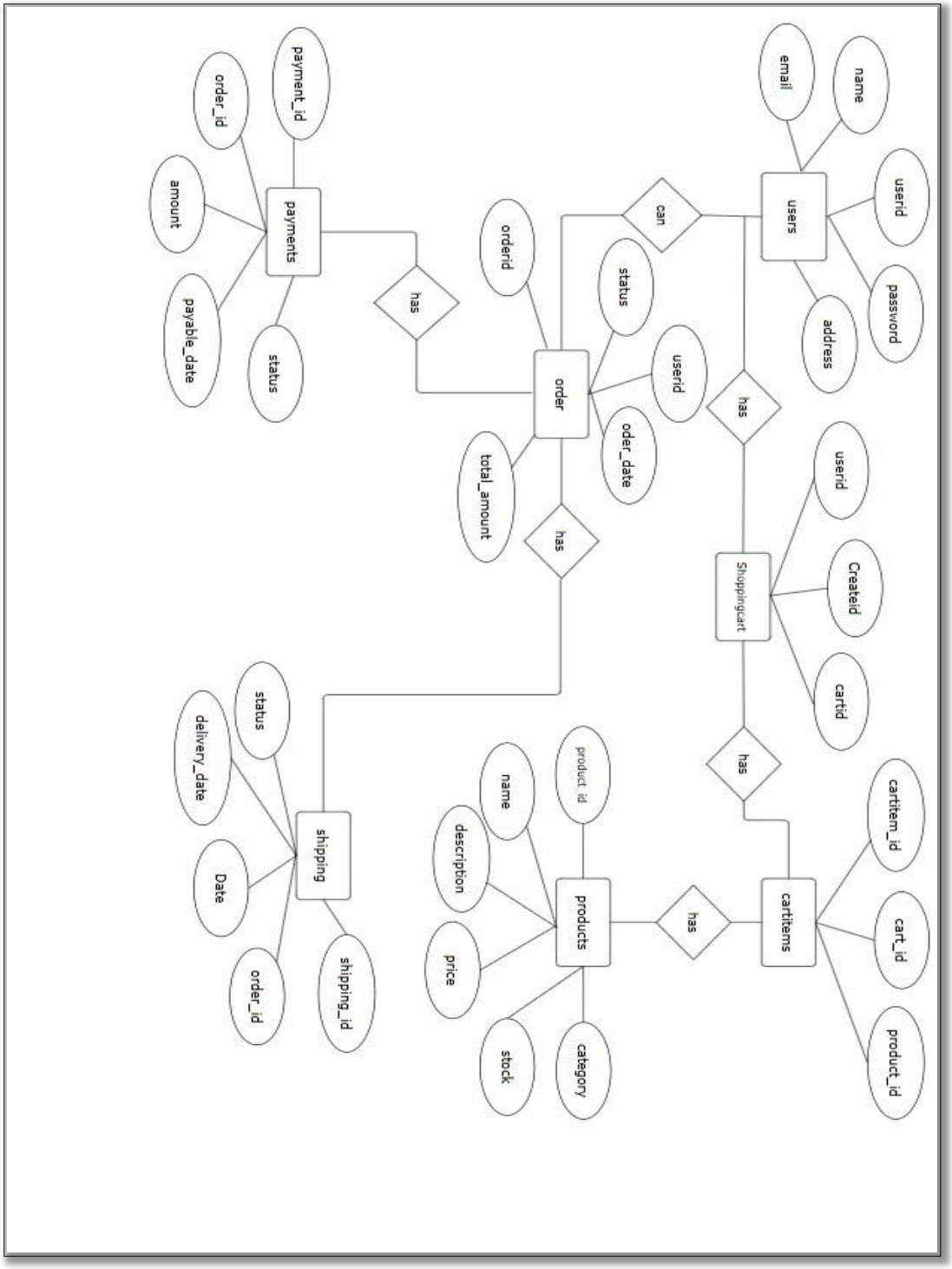


Fig 1.1 (Entity Relationship Diagram)

UML

Class diagram

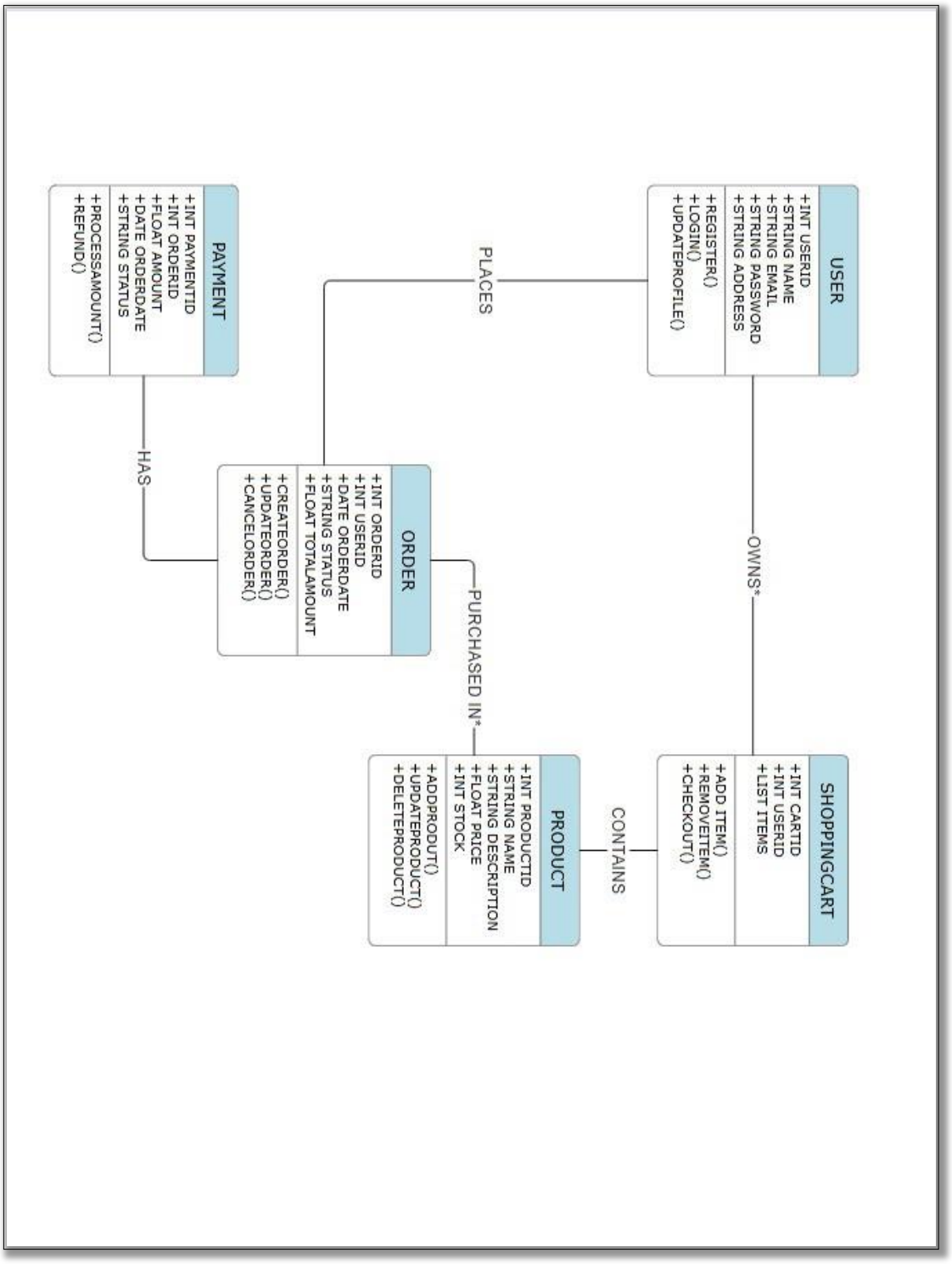


Fig 1.2(Class Diagram)

Object diagram

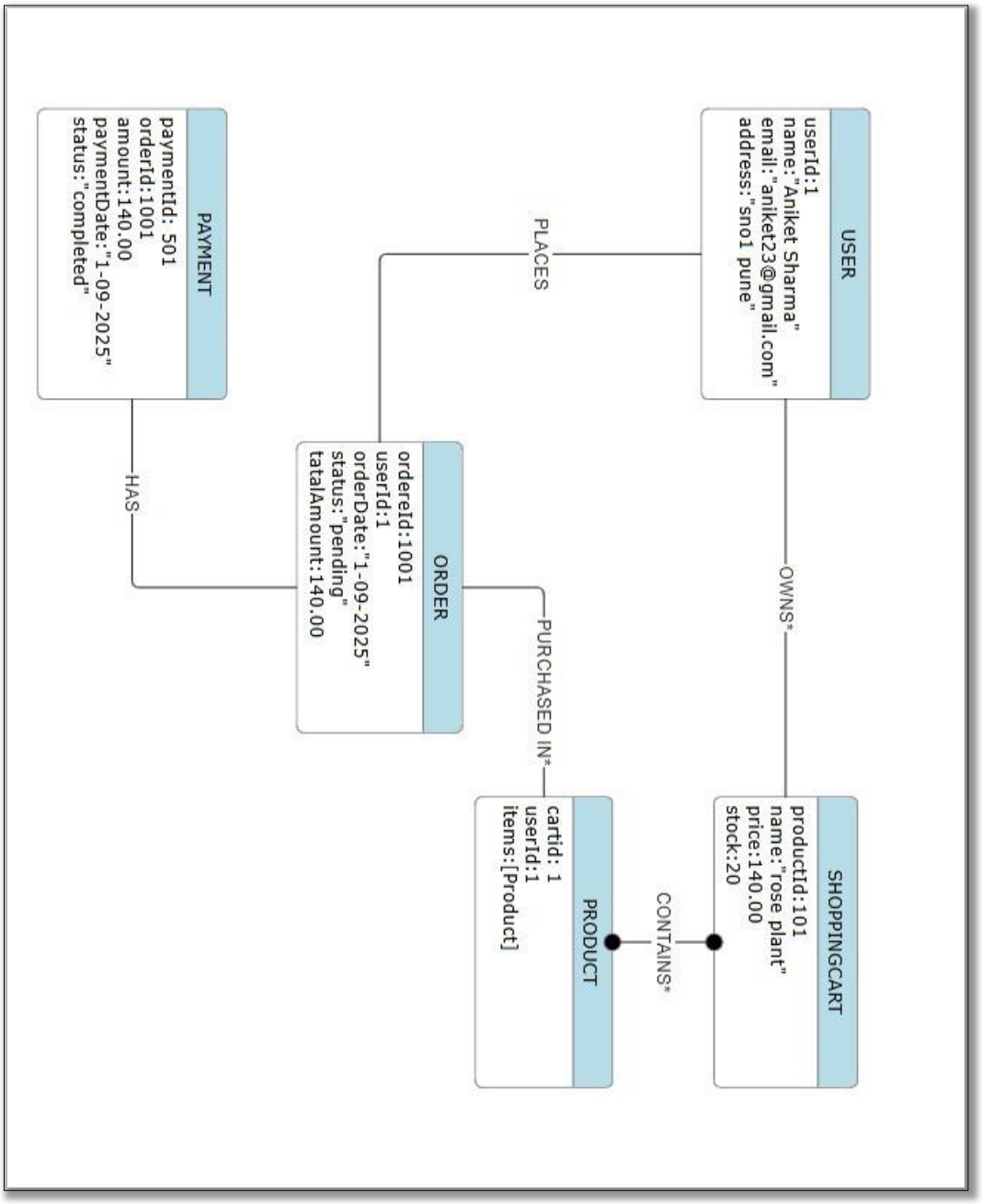


Fig 1.3(Object Diagram)

