A Real time research project

on

VRISKHA E-COMMERCE WEBSITE

submitted in partial fulfillment of the requirements for the award of degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING

(Artificial Intelligence & Machine Learning)

by

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Department of Computer Science & Engineering

(Artificial Intelligence & Machine Learning)

BVRIT HYDERABAD COLLEGE OF ENGINEERING FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with A Grade

Bachupally, Hyderabad – 500090

July 2024

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CERTIFICATE

This is to certify that the Real time research project entitled **" VRIKSHA E-COMMERCE WEBSITE"** is a bonafide work carried out by **Ms. K LAXMI PRASANNA (22WH1A6620), Ms. R ASHRITHA (22WH1A6626)**, **Ms. M SAATVIKA (22WH1A6628)** in partial fulfillment for the award of B.Tech degree in **Computer Science & Engineering (AI&ML)**, **BVRIT HYDERABAD College of Engineering for Women, Bachupally, Hyderabad**, affiliated to Jawaharlal Nehru Technological University Hyderabad, under my guidance and supervision. The results embodied inthe project work have not been submitted to any other.

Internal Guide   **Head of the Department**

Ms. V INDU   **Dr. B Lakshmi Praveena**

Assistant Professor   **HOD & Professor**

Dept of CSE(AI&ML)   **Dept of CSE(AIML)**

DECLARATION

We hereby declare that the work presented in this project entitled **"VRIKSHA E-COMMERCE WEBSITE"** submitted towards completion of real time research project work in II Year of B.Tech of CSE(AI&ML) at **BVRIT HYDERABAD College of Engineering for Women,** Hyderabad is an authentic record of our original work carried out under the guidance of **Ms. V INDU, Assistant Professor, Department of CSE(AI&ML).**

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Sign with Date:

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ACKNOWLEDGEMENT

We would like to express our sincere thanks to **Dr. K. V. N. Sunitha, Principal, BVRIT HYDERABAD College of Engineering for Women**, for her support by providing the working facilities in the college.

Our sincere thanks and gratitude to **Dr. B Lakshmi Praveena, Head of the Department, Department of CSE(AI&ML), BVRIT HYDERABAD College of Engineering forWomen,** for all timely support and valuable suggestions during the period of our project. We are extremely thankful to our Internal Guide, **Mr. V I N D U , AssistantProfessor, CSE(AI&ML), BVRIT HYDERABAD College of Engineering for Women,** for her constant guidance and encouragement throughout the project.

We would like to thank our Real Time Project Coordinators , **Mr. K Sundeep Saradhi, Ms. V Asha** and all the Staff of Department of CSE(AI&ML) department who helped usdirectly or indirectly through out the project.

Finally, Last but not least, we wish to acknowledge our **Parents** and **Friends** for giving moral strength and constant encouragement.

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ABSTRACT

- Vriksha is an emerging e-commerce platform offering a diverse selection of high-quality plants, from common houseplants to rare species, catering to gardening enthusiasts and professionals.

- Vriksha offers secure user registration, a user-friendly shopping cart, and a wish list. Advanced search, filtering options, and a smooth checkout process enhance the shopping experience.

- Vriksha is a mobile-friendly platform promoting sustainable gardening practices as part of the Green India initiative. It offers a wide range of plants and gardening essentials, aiming to be a reliable and convenient destination while supporting environmental responsibility.

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1 INTRODUCTION AND BACKGROUND

The core mission of Vriksha is to streamline and elevate the shopping journey for plant lovers. Our dedicated online marketplace offers a thoughtfully curated range of premium plants, including houseplants, succulents, rare varieties, and vital gardening tools, designed to meet the needs of gardeners at every level. By bringing all these essentials together, Vriksha saves users time and effort, providing an easy-to-use interface with comprehensive plant care guides, honest reviews, and tailored suggestions. We focus on ensuring that all products meet the highest quality standards, giving customers peace of mind. At Vriksha, we aim to make shopping for your gardening needs a joyous and smooth experience, allowing you to focus on what truly matters – nurturing your green space. Join us in creating a better shopping experience for all your plant and gardening needs.

1.1 Problem Statement

Gardening enthusiasts and professionals often face challenges in locating a reliable and specialized online resource for high-quality plants and gardening supplies.

Vriksha aims for providing a dedicated e-commerce platform focused exclusively on offering a wide range of premium plants and essential gardening products. With its user-friendly interface, comprehensive plant care information, authentic reviews. Vriksha is designed to streamline the shopping process, enhance user satisfaction, and support a seamless gardening experience.

1.2 Objectives

Provide a User-Friendly Shopping Experience

Develop an intuitive and responsive user interface using HTML, CSS, and JavaScript to ensure a seamless shopping experience for plants lovers.

