

**IN
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PLYMOUTH
UNIVERSITY**

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<table border="1"><thead><tr><th>Plymouth Id</th><th>Student Name</th></tr></thead><tbody><tr><td>10898630</td><td>Jayamuni Rashminda</td></tr><tr><td>10815319</td><td>Onaliy Jayawardana</td></tr><tr><td>10898638</td><td>Udugodage Rodrigo</td></tr><tr><td>10898432</td><td>Dona Bodhinayaka</td></tr><tr><td>10898484</td><td>Kariyawasam Induwara</td></tr><tr><td>10898598</td><td>Waniga Perera</td></tr></tbody></table>		Plymouth Id	Student Name	10898630	Jayamuni Rashminda	10815319	Onaliy Jayawardana	10898638	Udugodage Rodrigo	10898432	Dona Bodhinayaka	10898484	Kariyawasam Induwara	10898598	Waniga Perera
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<p>We confirm that we have read and understood the Plymouth University regulations relating to Assessment Offences and that we are aware of the possible penalties for any breach of these regulations. We confirm that this is the independent work of the group.</p>															
Signed on behalf of the group: 															
We have not used translation software.															
Overall mark _____ % Assessors Initials _____ Date _____															

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1. Abstraction

In an era where the supermarket industry is continually evolving, the importance of a robust online presence cannot be overstated. This abstract introduces Green supermarket, an innovative online selling supermarket website designed to provide customers with a seamless and convenient shopping experience. Green supermarket is a digital marketplace that transcends the limitations of traditional brick-and-mortar supermarkets, offering a diverse array of products ranging from fresh produce and groceries to household essentials and specialty items. The platform provides an intuitive and user-friendly interface, ensuring hassle-free navigation for the populace.

The website is partitioned into two modules namely the customer interface and the admin workspace.

This web-based system facilitates customer interaction with products through a user-friendly interface. To engage with product details, customers are required to register, allowing view product details, place orders, and make purchases with the convenience of home delivery.

The admin module includes the authority to manage product information through tasks such as adding, deleting, and updating details. Additionally, administrators can customize various aspects of the website to meet evolving requirements, ensuring adaptability. The module also facilitates system oversight, allowing administrators to monitor customer activities closely, thereby ensuring a seamless and secure user experience.

2. Introduction

Green Supermarket, a stalwart in the supermarket industry, has witnessed significant evolution since its inception. However, one area that has lagged is its online presence, particularly its outdated website. Recognizing the imperative of aligning with modern consumer expectations and industry standards, the decision to revamp the website has been made. This report outlines a comprehensive strategy to modernize the online platform of Green Supermarket, incorporating cutting-edge technologies such as Java JSP, and Servlet.

The objective of this project is to transform Green Supermarket's online interface by integrating contemporary features that align with current industry standards. The existing limitations, such as the absence of online shopping capabilities, inadequate payment processing methods, lack of collision avoidance during shopping, and insufficient tools for visualizing customer feedback, necessitate a strategic overhaul.

The envisioned transformation involves not only addressing current drawbacks but also proactively incorporating features that are now integral to a seamless online shopping experience. The introduction of online shopping capabilities streamlined online payment processes, collision avoidance mechanisms, visual representation of customer feedback for managerial insights, and real-time communication through email notifications are pivotal components of this overhaul.

By embracing Java JSP, and Servlet technologies, this initiative aims to ensure a responsive, user-friendly, and dynamic online interface. These technologies are selected for their versatility and compatibility, allowing for the integration of modern features while maintaining a robust and scalable architecture.

The ensuing sections of this report delve into the specific components of the proposed transformation, providing a blueprint for implementation. The ultimate goal is to position Green Supermarket at the forefront of digital innovation within the supermarket industry, enhancing customer satisfaction, operational efficiency, and overall competitiveness in the evolving retail landscape.

3. Identified Process

1. User Registration and Login:

- A secure user registration and login system to personalize user experiences.

2. Admin Login:

- A secure admin login where admin has a separate view to manage inventory and orders.