Use Case Diagram

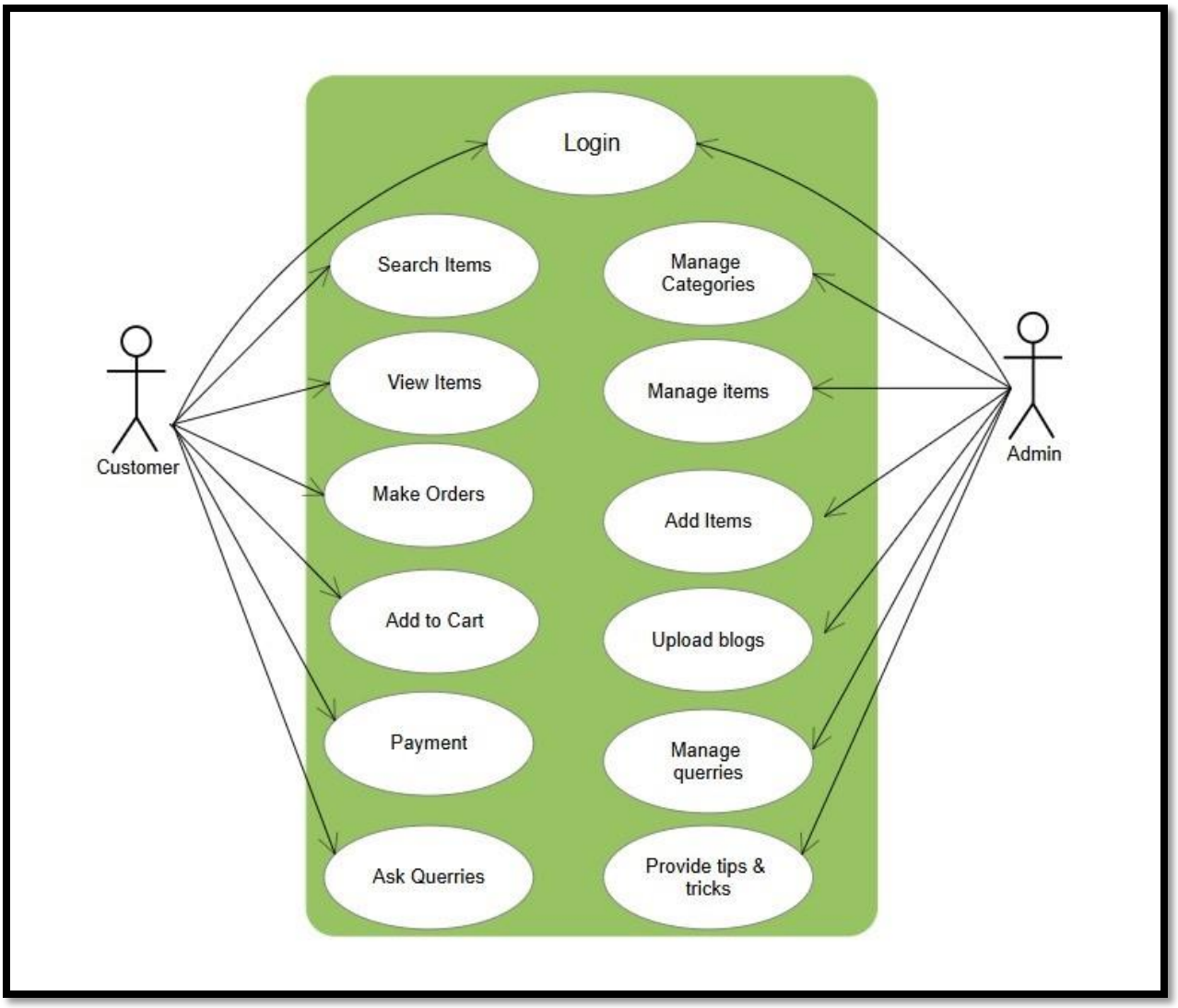


Fig 1.4(Use Case Diagram)

Sequence diagram

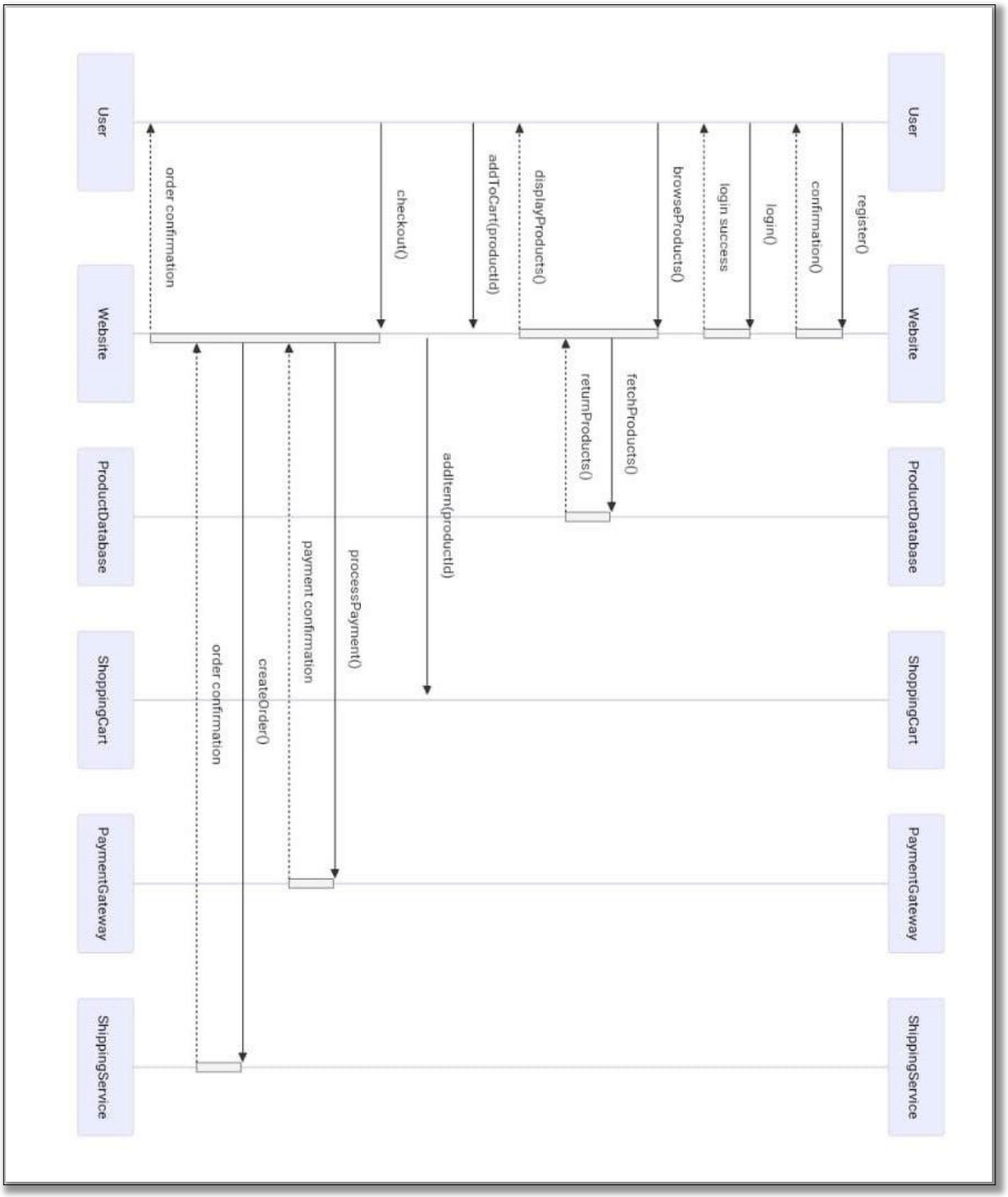


Fig 1.5(Sequence Diagram)

Activity Diagram:

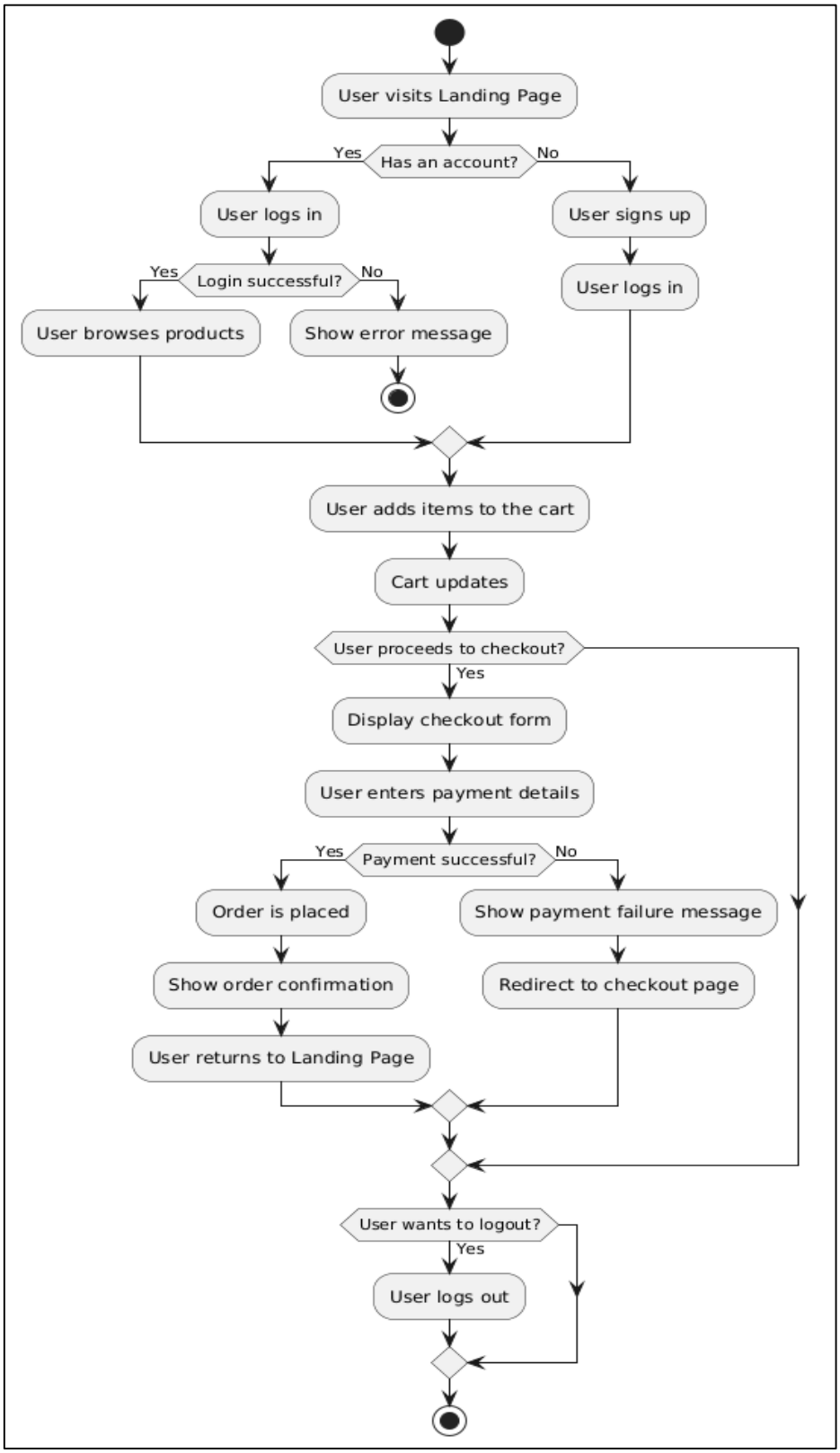


Fig 1.6(Activity Diagram)

State Chart Diagram:

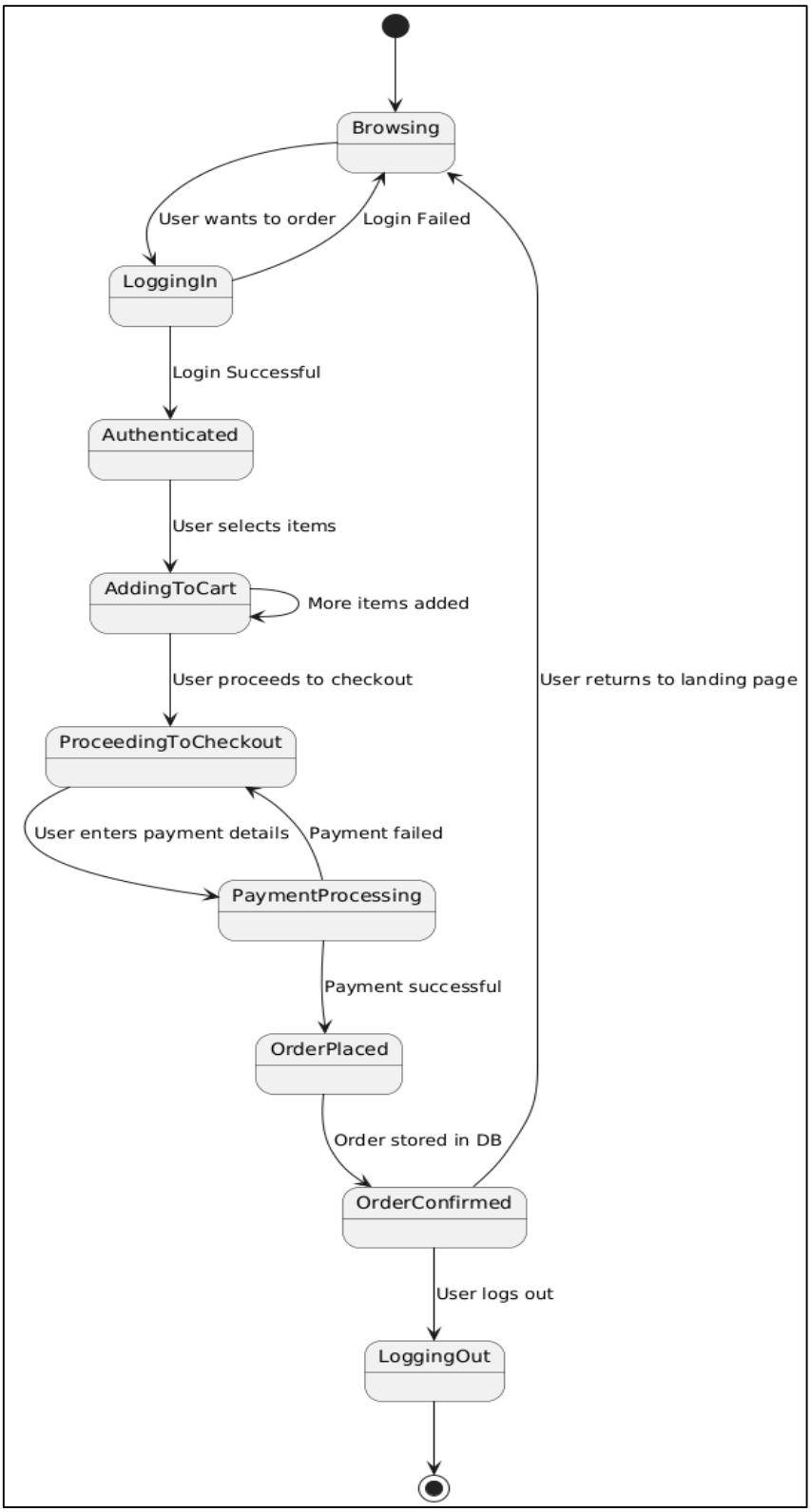


Fig 1.7(State Chart Diagram)