Ensure Product Quality and Variety

Curate a comprehensive selection of high-quality plant products from trusted suppliers and brands.

Enhance Customer Satisfaction

Offer detailed product descriptions, high-resolution images, and user reviews to help customers make informed purchasing decisions.

Facilitate Secure and Efficient Transactions

Integrate a secure payment gateway using Stripe to ensure safe and hassle-free transactions.

Promote Convenience

Offer features such as wishlists, saved carts, and personalized product recommendations to make shopping more convenient.

Support Small Businesses and Suppliers

Provide a platform for small businesses and suppliers to reach a broader market and grow their customer base.

Leverage Technology for Scalability and Performance

Utilize MySQL Workbench for effective database management to handle large volumes of data and ensure fast query responses.

Ensure Data Security and Privacy

Implement strong security measures such as SSL/TLS encryption and OAuth for secure authentication and data protection.

Analyze and Optimize Performance

Use Google Analytics to track user behavior, monitor website performance, and gather insights to continuously improve the platform.

2 LITERATURE SURVEY

Literature review incorporating the Green India Initiative:

Recent studies have highlighted the increasing interest in online marketplaces dedicated to niche markets, such as gardening. According to Smith et al. (2020), the convenience and variety offered by specialized e-commerce platforms significantly enhance customer satisfaction. Johnson (2019) found that providing detailed product information and care guides helps users make informed decisions, thereby improving their overall shopping experience. Lee and Green (2018) emphasized the importance of user-friendly interfaces in e-commerce, noting that ease of navigation directly impacts user retention and satisfaction. Furthermore, Brown et al. (2021) discussed the role of authentic reviews in building trust and credibility for online platforms. The Green India Initiative, a national effort aimed at increasing green cover and promoting environmental sustainability, has further highlighted the growing demand for gardening and planting resources (Ministry of Environment, Forest and Climate Change, 2021). This initiative aligns with Vriksha's mission by fostering a culture of gardening and environmental stewardship. Collectively, these studies and initiatives underscore the need for specialized, high-quality online resources in the gardening sector, validating Vriksha's mission to create a streamlined and elevated shopping journey for plant enthusiasts.

3 SYSTEM REQUIREMENTS

3.1 Software Requirements

Operating System Development and Deployment Windows 10

Development Environment Primary Languages HTML, CSS, JavaScript for frontend development Backend Development: Java (Spring Framework)

Version Control Git To track changes and collaborate with the team

Integrated Development Environment (IDE) Frontend Development: VS Code or Sublime Text for HTML, CSS, and JavaScript. Backend Development: Eclipse or IntelliJ IDEA for Java

Database Management System MySQL Workbench: For database design and management

Payment Gateway Integration Stripe For secure payment processing

Analytics Tools Google Analytics: For tracking user behavior and website performance

Web Server Apache Tomcat: To deploy Java-based web applications

Security Tools: SSL/TLS Certificates For securing data transmission

Third-Party Libraries and Frameworks
Spring Boot: For building the backend services
React.js: For creating dynamic and responsive frontend interfaces (if chosen)
Bootstrap: For responsive design

3.2 Hardware Requirements

Processor Multi-core processor (e.g., Intel Core i5 or higher) for efficient development and deployment

RAM Minimum 8 GB RAM; 16 GB or more recommended for handling development tasks and running virtual environments

Storage Sufficient storage space (at least 256 GB SSD) for storing code, databases, and other project-related files

Network Connectivity Stable internet connection for development, testing, and deployment purposes

Backup Solutions External hard drive or cloud storage for regular backups of code, databases, and other critical project files.

4 PROPOSED METHODOLOGY

a. Existing System

Ugaoo Ugaoo is an e-commerce platform specializing in gardening products, offering a diverse range of plants, seeds, and gardening tools. The website features a user-friendly design with detailed plant care information and customer reviews. It is optimized for mobile use and provides reliable delivery and support services.

NurseryLive NurseryLive is an Indian online platform offering a wide range of plants, gardening tools, and accessories for enthusiasts to purchase and cultivate greenery conveniently delivered to their doorsteps.

b. Disadvantages

Ugaoo

Limited Specialization: While Ugaoo offers a broad range of gardening products, it may lack specialized options or niche plants compared to more focused platforms.

Website Navigation: Some users may find the website navigation challenging or less intuitive, especially when searching for specific products or information.

Customer Service Issues: There have been occasional reports of slow or unresponsive customer service, which can impact the overall shopping experience.

NurseryLive

Limited ability to physically inspect plants before purchase.
Shipping costs or delays could affect plant health upon delivery

c. Proposed System

In Vriksha, the website features are designed to enhance user experience and functionality. Here's a detailed look at the key features:

Cart

Add to Cart Users can easily add products to their cart with a single click.