2. Online Shopping:

- A user-friendly interface for browsing products.
- Enabling customers to add items to their cart and proceed to checkout.

3. Order Tracking:

- Enabling customers to track their orders and know whether they are dispatched or not.

3. Online Payment Handling:

- Integrating secure payment gateways (PayPal) to facilitate online transactions.

4. Avoid Shopping Collisions:

- A real-time inventory system to prevent overselling or conflicts in product availability.

5. Visualization of Customer Feedback:

- A dashboard for managers to view customer feedback.

6. Inventory Management:

- Admin can add new inventory, update existing inventory, update the stock amount, and delete products

7. SMS/Email Notifications:

- Automated notifications for user registration, purchase confirmations, order cancellations and stock addition.

8. Responsive Design:

- The website is responsive for a seamless user experience across various devices.

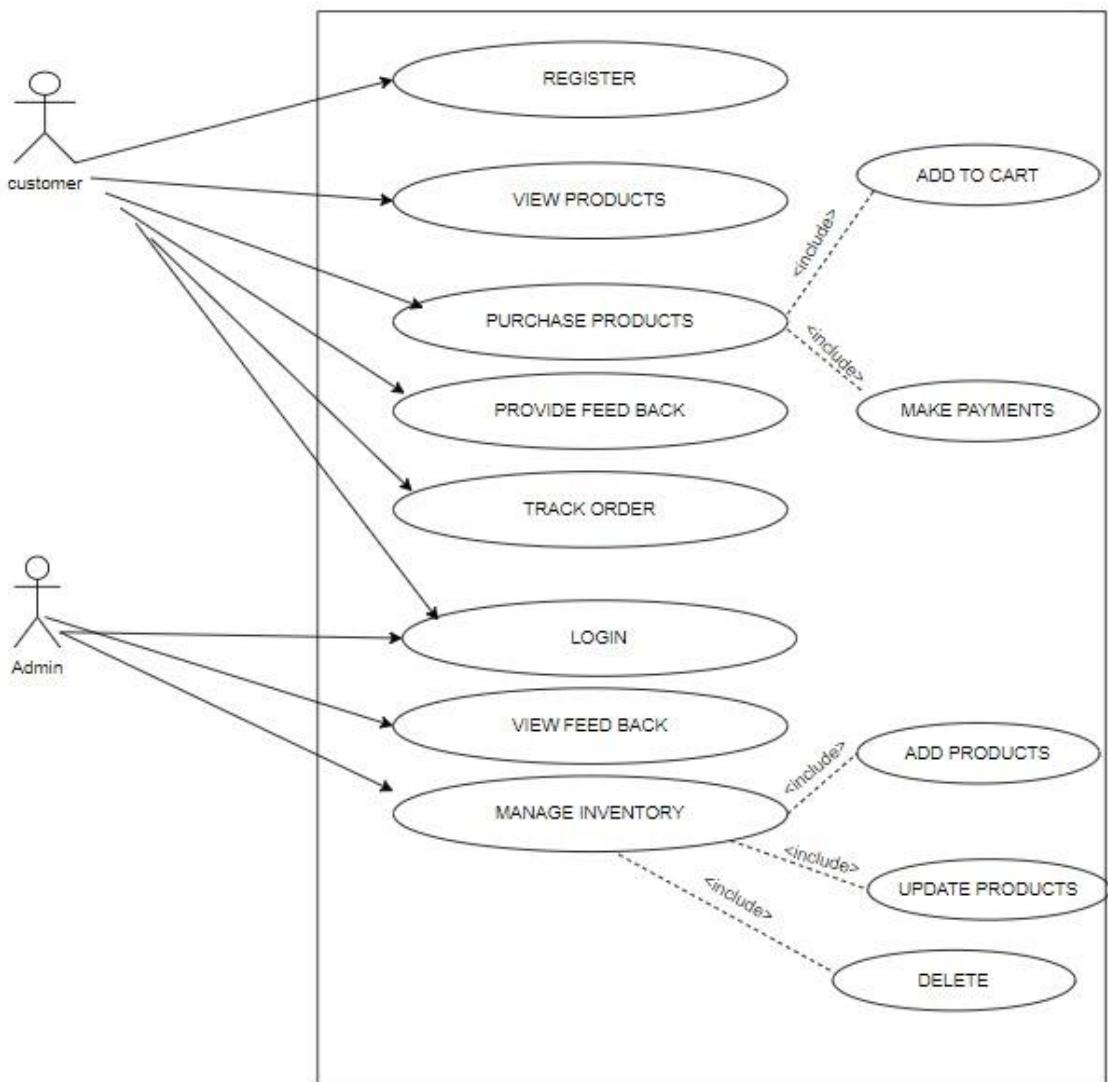
9. Security Measures:

- Robust security measures to protect user data and transaction information.

10. Integration Testing:

- Ensured thorough testing to ensure seamless integration of the new features without compromising existing functionalities.

4. Use Case Diagram



5. Use Case Narration

Name	Register
Description	Customer registers with the website
Actors	Customer
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Go to the signup page.</p> <p>Fill the registration form and submit it.</p> <p>Receive registration confirmation email.</p> <p>View registration confirmation message on the website.</p>
Pre-conditions	<p>The same Customer (same email address) should not have been registered with the website before.</p> <p>Enter all valid details</p>
Post-conditions	<p>Receive confirmation email.</p> <p>Customer can login through the submitted credentials.</p>

Name	Login
Description	Customer or admin logs in to the website
Actors	Customer, Admin
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Go to the login page.</p> <p>Enter email and password and click on login.</p> <p>Login to the respective home page (user home page or admin home page).</p>
Pre-conditions	The Customer or admin should have been registered with the website before.

	Enter all valid credentials
Post-conditions	User or admin can login to the respective home page (user home page or admin home page).

Name	View Products
Description	Customer or Admin views the products.
Actors	Customer, Admin
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Click on All Products or on category pages.</p> <p>View the relevant products.</p>
Alternative Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to their respective account.</p> <p>Click on All Products or on category pages.</p> <p>View the relevant products.</p>
Pre-conditions	User or admin should visit to the website.
Post - conditions	User or admin views the products

Name	Purchase Products
Description	Customer purchase products from the website.
Actors	Customer
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Add products to the cart.</p> <p>Visit cart page.</p> <p>Click on Pay with PayPal button.</p>

	Pay through PayPal account.
Pre-conditions	User should login to the website.
Post-conditions	User receives payment confirmation email.

Name	Provide Feedback
Description	Customer provides feedback to the website.
Actors	Customer
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Visit feedback page.</p> <p>Enter feedback details and submit.</p>
Pre-conditions	User should enter all the feedback (name, email, and feedback) details and submit it.
Post-conditions	User can view the submitted feedback message in the website.

Name	Track Orders
Description	Customer tracks orders placed.
Actors	Customer
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Visit track orders page.</p> <p>View the order tracking details.</p>
Pre-conditions	User should login to the account.
Post-conditions	User can view the order tracking details.