Component Diagram:

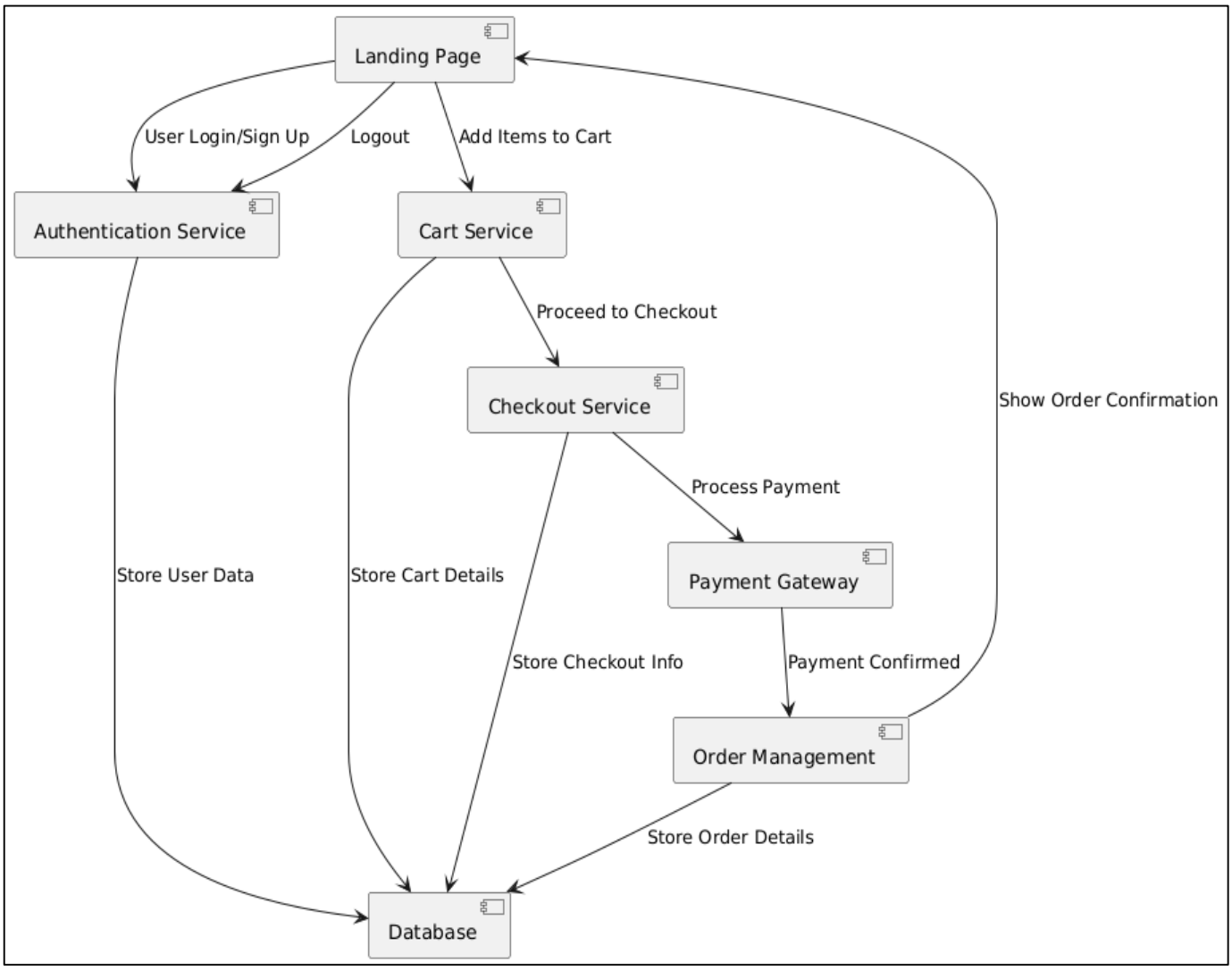


Fig 1.8(Component Diagram)

Deployment Diagram:

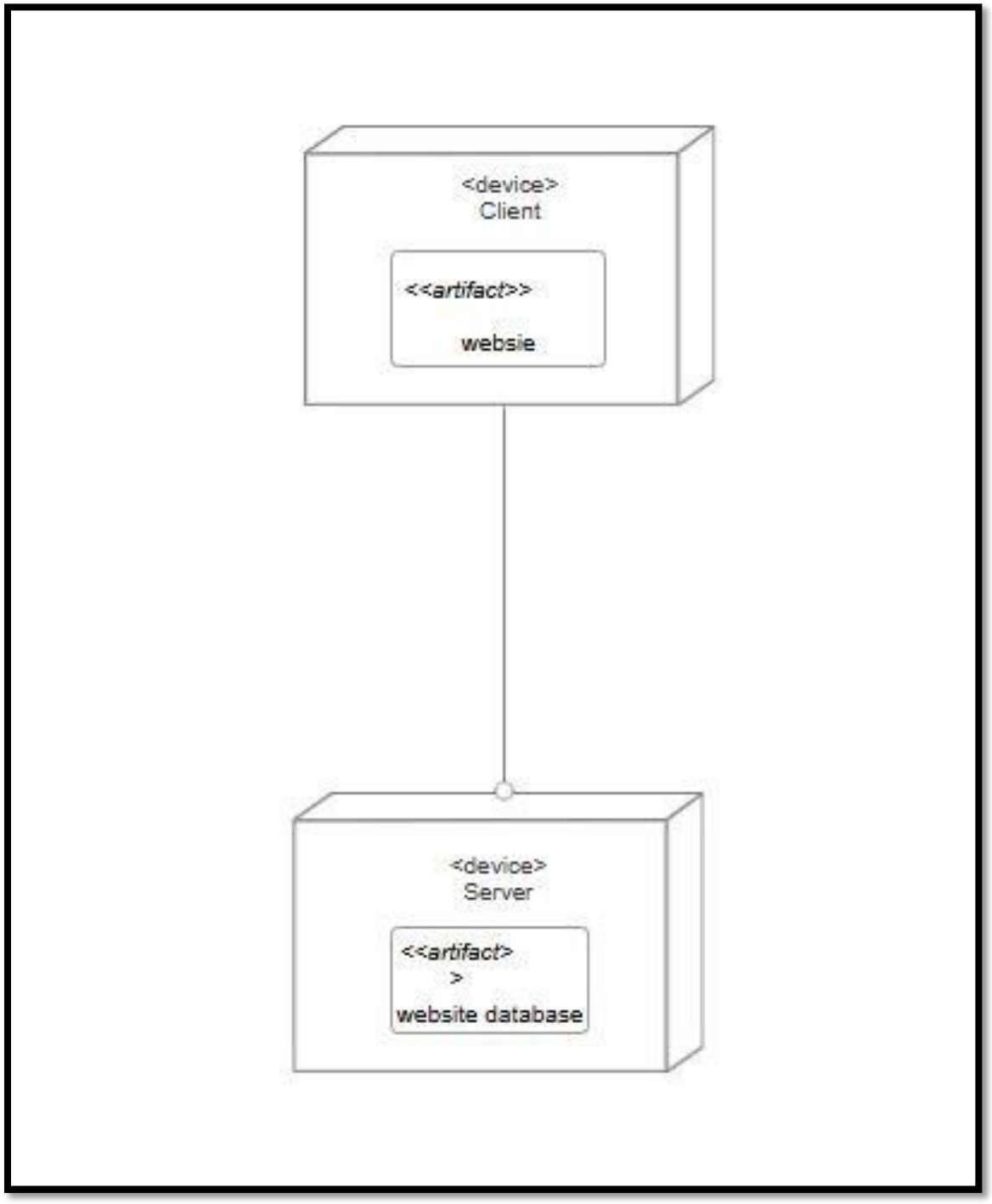


Fig 1.9(Deployment Diagram)

Technology Stack:

- **Frontend:** html,bootstrap,javascript
- **Backend**: python-flask
- **Database management**: xampp mysql

Testing Plan:

1. Unit Testing

Objective: Ensure that individual components of the Growsphere platform, such as functions, classes, and modules, perform as expected.

Scope:Test the functionality of the product catalog (e.g., fetching product details, search filters).

Validate the backend endpoints for CRUD operations on products, orders, and user data.

Check user registration, login, and logout functionalities.

Ensure form validations for contact forms, checkout, and feedback forms.

Tools: Pytest (for Python-Flask backend).

2. Integration Testing

Objective: Verify that different modules or components of the system work together correctly.

Scope:Test the integration between the frontend (HTML, Bootstrap, JavaScript) and backend (Python-Flask).Validate interactions between the database and the backend API for:

Product retrieval. User authentication. Order placement.

Ensure payment gateway integration (if applicable) functions seamlessly.

Tools: Postman, Selenium.

3. System Testing

Objective: Evaluate the entire Growsphere system's compliance with specified requirements.

Scope:Test the end-to-end functionality of the website, including product browsing, adding items to the cart, checkout, and order confirmation.

Verify the educational content (blogs, guides, etc.) is accessible and correctly linked.

Test scalability by simulating high user loads.

Tools: Selenium, Apache JMeter.

4. User Interface (UI) Testing

Objective: Ensure the website's UI is user-friendly and visually consistent across devices.

Scope:Test responsiveness on different devices (desktop, tablet, mobile).

Verify proper alignment, fonts, and color schemes across the website.

Ensure all buttons, links, and dropdowns are functional.

Tools: BrowserStack, Google Chrome DevTools.

5. User Acceptance Testing (UAT)

Objective: Validate the system's functionality and usability based on user requirements.

Scope:Gather feedback from real users (gardening enthusiasts) to ensure the platform meets their needs.

Test workflows like product search, buying products, and accessing educational resources.

Validate language consistency and ease of navigation.

Tools: Surveys, UAT test cases.

6. Performance Testing

Objective: Assess the system's responsiveness and stability under different load conditions.

Scope:Measure website load times under various conditions.

Test concurrent user load (e.g., 50, 100, 500 users).

Evaluate database query execution times for scalability.

Tools: Apache JMeter, Locust.

7. Security Testing

Objective: Identify potential vulnerabilities and secure the system from threats.

Scope:Test user authentication mechanisms (e.g., password encryption, session management).

Ensure SQL injection prevention in database queries.

Validate secure API calls and data transmission using HTTPS.

Test access control for different user roles.

Tools: OWASP ZAP, Burp Suite.

8. Regression Testing

Objective: Ensure that new updates or bug fixes do not negatively impact existing functionalities.

Scope:Retest core functionalities like login, product catalog, and checkout after each update.

Validate that all fixed bugs remain resolved.

Tools: Selenium, Pytest, BrowserStack, MySQL Workbench.

Test backup and recovery processes.

Deployment Plan

1. Prerequisites

Set up hosting (AWS, Heroku, etc.), install Python, Flask, MySQL, and push the code to GitHub.

Configure the domain and SSL.

2. Deployment Steps

Frontend: Minify and upload static files (HTML, CSS, JS) to the server.

Backend: Install dependencies, configure Flask

Database: Import/export MySQL database using mysql.

3. Testing & Monitoring

Perform end-to-end testing for functionality, performance, and security.

Set up logging and server monitoring with tools like CloudWatch.

4. Post-Deployment

Schedule daily backups, verify user onboarding, and enable analytics and feedback forms.

Regularly update and scale as needed.

This plan ensures a smooth and secure launch of the Growsphere platform.

Conclusion:

In conclusion, Growsphere is a robust and well-designed platform dedicated to enhancing the gardening experience of its users. By offering a wide range of products, educational resources, and an intuitive shopping interface, Growsphere provides value to both novice and seasoned gardeners. The incorporation of system entities, ERD, and DFD ensures the smooth operation of the platform, which aims to deliver a high-quality service to its customers while promoting sustainable gardening practices.

INTRODUCTION:

1. OVERVIEW:

The demand for indoor and outdoor plants has grown significantly in recent years, driven by increasing awareness of their numerous benefits. Plants not only serve as decorative elements that enhance the aesthetic appeal of homes, offices, and public spaces, but they also contribute to improved air quality, reduced stress, and an overall healthier environment. With the rise of urbanization and compact living spaces, individuals are increasingly turning to indoor gardening as a means of incorporating nature into their daily lives.

Despite the growing interest in gardening and plant care, many people face challenges in finding high-quality plants and reliable gardening resources. Traditional plant nurseries and local garden centers often have limited varieties, inconsistent quality, and lack of expert guidance. Additionally, busy lifestyles and geographical constraints make it difficult for enthusiasts to visit physical stores frequently.

Recognizing these challenges, our plant e-commerce platform is designed to bridge the gap by offering a seamless online shopping experience tailored for plant lovers. The platform will serve as a one-stop solution for purchasing a diverse range of plants, seeds, and gardening accessories while also providing educational content to support plant care.

Our inspiration stems from industry leaders such as Growsphere and The Sill, which have successfully revolutionized the online plant shopping experience. By integrating technology with gardening expertise, our website will provide a user-friendly interface, expert recommendations, and secure payment options, ensuring convenience and reliability for customers.