View Cart Users can view all the items they have added to their cart at any time, with details like product names, quantities, prices, and total cost.

Update Cart Users can update quantities or remove items from their cart before proceeding to checkout.

Checkout A seamless checkout process that guides users through entering shipping information, selecting payment methods, and placing their order.

Wishlist

Add to Wishlist Users can save products to their wishlist for future reference with a single click.

View Wishlist Users can view all the items they have saved in their wishlist at any time.

Move to Cart Users can easily move items from their wishlist to their cart when they are ready to purchase.

Login

User Authentication A secure login system that requires users to enter their email and password to access their account.

Remember Me An option for users to stay logged in on their device for convenience.

Forgot Password A feature that allows usersto recover their password if they forget it.

d. Advantages

Convenience

Provides parents and caregivers easy access to a comprehensive range of high-quality baby products online, saving time and effort.

Accessibility

Enables shopping anytime and anywhere, catering to busy schedules and varied parenting needs.

Product Variety

Offers a wide selection of curated baby products from trusted suppliers, ensuring diverse choices for consumers.

User Experience

Delivers a seamless and intuitive shopping experience with detailed product descriptions, reviews, and personalized recommendations.

Support for Small Business

Provides a platform for small businesses and suppliers to reach a broader market and grow their customer base.

Scalability

Built on scalable technologies like Spring Framework, Java, and MySQL, ensuring the platform can grow with increasing demand and data volumes.

Community Impact

Contributes to economic growth by supporting local suppliers and enhancing parental satisfaction and child care practices.

e. Proposed System Architecture

Client Side (Frontend)

HTML Used for structuring the content of the website.

CSS Used for styling and designing the layout of the website.

JavaScript Provides client-side interactivity and dynamic content updates.

Server Side (Backend)

Java Servlets Handle server-side logic, manage HTTP requests, and coordinate responses.

JSP (Java Server Pages) Dynamically generate HTML content based on server-side logic and data.

Spring Tool Suite (STS) An IDE for developing Spring applications, providing features to simplify backend development.

Servlet Container (Apache Tomcat) Deployment environment for running Java Servlets and JSP.

Database

MySQL Relational database management system to store and manage product, user, and order data.

JDBC (Java Database Connectivity) Java API for connecting to and interacting with the MySQL database.

4. Admin Interface

Product Management Admin can add, update, and delete products.

Inventory Management Tracks product stock levels.