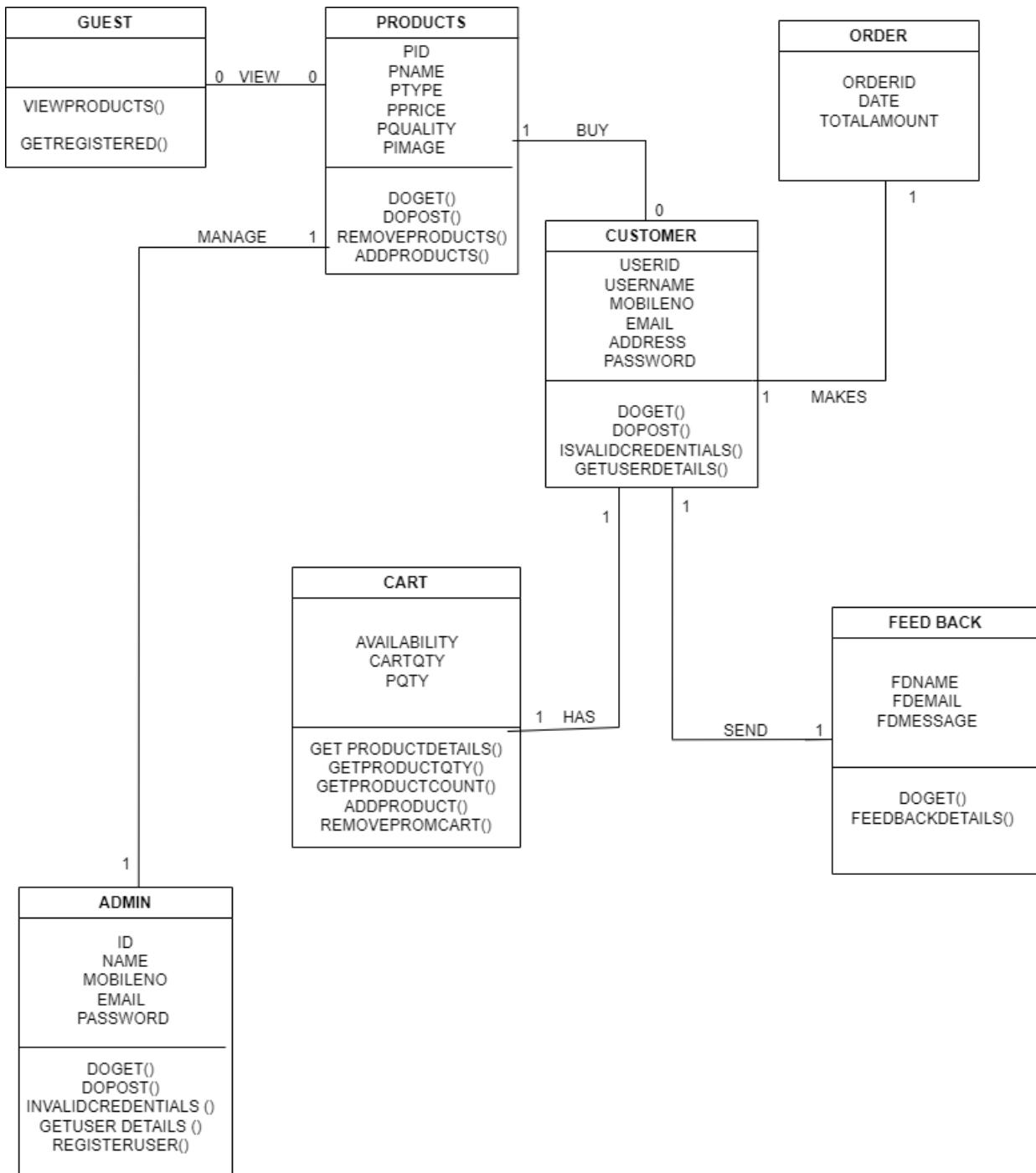
Name	View Feedback
Actors	Admin
Description	Admin views the feedback provided by customers.
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Visit feedback page.</p> <p>View the feedback messages with the email addresses.</p>
Pre-conditions	User should login to the account.
Post-conditions	User can view feedback messages with the email addresses.

Name	Add Inventory
Description	Admin adds new products to the website.
Actors	Admin
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Visit add inventory page.</p> <p>Add new inventory details and submit.</p>
Pre-conditions	Admin should login to the account.
Post-conditions	Admin can add new inventory items to the website