This project aims to cater to a broad audience, ranging from beginners who need easy-to-care-for plants to experienced gardeners looking for specialty plants and advanced gardening tools. By prioritizing customer satisfaction, product quality, and sustainability, our platform will not only enhance the accessibility of plants but also encourage eco-friendly and mindful gardening practices.

2.PROJECT OBJECTIVE:

The primary goal of this project is to develop a user-friendly and feature-rich online marketplace where customers can explore, purchase, and learn about plants. The platform will achieve the following objectives:

- **Accessibility** – Ensure that plant shopping is easy, engaging, and available to a broader audience.
- **Educational Support** – Provide customers with expert advice and care instructions to help them maintain healthy plants.
- **Product Diversity** – Offer a variety of plants, seeds, and gardening essentials to meet the needs of different users.
- **Seamless Transactions** – Enable a secure, fast, and convenient shopping experience with multiple payment options.
- **Sustainability** – Promote eco-friendly packaging, ethical sourcing, and sustainable gardening practices.

3. KEY FEATURES:

To ensure an optimal shopping experience, the website will include the following key features: a. Product Catalog:

The website will showcase a well-organized product catalog featuring a diverse selection of:

- Indoor and outdoor plants (succulents, air-purifying plants, flowering plants, etc.)
- Seeds for vegetables, herbs, and flowers
- Gardening tools and accessories (pots, fertilizers, watering cans, etc.)
- Plant care essentials, including soil, compost, and pesticides

Each product will have high-quality images, detailed descriptions, care instructions, and customer reviews to assist buyers in making informed decisions.

b. User Authentication:

Users will be able to create personal accounts with the following functionalities:

- Secure login and signup with email or social media authentication
- Profile management (name, address, saved payment methods, etc.)
- Order history tracking for easy reordering
- Wishlist to save favorite items
- Personalized recommendations based on browsing and purchase history

c. Search & Filters:

To enhance the shopping experience, the website will include:

- **Filter options** based on categories, price range, plant type, maintenance level, and size
- **Sort options** like best-selling, newest arrivals, and customer ratings

d. Shopping Cart & Checkout:

A streamlined shopping cart and checkout process will include:

- Adding/removing products easily
- Applying discount codes and coupons
- Selecting shipping options with estimated delivery times
- Secure payment options (Credit/Debit cards, UPI, PayPal, etc.) Order confirmation and tracking updates

e. Informative Blog & Guides:

The platform will offer a dedicated blog section to educate users about:

- Plant care guides for different species
- Seasonal gardening tips and tricks
- Solutions for common plant problems
- DIY gardening projects and home decor ideas Sustainability practices in gardening

f. Admin Dashboard:

A separate admin panel will allow business owners to:

- Manage product inventory (add, edit, or remove items)
- Track orders and handle customer inquiries
- Generate sales reports and analytics
- Manage promotional campaigns and discounts

4.TECHNOLOGY STACK

To ensure a fast, secure, and scalable platform, we will use the following technologies:

- **Frontend:** HTML, CSS, Bootstrap, and JavaScript for an interactive and responsive user interface.
- **Backend:** Flask, a lightweight Python framework, for handling server-side operations.
- Local Development & Deployment: XAMPP for easy MySQL database management and local server setup
- **Database:** MySQL for structured and efficient data management.

5. CONCLUSION:

This plant e-commerce platform aims to revolutionize the way people shop for plants by making the process more accessible, informative, and enjoyable. By integrating modern technology with a passion for greenery, this project will not only boost plant sales but also promote sustainable and mindful living.

Whether catering to seasoned gardeners or first-time plant owners, this website will serve as a onestop destination for all their gardening needs. Our goal is to make plant shopping an inspiring and seamless experience, helping users cultivate a love for plants while ensuring convenience and expert support along the way.

Scope:

The scope of this project extends beyond just selling plants; it aims to create an engaging ecosystem for plant lovers and gardening enthusiasts. Below are the key aspects of the scope: a. Target Audience:

- Office decorators aiming to enhance workspaces with greenery.
- Home owner for indoor and outdoor plants.
- Plant hobbyists and gardening enthusiasts.
- Urban gardeners interested in home gardening. Eco-conscious consumers promoting sustainability.

b. Geographical Reach:

- Initially targeting local and regional markets.
- Expansion to national and international markets with scalable logistics solutions.

c. Product Offerings:

- A wide variety of indoor and outdoor plants.
- Seeds for vegetables, herbs, and flowers. Gardening tools and accessories.
- Soil, fertilizers, and plant care essentials.

d. User Engagement & Community Building:

- Informative blogs on plant care and gardening tips.
- Expert Q&A sessions and plant care forums.

e. Marketing Strategies:

- SEO-optimized content to improve search rankings.
- Social media marketing to engage plant lovers.
- Email campaigns for personalized promotions.
- Influencer collaborations and brand partnerships.

Limitations:

a. Limited Development Time:

The project is bound by academic deadlines, restricting the time available for development and testing.
Some advanced features may not be fully implemented due to time constraints.

b. Resource Constraints

- Limited access to high-performance servers, cloud services, and paid APIs.
- Restricted funding for integrating premium third-party tools or hosting services.
- Dependence on free-tier services, which may have limitations in storage, bandwidth, and security.

c. Simplified Features and Functionality:

- Basic product listings and checkout systems without advanced personalization.
- Limited scalability, making it difficult to handle large numbers of users and transactions.
- Absence of complex AI-driven recommendations or AR-based plant visualization due to technical constraints.

d. Security Concerns:

- Basic security measures may be implemented, but full-fledged data encryption and advanced fraud prevention systems may not be possible.
- Risk of vulnerabilities due to limited experience in secure coding practices.

e. Limited Testing and Real-World Deployment:

- Testing is conducted on a small scale, mainly within a controlled environment.
- Lack of real customer feedback and transaction-based user testing.
- The project may not be deployed on a live production server with real transactions.

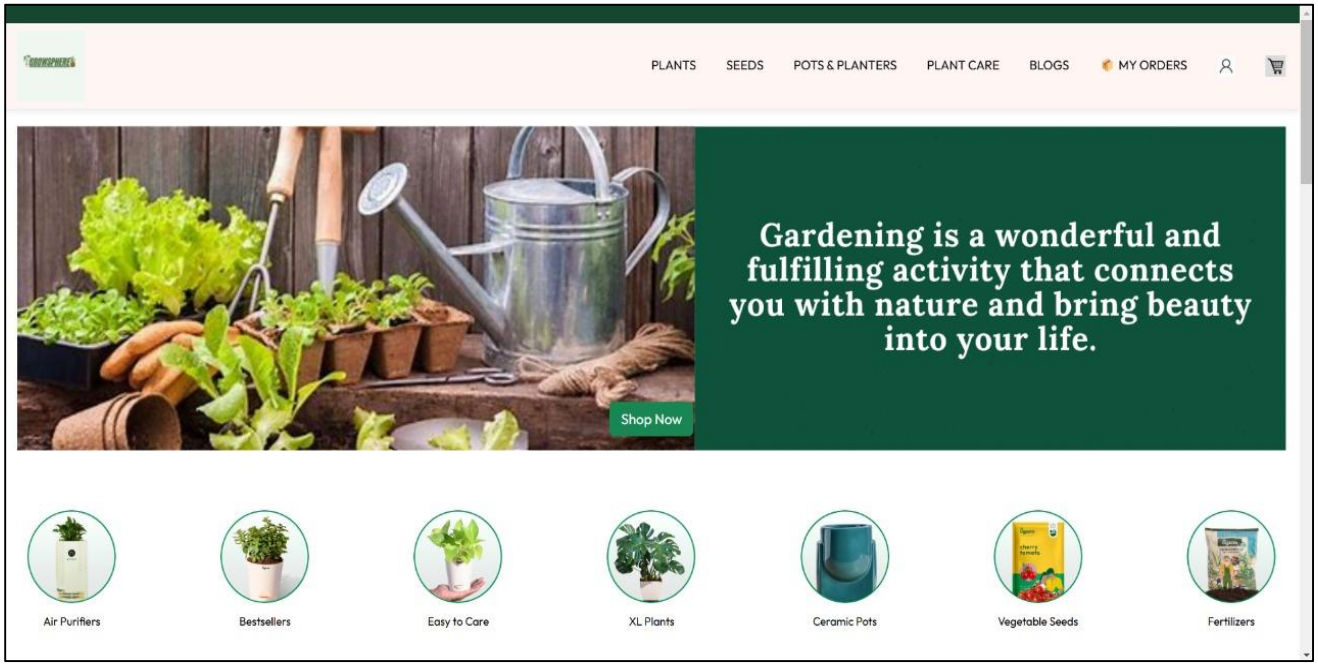
f. Dependency on Open-Source and Free Tools:

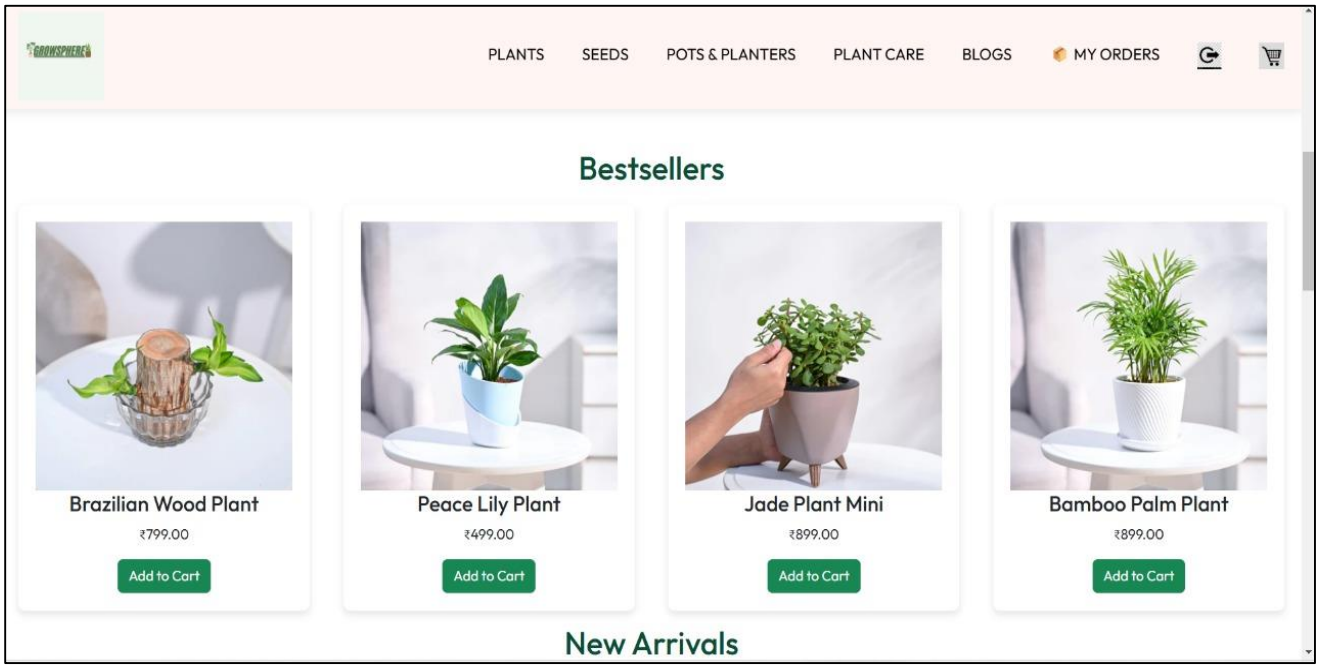
- The project may use open-source libraries and frameworks, which might not be optimized for enterprise-level performance.
- Reliance on XAMPP for local development instead of a cloud-based server environment.