Order Management Allows admin to view and manage customer orders

5 IMPLEMENTATION

5.1 Sample Code

```
<%@ page language="java" content Type="text/html; charset=ISO-8859-1"
    Page  Encoding="ISO-8859-1"%>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Vriksha Header</title>
    <link
href=https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined:opsz,wght,FILL,GRAD
@20..48,100..700,0..1,-50..200  rel="stylesheet">
    <link href=https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css rel="stylesheet" >
<link
href=https://cdnjs.cloudflare.com/ajax/libs/fontawesome/6.5.2/css/all.min.css  rel="stylesheet" >
 <link  href=https://cdnjs.cloudflare.com/ajax/libs/fontawesome/5.15.3/css/all.min.css  rel="stylesheet"
>
 <link rel="stylesheet" href="header.css">
 <link rel="stylesheet" href="products.css">
 <!-- Include your CSS stylesheets -->
 <link href=https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css rel="stylesheet" >
<link
    <style>
        .slideshow-container {
            max-width: 100%;
            position: relative;
            margin: auto;
            height: 500px; /* Fixed height for the slideshow */
            overflow: hidden; /* Hide overflow to contain images within fixed height */
        }
        .mySlides {
            display: none;
        }
```

```
    .fade {
        animation: fadeEffect 3s infinite; /* Change image every 3 seconds */
    }
    @keyframes fadeEffect {
        0% { opacity: 0; }
        25% { opacity: 1; }
        75% { opacity: 1; }
        100% { opacity: 0; }
    }
    .slideshow-container img {
        width: 100%; /* Ensure images fill the container width */
        height: 100%; /* Ensure images fill the container height */
        object-fit: cover; /* Maintain aspect ratio and cover entire container */
    }
    </style>
</head>
<body>
<%@ include file = "/includes/headJSP/header.jsp"%>
<body>
<div class="slideshow-container">
    <div class="mySlides fade">
                                                                    <img
src=https://cdn.shopify.com/s/files/1/0579/7924/0580/files/MonoonPlants.jpg?v=1718193388
style="width:100%">
    </div>
    <div class="mySlides fade">
                                                                    <img
src=https://cdn.shopify.com/s/files/1/0579/7924/0580/files/monsoonPlanters.jpg?v=1718193530
style="width:100%">
    </div>
    <div class="mySlides fade">
                                                                    <img
src=https://cdn.shopify.com/s/files/1/0579/7924/0580/files/monsoonPlanters.jpg?v=1718193530
style="width:100%">
    </div>
</div>
```
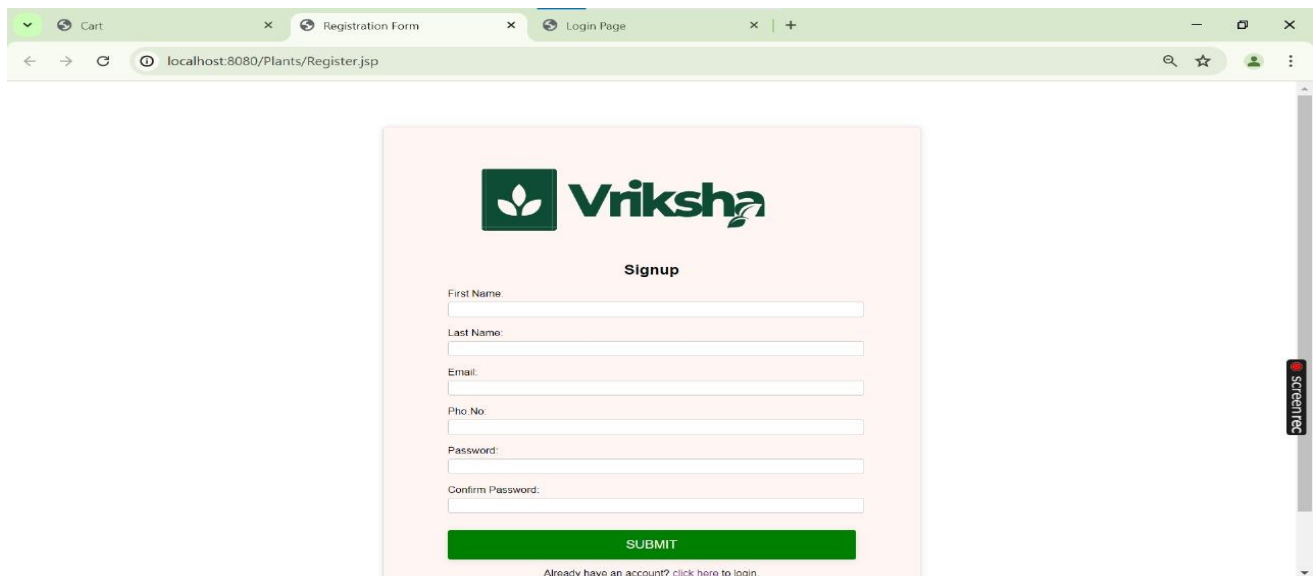
```
<h1><center><b>Must haves</b></center></h1>
<br>
<div class="row must-have">
   <div class="col-md-3 col-sm-6">
      <img src=https://smoor.in/cdn/shop/files/CustomiseCakeWebsiteImages_0051_Chocolate-lovers-cake_1200x1200.jpg?v=1684319299  alt="Best Seller Cakes">
      <p>Best Seller Cakes</p>
   </div>
   <div class="col-md-3 col-sm-6">
          <img   src=https://assets.flowersnfruits.com/uploads/product-pics/1687421279_13134.png alt="Roses">
      <p>Roses</p>
   </div>
   <div class="col-md-3 col-sm-6">
                 <img      src=https://www.zoet.co/cdn/shop/files/Cheese-Crunch-Gift-Hamper-Tray.png?v=1688129765  alt="Hampers">
      <p>Hampers</p>
   </div>
   <div class="col-md-3 col-sm-6">
<imgsrc=https://jumanji.livspacecdn.com/magazine/wpcontent/uploads/sites/2/2022/09/26215854/shutterstock_684988429.jpg  alt="Air Purifying Plants">
      <p>Air Purifying Plants</p>
   <div class="col-md-3 col-sm-6">
   </div>
   <div class="col-md-3 col-sm-6">
      <p>Chocolate Bouquet</p>
   </div>
   <div class="col-md-3 col-sm-6">
      <img src=https://static.tnn.in/photo/104440051/104440051.jpg  alt="Cactus">
      <p>Cactus</p>
   </div>
</div>
<script>
   let slideIndex = 0;
   showSlides();
   function showSlides() {
```

```
            let slides = document.getElementsByClassName("mySlides");

            for (let i = 0; i < slides.length; i++) {

                slides[i].style.display = "none";

            }

            slideIndex++;

            if (slideIndex > slides.length) {

                slideIndex = 1;

            }

            slides[slideIndex - 1].style.display = "block";

            setTimeout(showSlides, 3000); // Change image every 3 seconds

        }

</script>

<script>

    document.addEventListener('DOMContentLoaded', function() {

        const deliveryLocationBtn = document.getElementById('deliveryLocationBtn');

        const selectedCity = localStorage.getItem('selectedCity');

        if (selectedCity) {

            deliveryLocationBtn.textContent = selectedCity;

        } else {

            deliveryLocationBtn.textContent = 'Select City';

        }

    });

</script>

</body>

</html>
```