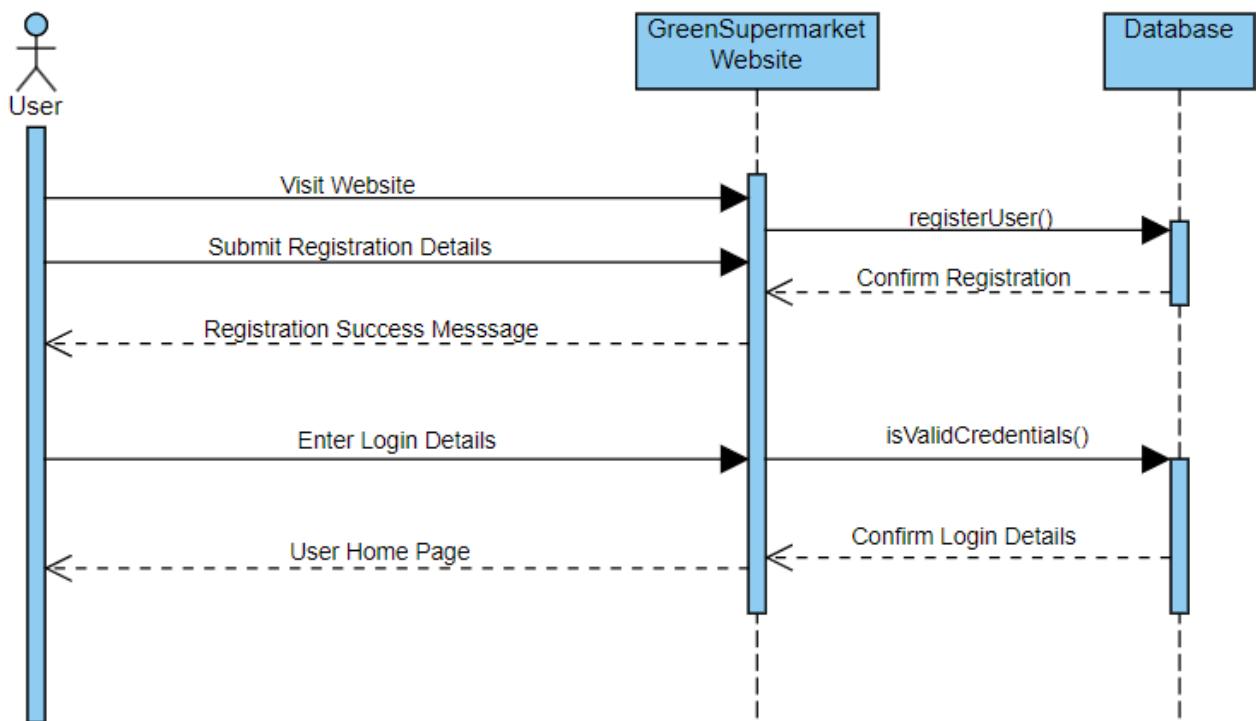
Name	Update Inventory
Description	Admin updates details of existing products in the website.
Actors	Admin
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Visit product pages.</p> <p>Click on update button of an inventory item.</p> <p>Update inventory details and submit.</p>
Pre-conditions	Admin should login to the account.
Post-conditions	Admin can update inventory items of the website

Name	Delete Inventory
Actors	Admin
Description	Admin deletes products from the website.
Basic Flow	<p>Visit to the Green Supermarket website.</p> <p>Login to the account.</p> <p>Visit product pages.</p> <p>Click on delete button of an inventory item.</p>
Pre-conditions	Admin should login to the account.
Post-conditions	Admin can delete the inventory item from the website