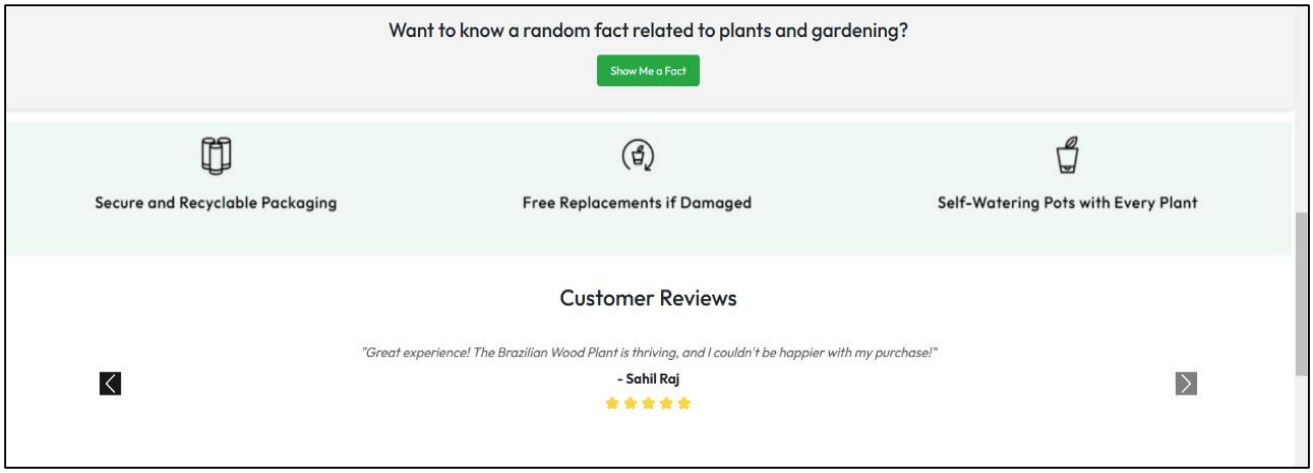
SCREENSHOTS:

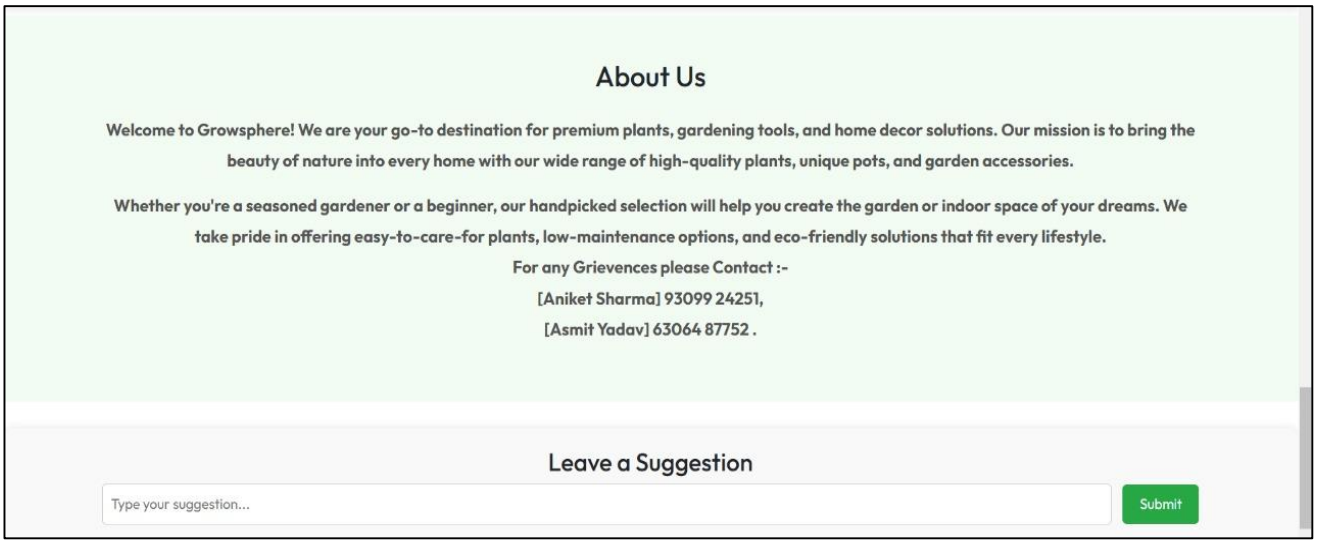
1] User Interface:

Landing Page:-

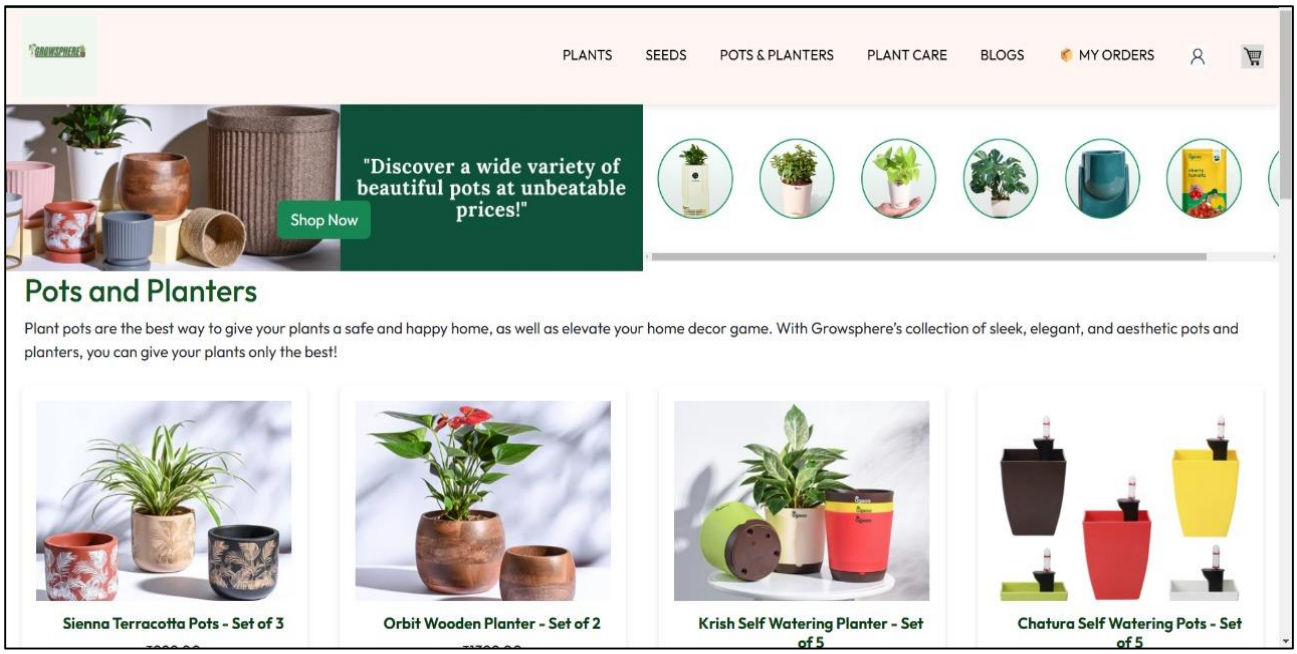


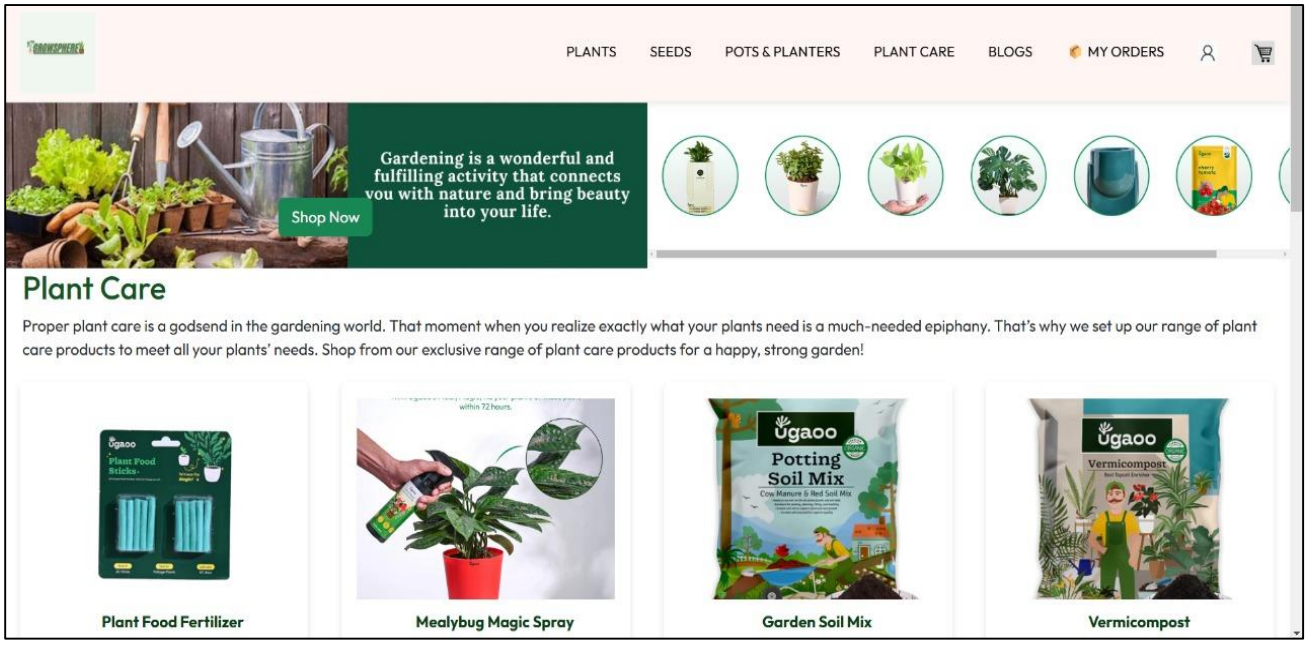


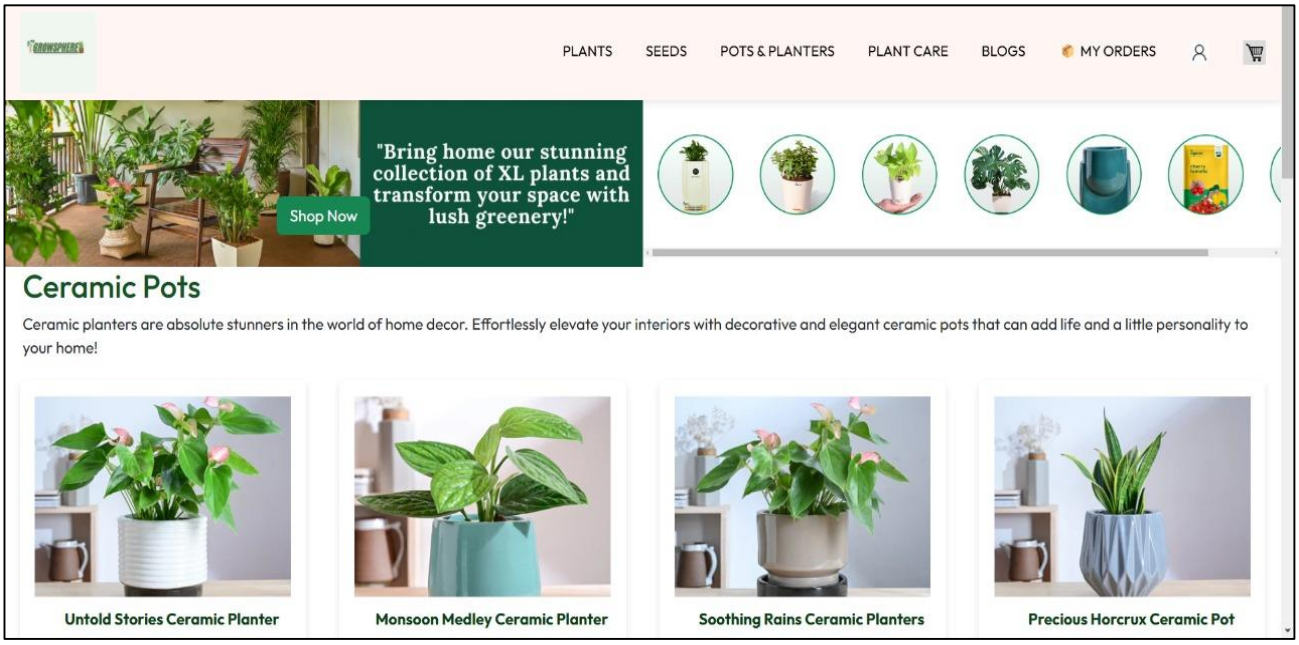

Want to know a random fact related to plants and gardening?
Show Me a Fact
Secure and Recyclable Packaging
Free Replacements if Damaged
Self-Watering Pots with Every Plant
Customer Reviews
"Great experience! The Brazilian Wood Plant is thriving, and I couldn't be happier with my purchase!"
- Sahil Raj

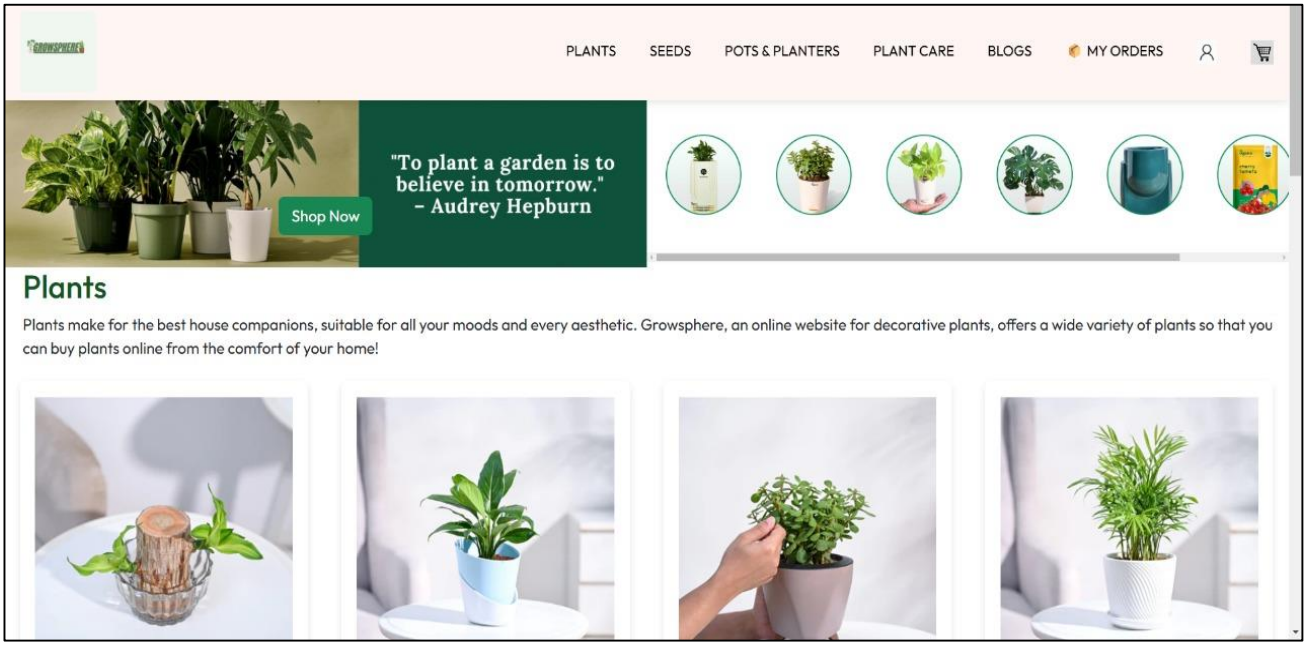

About Us
Welcome to Growsphere! We are your go-to destination for premium plants, gardening tools, and home decor solutions. Our mission is to bring the beauty of nature into every home with our wide range of high-quality plants, unique pots, and garden accessories.
Whether you're a seasoned gardener or a beginner, our handpicked selection will help you create the garden or indoor space of your dreams. We take pride in offering easy-to-care-for plants, low-maintenance options, and eco-friendly solutions that fit every lifestyle.
For any Grievences please Contact :-
[Aniket Sharma] 93099 24251,
[Asmit Yadav] 63064 87752 .
Leave a Suggestion
Type your suggestion...
Submit