https://github.com/saatvika07/VrikshaFullStackProject

6 RESULT ANALYSIS
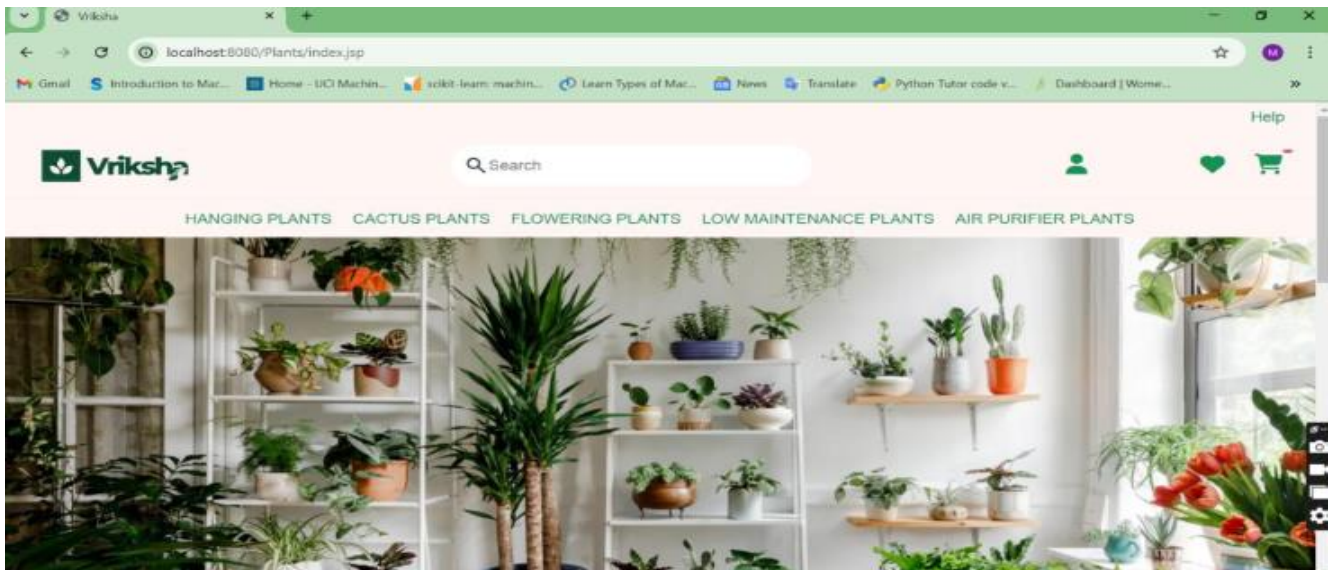
HOME

The Vriksha home page showcases a vibrant plant display with easy navigation, featuring categories like Hanging Plants and Air Purifier Plants.

PRODUCT LIST
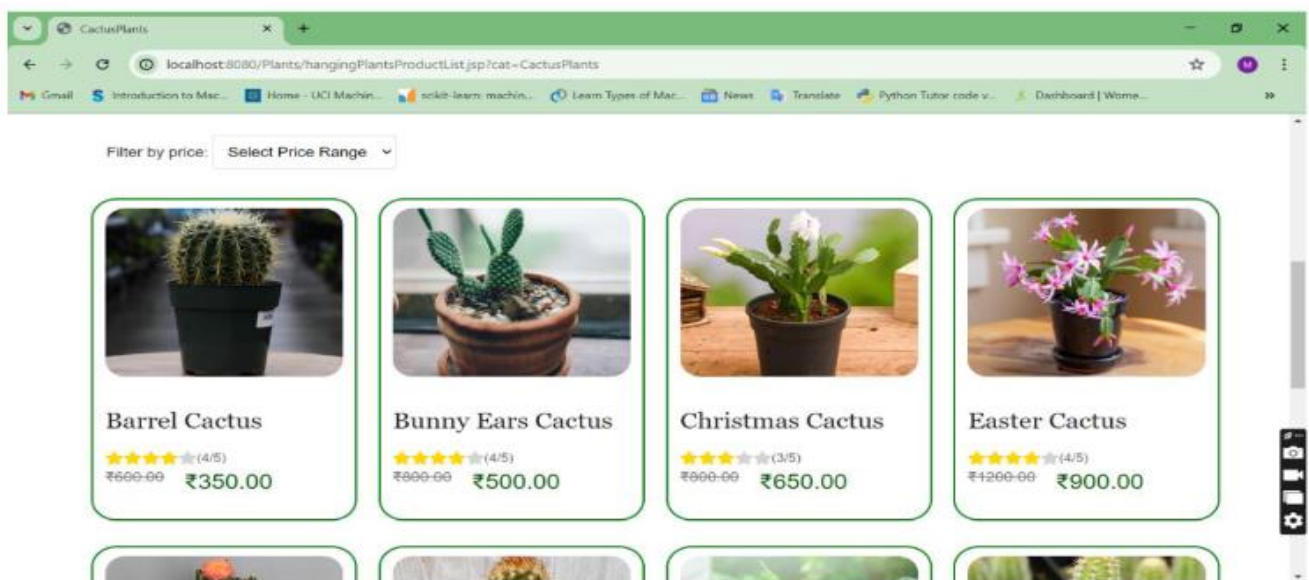
The product list page on Vriksha displays a variety of plants with images, names, ratings, and discounted prices. Users can filter by price to easily find plants that fit their budget and preferences.

SINGUP

The image shows a "Vriksha" signup page with fields for personal information and a "SUBMIT" button. It also includes a login link for existing users.

LOGIN

The image shows a "Vriksha" login page with fields for email and password, and a "SUBMIT" button. It also includes a link for users to sign up if they haven't registered yet.

SINGLE PRODUCT
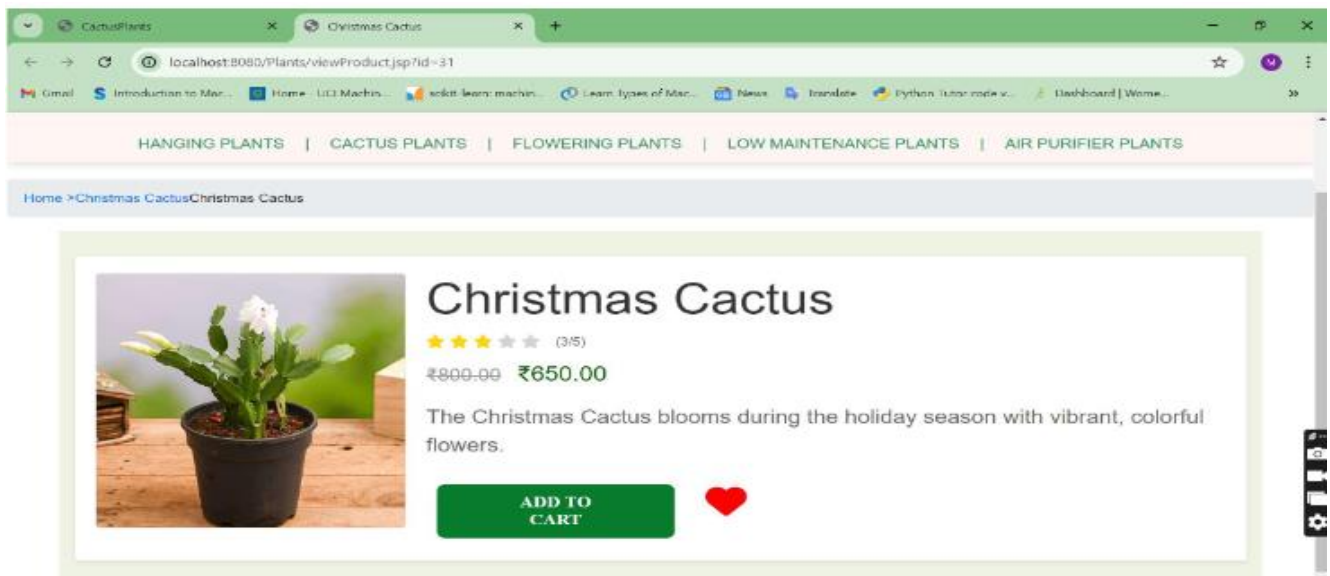
The product detail page on Vriksha showcases an image of the plant, its name, rating, and discounted price. Users can easily add the item to their cart or wishlist from this page.