Multiple Categories :-

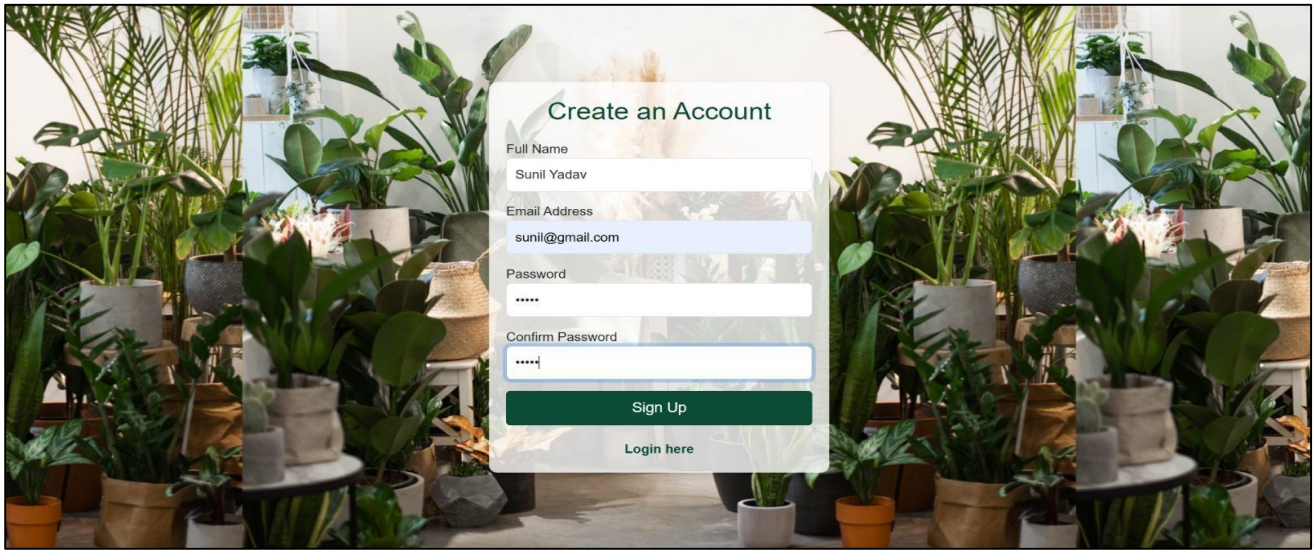




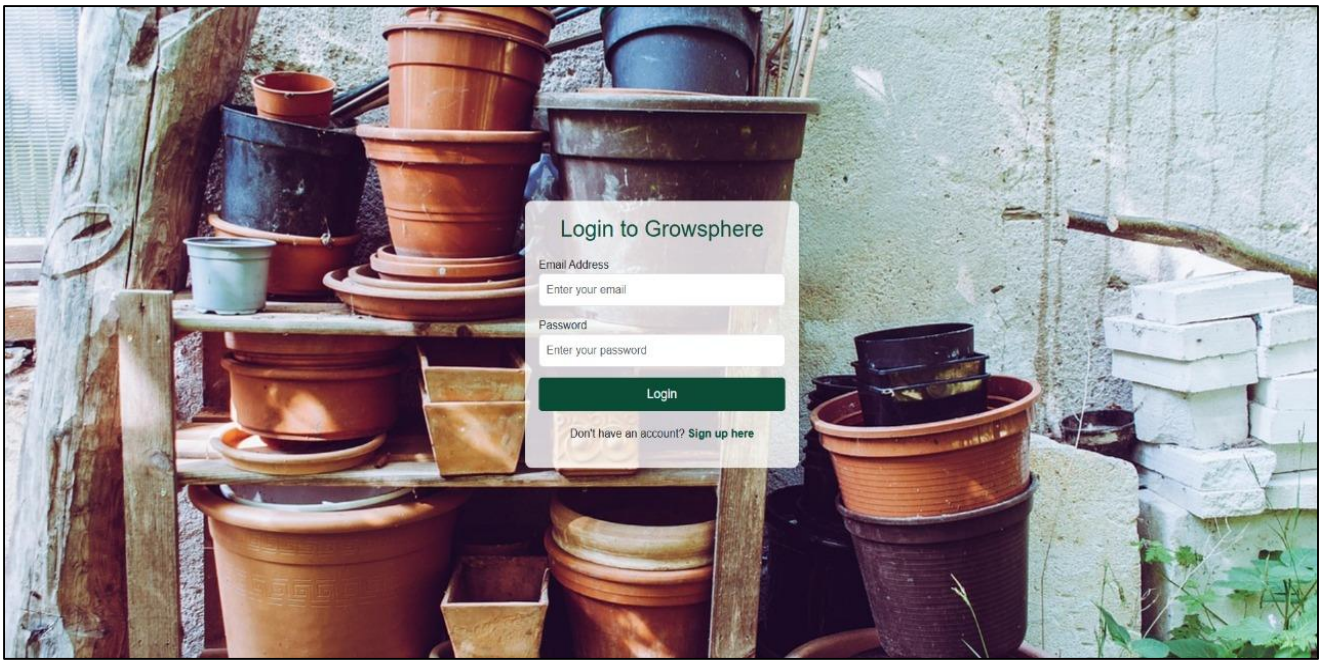

PLANTS
SEEDS
POTS & PLANTERS
PLANT CARE
BLOGS
MY ORDERS
"Bring home our stunning collection of XL plants and transform your space with lush greenery!"
Shop Now
Ceramic Pots
Ceramic planters are absolute stunners in the world of home decor. Effortlessly elevate your interiors with decorative and elegant ceramic pots that can add life and a little personality to your home!
Untold Stories Ceramic Planter
Monsoon Medley Ceramic Planter
Soothing Rains Ceramic Planters
Precious Horcrux Ceramic Pot


PLANTS
SEEDS
POTS & PLANTERS
PLANT CARE
BLOGS
MY ORDERS
"To plant a garden is to believe in tomorrow."
– Audrey Hepburn
Shop Now
Plants
Plants make for the best house companions, suitable for all your moods and every aesthetic. Growsphere, an online website for decorative plants, offers a wide variety of plants so that you can buy plants online from the comfort of your home!