CART
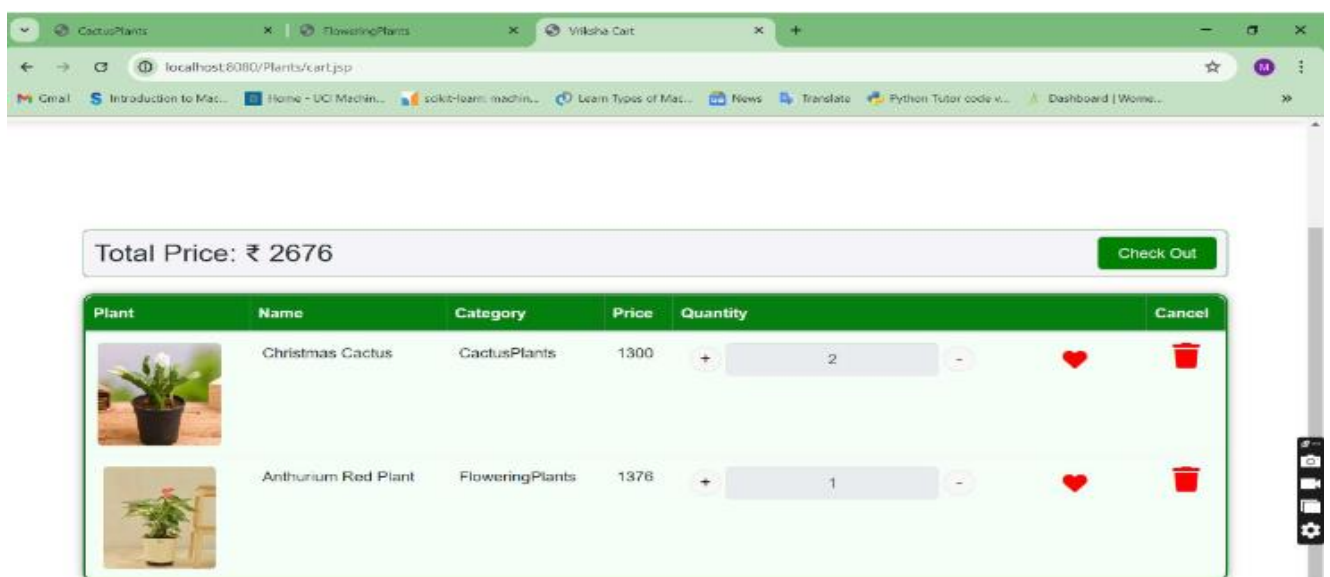
The webpage shows a plant shopping cart with a total price, listing plants which are added to cart. It includes options to adjust quantities, add to favorites, and remove items.

WHISLIST
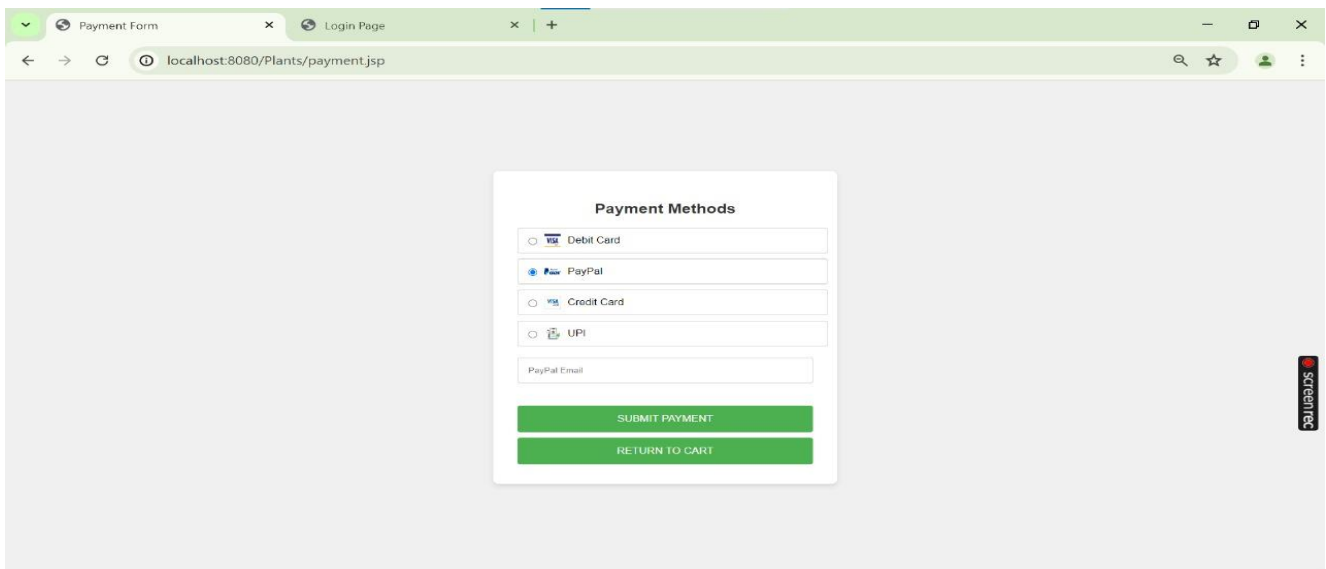
The wishlist shows a Plants with options to add to cart or cancel and price of individual plant. The page is from "Vriksha" with navigation and user account options.

CHECKOUT

The shipping address form on the Vriksha website asks for first name, last name, address, city, state, and pincode, with options to continue to payment or return to cart. It is step 2 in the checkout process, following the cart
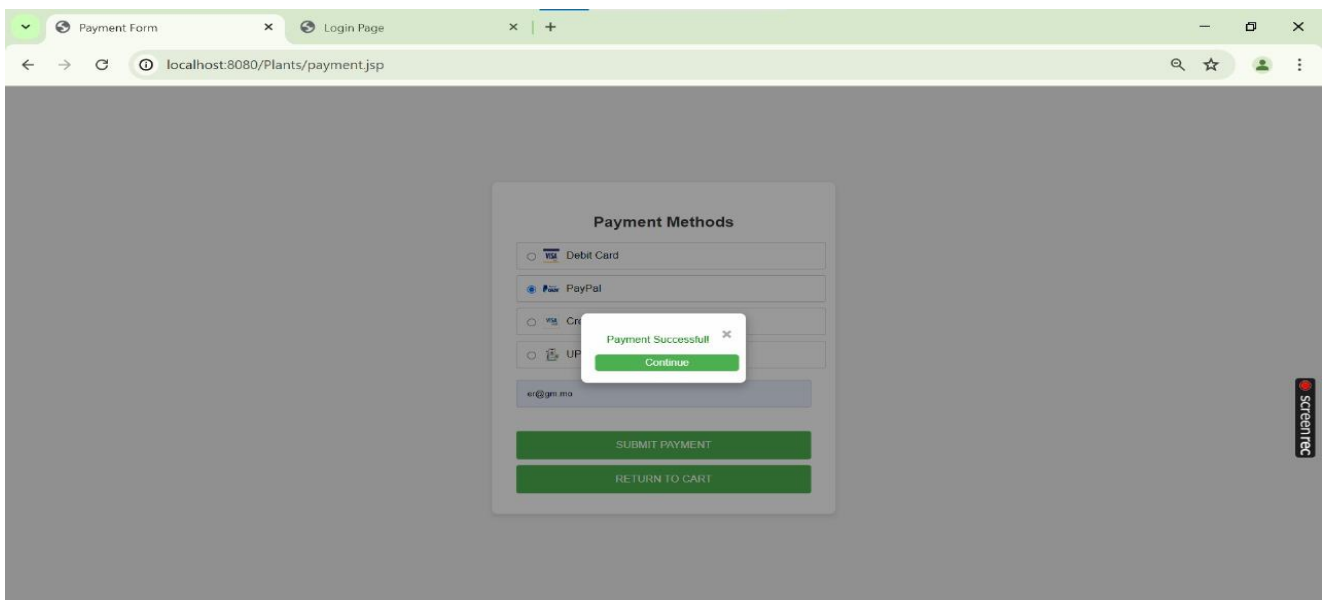
PAYMENT

The payment methods form on the Vriksha website offers options for debit card, PayPal, credit card, and UPI, with a submit payment button and a return to cart option.

PAYMENT CONFIRMED

The image shows a payment confirmation dialog on a website with the message "Payment Successful."

7 CONCLUSION AND FUTURE WORK

a. Conclusion

In conclusion, Vriksha addresses the longstanding challenges faced by gardening enthusiasts and professionals by providing a dedicated online marketplace that prioritizes quality, variety, and user experience. By curating a diverse selection of premium plants, accompanied by comprehensive care guides and genuine customer reviews, Vriksha ensures a streamlined and enjoyable shopping journey. Our mission is to empower users to create and nurture their green spaces with confidence, supported by a platform that simplifies the search for top-quality products. Join us at Vriksha and elevate your gardening experience today

b. Future Work

Recommendations

- Personalized Recommendations: Implement AI-driven personalized recommendations based on user behavior, preferences, and purchase history.

Product Range Expansion

- New Categories: Expand new variety of plants along with their related products.
- Exclusive Nurseries: Introducing nursery selection options for users to support local nurseries.

8 REFERENCES

E-Commerce Best Practices

"Designing Interfaces" by Jenifer Tidwell - A comprehensive guide to UI design patterns and best practices.

- **Secure and Convenient Payment Options**

"PCI Compliance: Understand and Implement Effective PCI Data Security Standard Compliance" by Chad Carleton - A detailed guide to ensuring payment security and compliance with industry standards.

- **Efficient Checkout Process**

"E-Commerce Usability: Tools and Techniques to Perfect the On-Line Experience" by David Travis - Focuses on optimizing the usability of e-commerce websites, including the checkout process.

Ugaoo E-Commerce Sites

The Honest Company Known for its focus on plant products and userfriendly   design.
 Ugaoo features a comprehensive plant products registry and shopping experience.

Technical Development

"Full Stack JavaScript: Learn Backbone.js, Node.js and MongoDB" - Packt Publishing
"Learning React: Functional Web Development with React and Redux" - O'Reilly Media

Design Inspiration

Dribbble
Behance

https://www.ugaoo.com/

https://nurserylive.com/