Signup Page:-

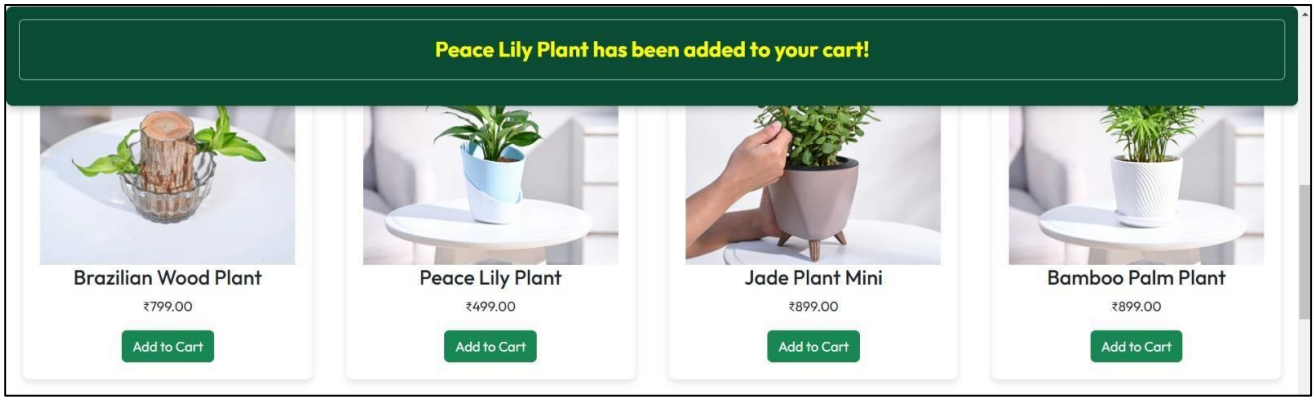


Login Page:-

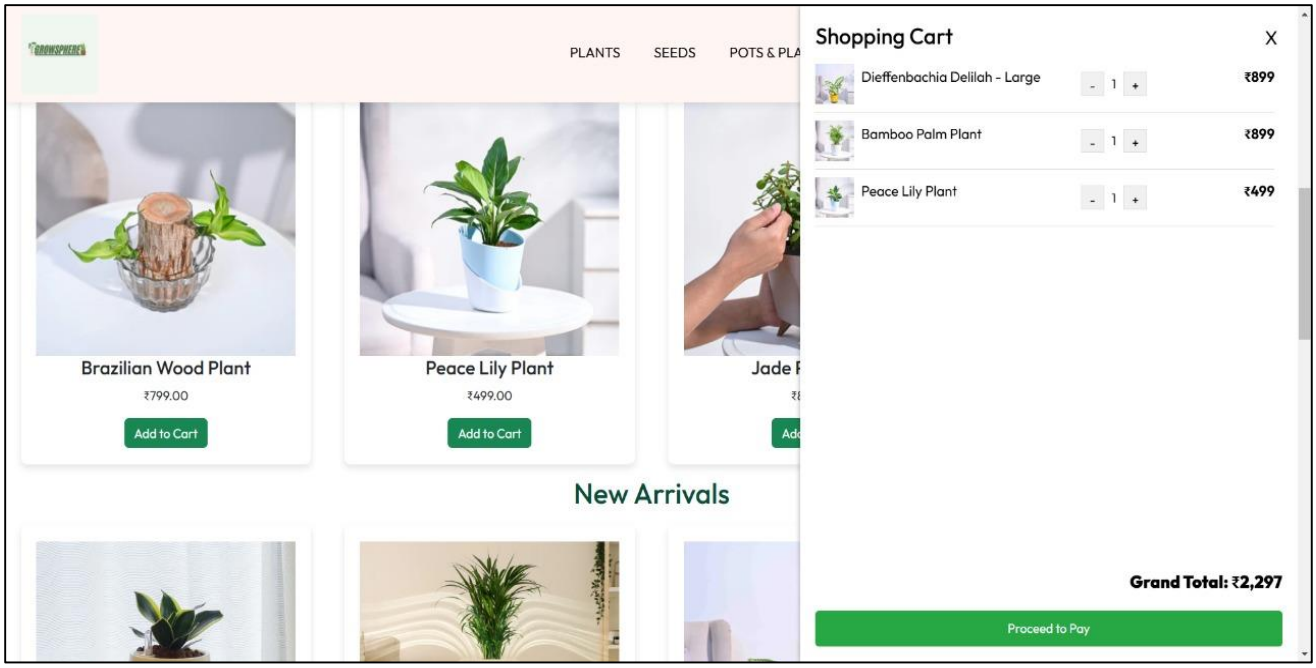


Welcome Message when Successful Login:-

Added to Cart Message:-

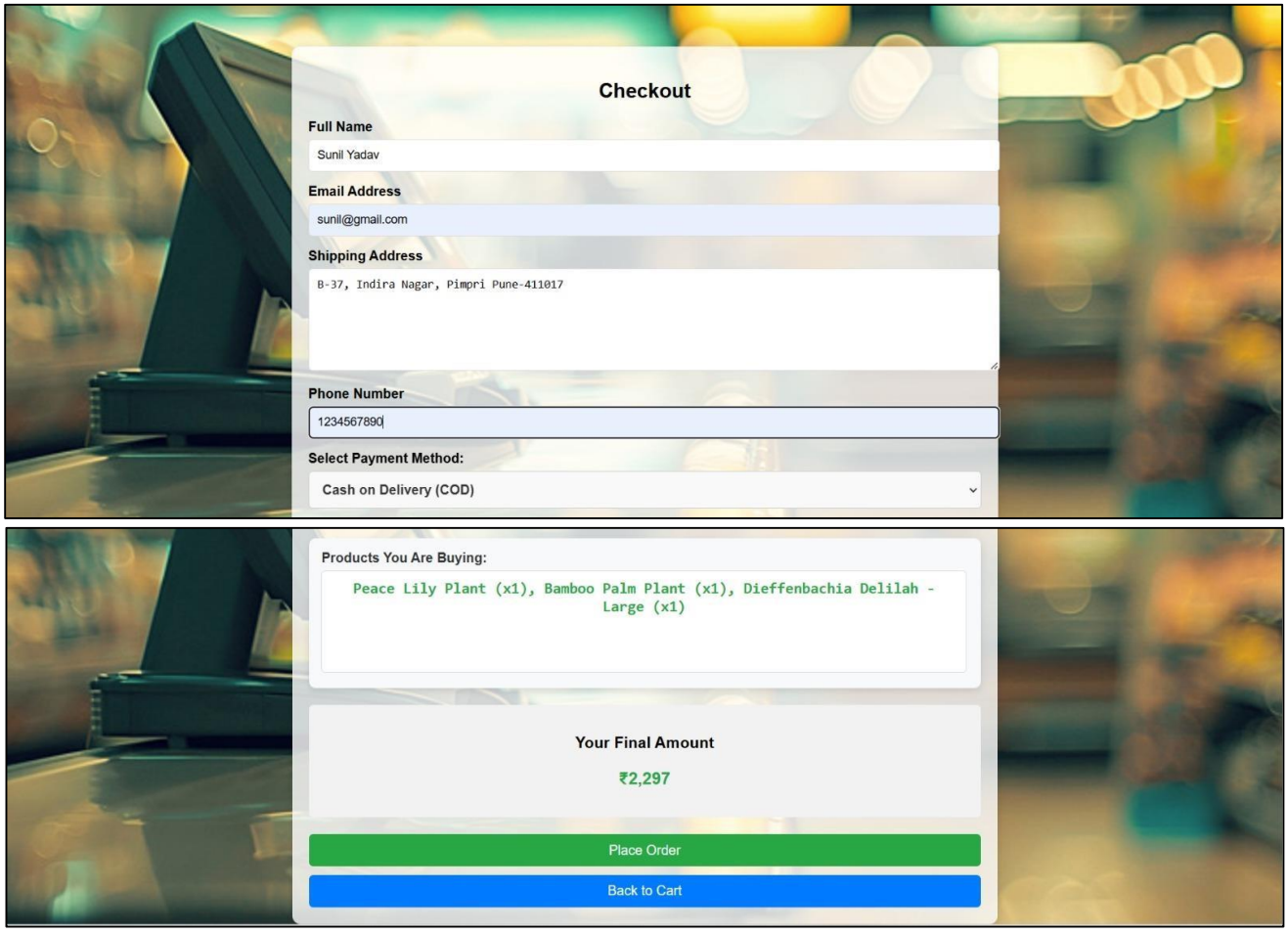


Cart:-

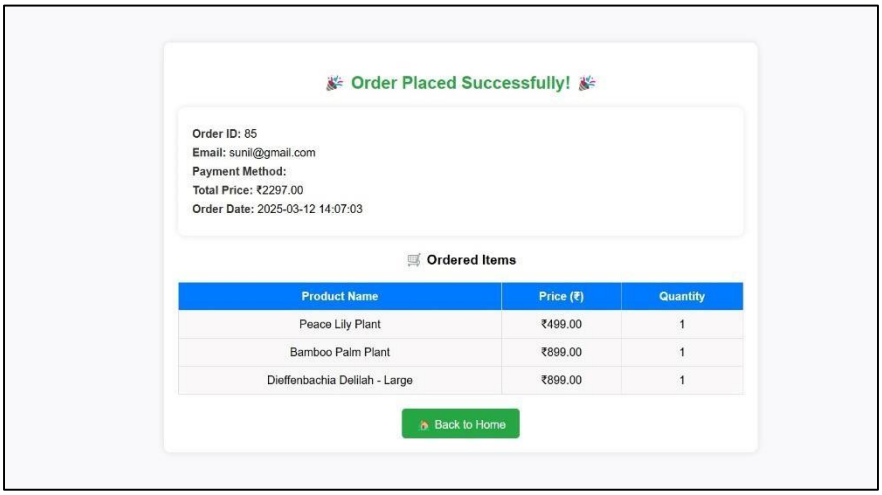


When clicked on Proceed to Pay the checkout form appears.

Checkout Form:-

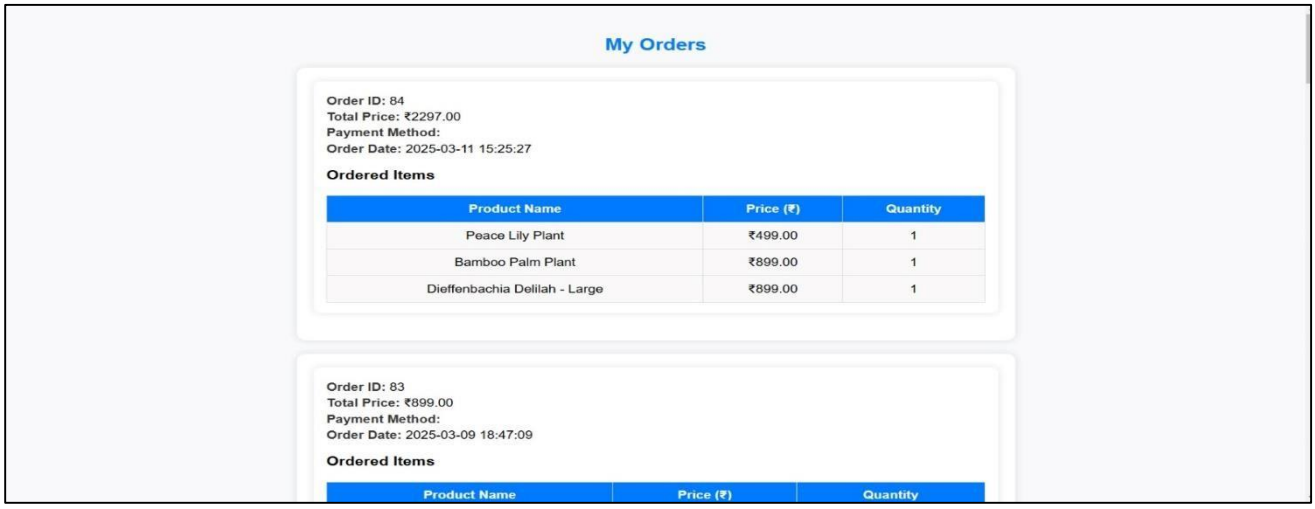


The form shows the products selected and the total price to be paid. Once Placed Order, the order is placed and the order confirmation form appears.



Order Confirmation Message:-

My Order Page:-

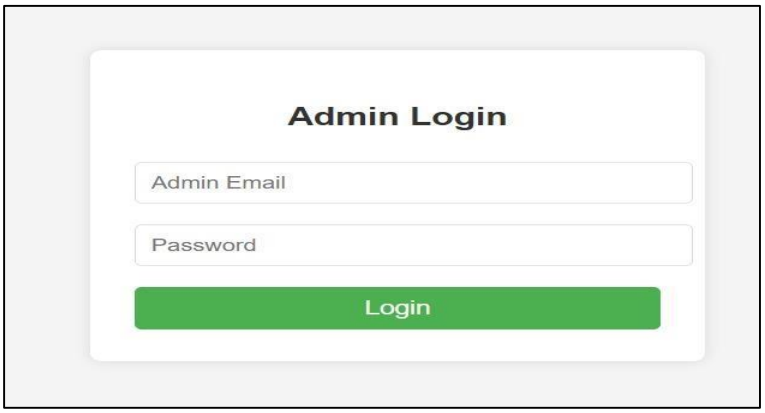


Here the user can check all its past orders.

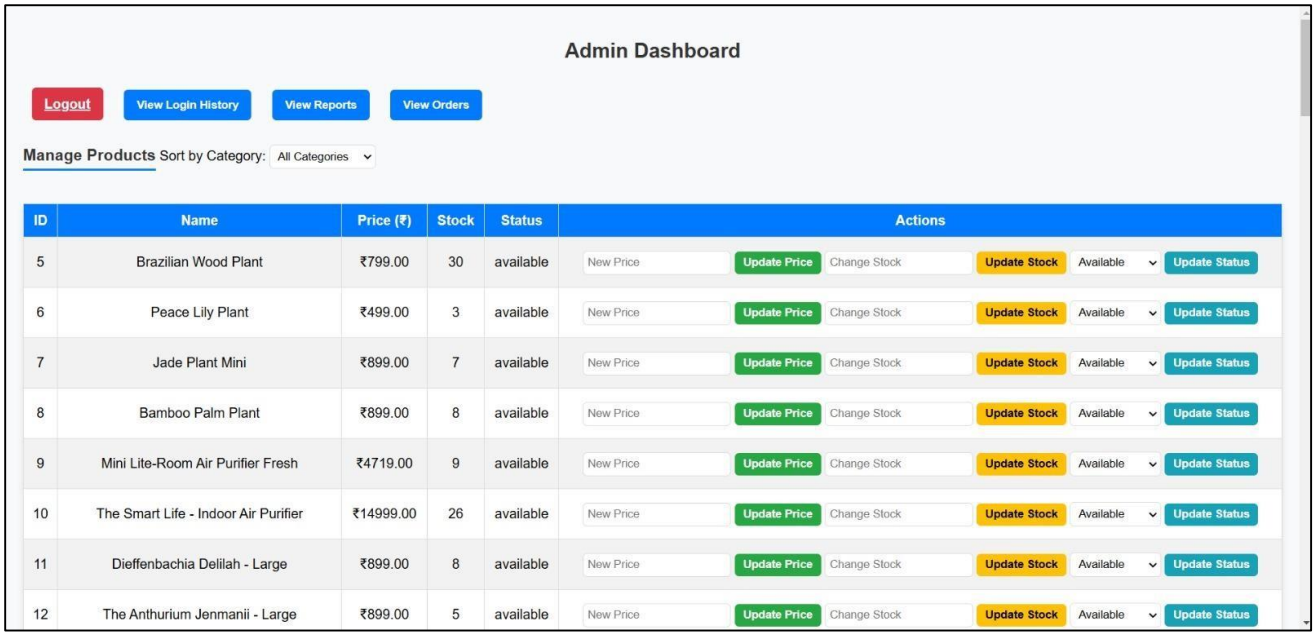
Logged Out Message:-

2] Admin Panel:

Admin Login:-

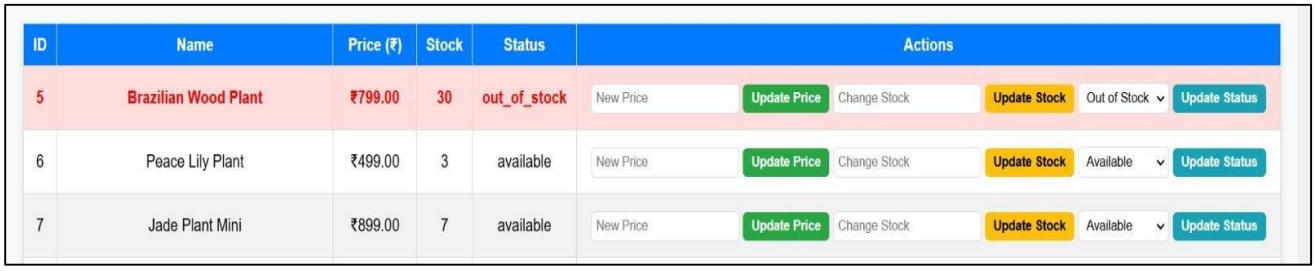


Admin Dashboard:-



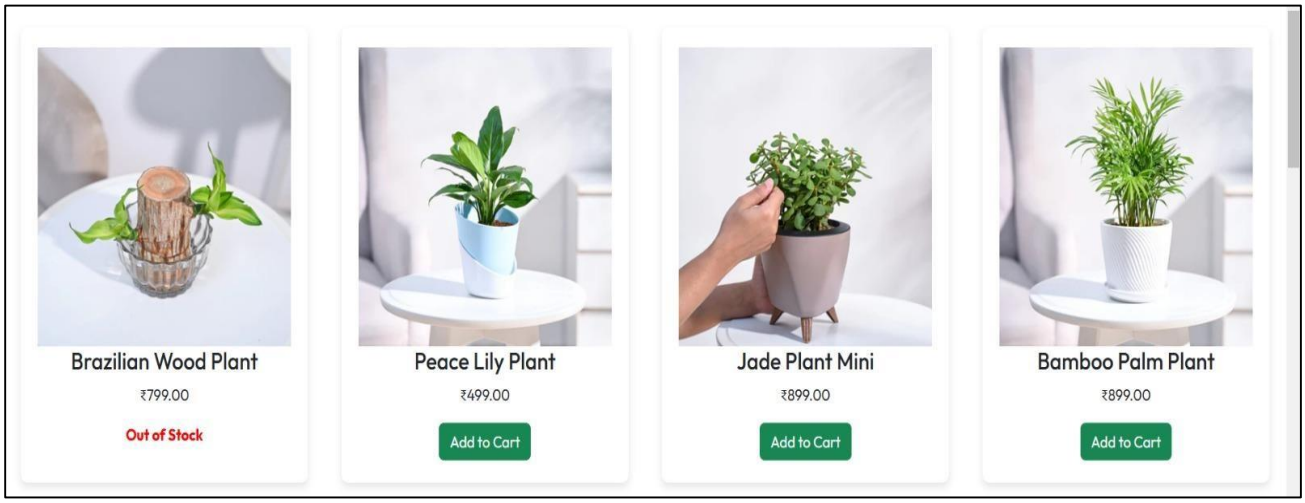
This is the Admin Dashboard from here admin can update the price, stock and availability of the products. There are other options like the admin can view login history, reports and manage orders. Since there are wide range of products admin can sort the products based on the categories.

Out of Stock Functionality:-



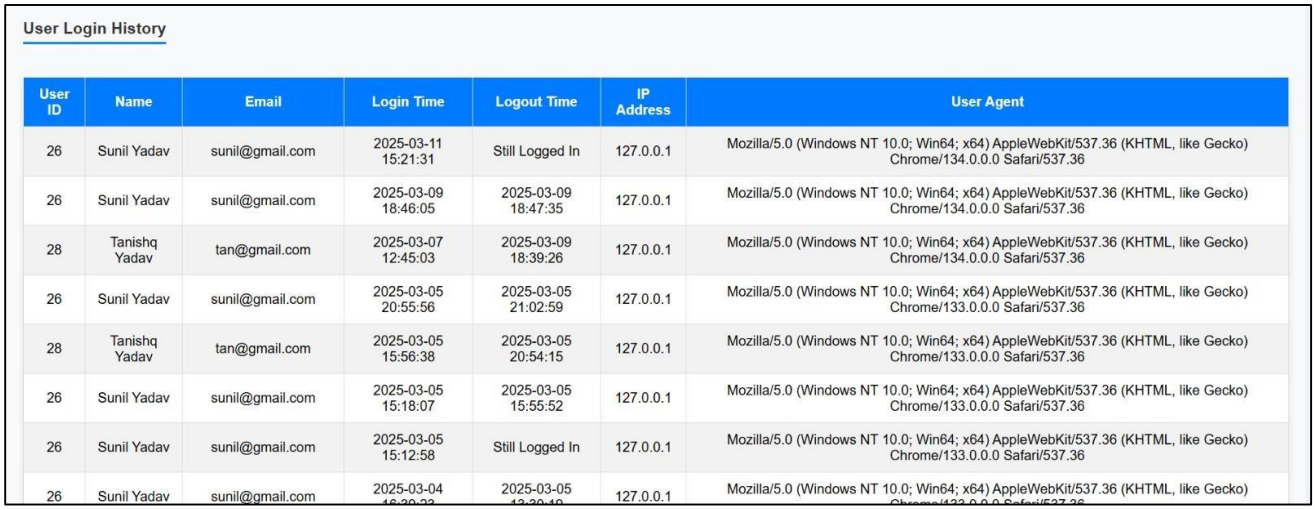
Once admin updates the Status of the product to out of stock the entire rows background color turns red which shows that the product is currently out of stock. The product status automatically changes when the stock reaches 0.

Effect on Website:-



When in admin panel the status changes it directly gets reflected on the website and the add to cart button is changed to the Out of Stock message. Once again when the status is changed to available the background color of the row changes and add to cart button appears on the website.

Login History:-

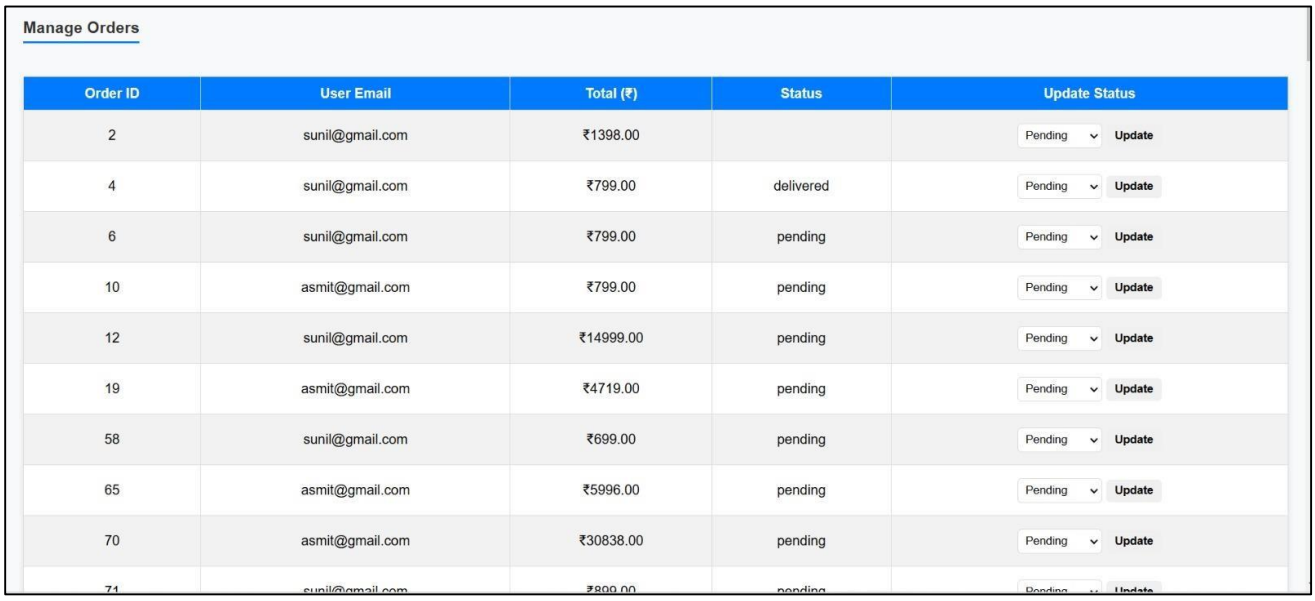


User Login History

User ID	Name	Email	Login Time	Logout Time	IP Address	User Agent
26	Sunil Yadav	sunil@gmail.com	2025-03-11 15:21:31	Still Logged In	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/134.0.0.0 Safari/537.36
26	Sunil Yadav	sunil@gmail.com	2025-03-09 18:46:05	2025-03-09 18:47:35	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/134.0.0.0 Safari/537.36
28	Tanishq Yadav	tan@gmail.com	2025-03-07 12:45:03	2025-03-09 18:39:26	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/134.0.0.0 Safari/537.36
26	Sunil Yadav	sunil@gmail.com	2025-03-05 20:55:56	2025-03-05 21:02:59	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/133.0.0.0 Safari/537.36
28	Tanishq Yadav	tan@gmail.com	2025-03-05 15:56:38	2025-03-05 20:54:15	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/133.0.0.0 Safari/537.36
26	Sunil Yadav	sunil@gmail.com	2025-03-05 15:18:07	2025-03-05 15:55:52	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/133.0.0.0 Safari/537.36
26	Sunil Yadav	sunil@gmail.com	2025-03-05 15:12:58	Still Logged In	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/133.0.0.0 Safari/537.36
26	Sunil Yadav	sunil@gmail.com	2025-03-04	2025-03-05	127.0.0.1	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)

The Login History Table shows the login time and Logout time of the users on the website. If the user hasn't logged out the message appear 'Still Logged In'.

Product Management:-



Manage Orders

Order ID	User Email	Total (₹)	Status	Update Status
2	sunil@gmail.com	₹1398.00		Pending Update
4	sunil@gmail.com	₹799.00	delivered	Pending Update
6	sunil@gmail.com	₹799.00	pending	Pending Update
10	asmit@gmail.com	₹799.00	pending	Pending Update
12	sunil@gmail.com	₹14999.00	pending	Pending Update
19	asmit@gmail.com	₹4719.00	pending	Pending Update
58	sunil@gmail.com	₹699.00	pending	Pending Update
65	asmit@gmail.com	₹5996.00	pending	Pending Update
70	asmit@gmail.com	₹30838.00	pending	Pending Update
71	sunil@gmail.com	₹899.00	pending	Pending Update

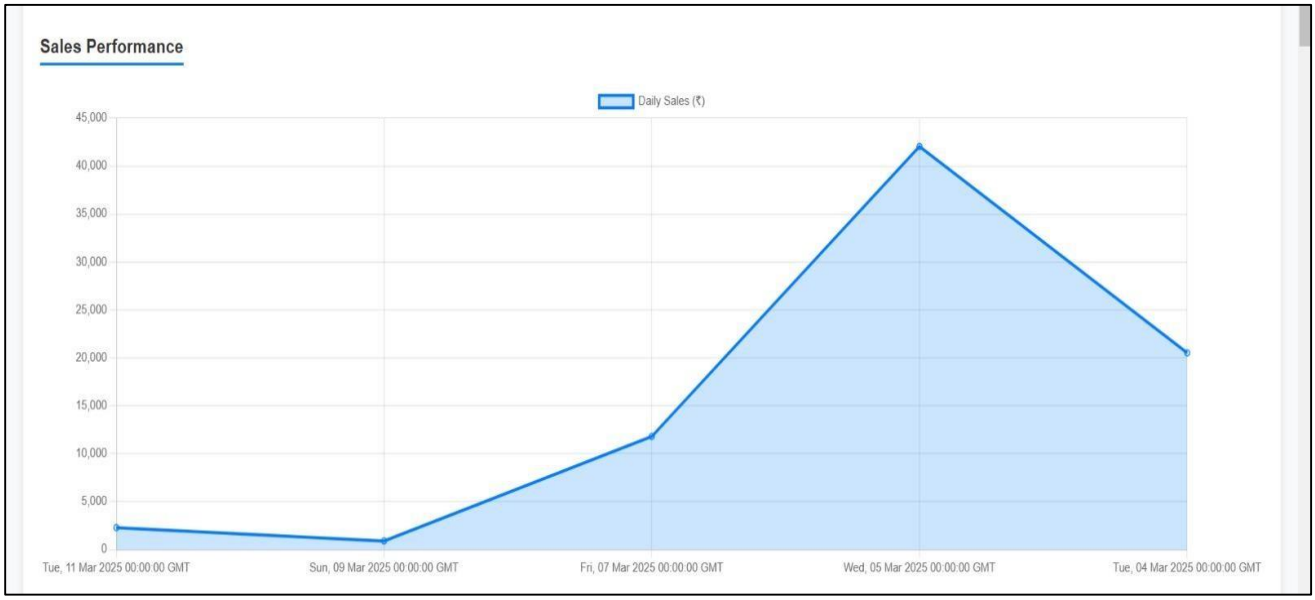
The admin can manage the status of the order between confirmed, pending, completed, delivered and cancelled. This will get refected in the database.

Report Section:-

Report section is very important from the view of revenue, profits and for future strategies. i] Total Sales:-

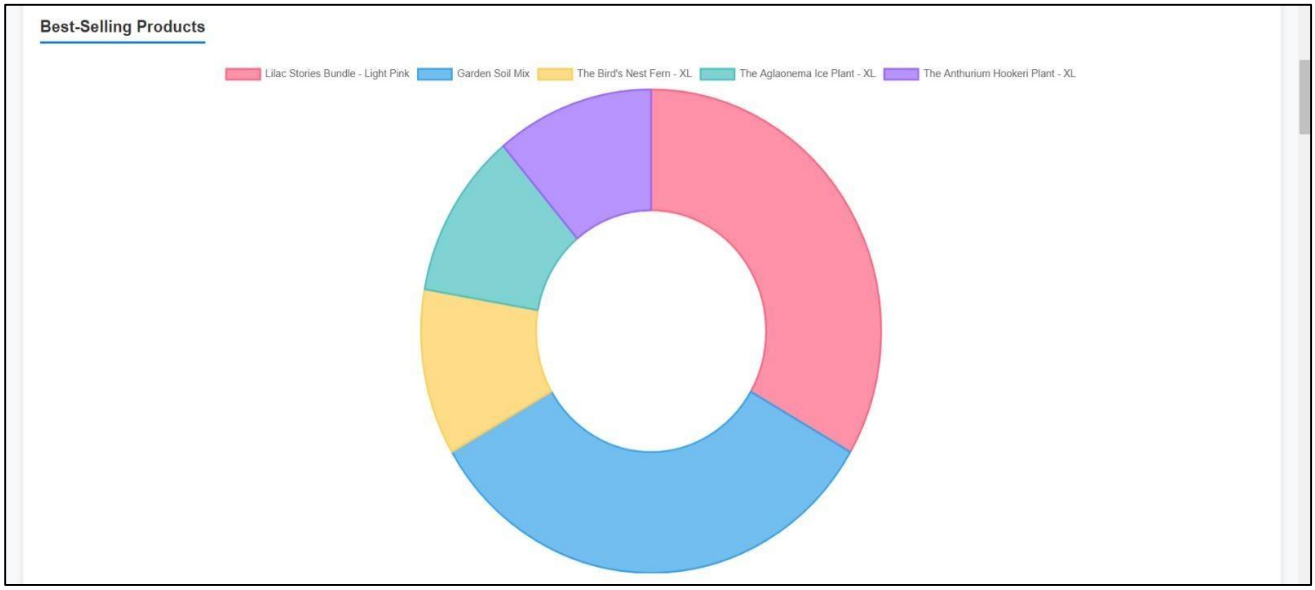
Here admin can see Total Orders, Revenue Earned and Products sold.

ii] Sales Graph:-



This chart shows the sales done in a day(for past 7 days). This allows us to understand how much sales took place in a day.

iii] Best Selling Products:-



From the pie chart the admin can understand which products are the best selling products. This helps the admin to understand which products users like the most and also make strategies for increasing the production of those products and see to it that they don't go out of stock.

iv]Low Stock Products:-

Admin can also check the low stock products. When the stock of a product goes below 5 the product appears in the low stock products table. This helps the admin to understand which products stock are less and can manage accordingly.

Once completed all the work the admin can log out of the dashboard.

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