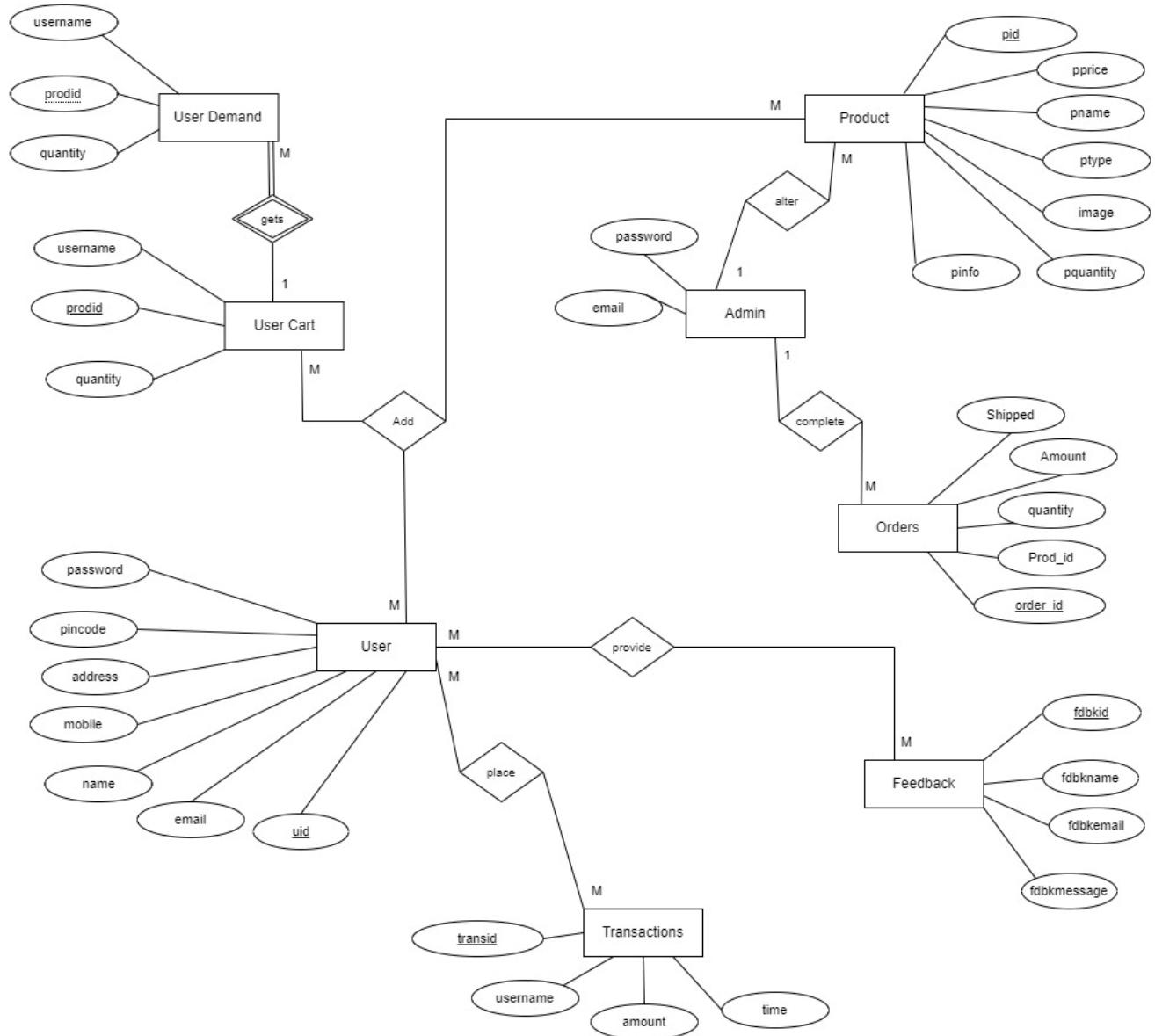
6. Class Diagram



7. Sequence Diagram



8. ER Diagram



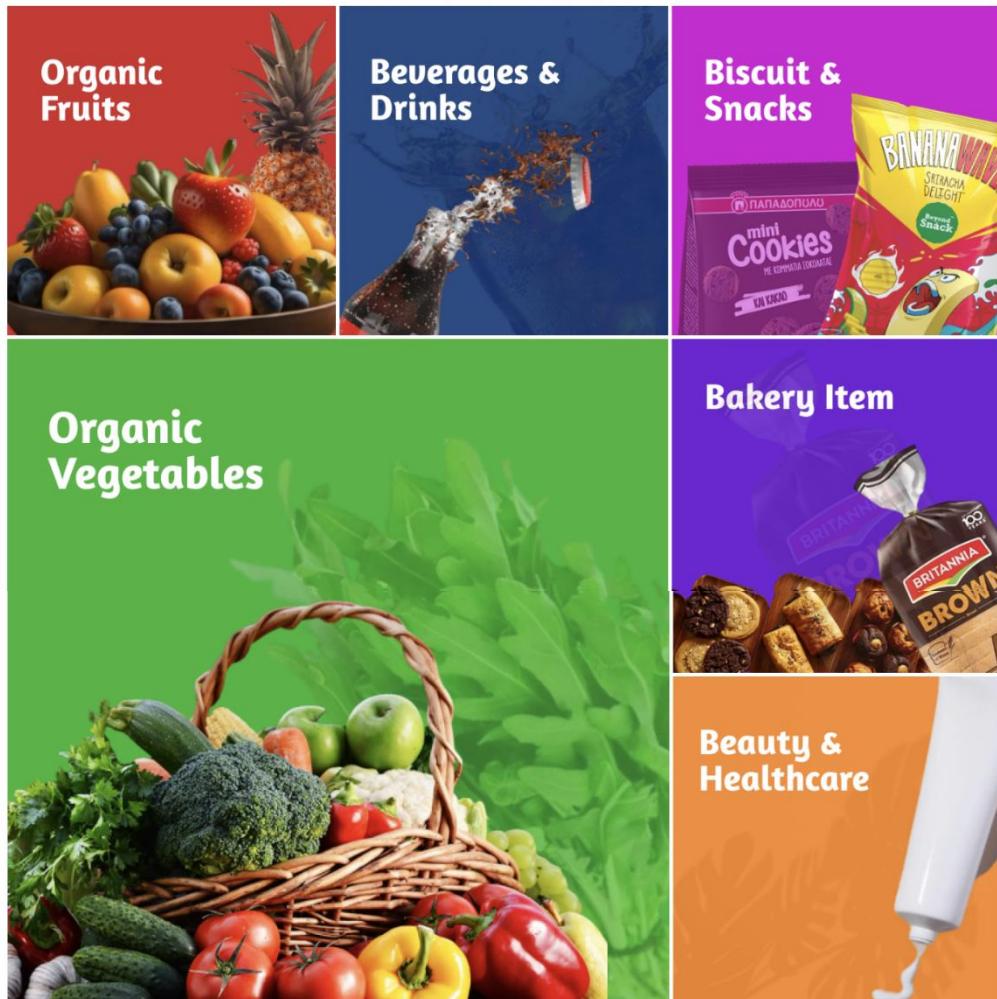
9. Samples of the Developed System

8.1 Home Page for All Users

This is the home page which will be displayed for all the visitors of the website.

The screenshot displays the homepage of the Green Supermarket website. At the top, there's a navigation bar with links for Categories, Home, All Products, Track Orders, Contact Us, and About Us. A search bar is also present. On the left, a yellow banner encourages users to "Fill Your Cart with Freshness and Flavor" and features a "Order Now" button. Below this is a collage of various grocery items. The main content area includes a large image of a woman smiling and giving a thumbs up while holding a phone, standing next to a shopping cart filled with groceries. To the right, another woman is seen reaching for a Milo product on a shelf. Below these images are three promotional boxes: "Best Prices & Offers" (with a percentage icon), "Delivery to Doorstep" (with a truck icon), and "Secured Online Payment" (with a shield icon). Further down, there are two more boxes: "Secure Payments With Paypal" (showing a hand holding a smartphone with the PayPal logo) and "We Value Your Feedback" (showing two people interacting with a feedback interface). A section titled "4 Best Deals" lists four products: Red Apple - 1Kg (Rs.1380.00), Fortune Coconut Oil - 1L (Rs.700.00), Cauliflower (Rs.990.00), and Cheese Buttons (Rs.300.00). At the bottom, there's a "Shop By Category" section with three colored boxes: red for "Organic", blue for "Beverages & ...", and purple for "Biscuit & ...".

Shop By Category



About Us

Green Supermarket, Where Sustainability Meets Convenience. At Green Supermarket, We Are Committed To Providing You With A Diverse Selection Of High-Quality, Locally-Sourced, And Eco-Friendly Products. Our Mission Is To Create A Greener Shopping Experience That Not Only Meets Your Needs But Also Aligns With Your Values.

Categories

- > Organic Vegetables
- > Organic Fruits
- > Grocery Items
- > Bakery Items
- > Biscuits & Snacks
- > Beverages & Juices
- > Beauty & Healthcare

Useful Links

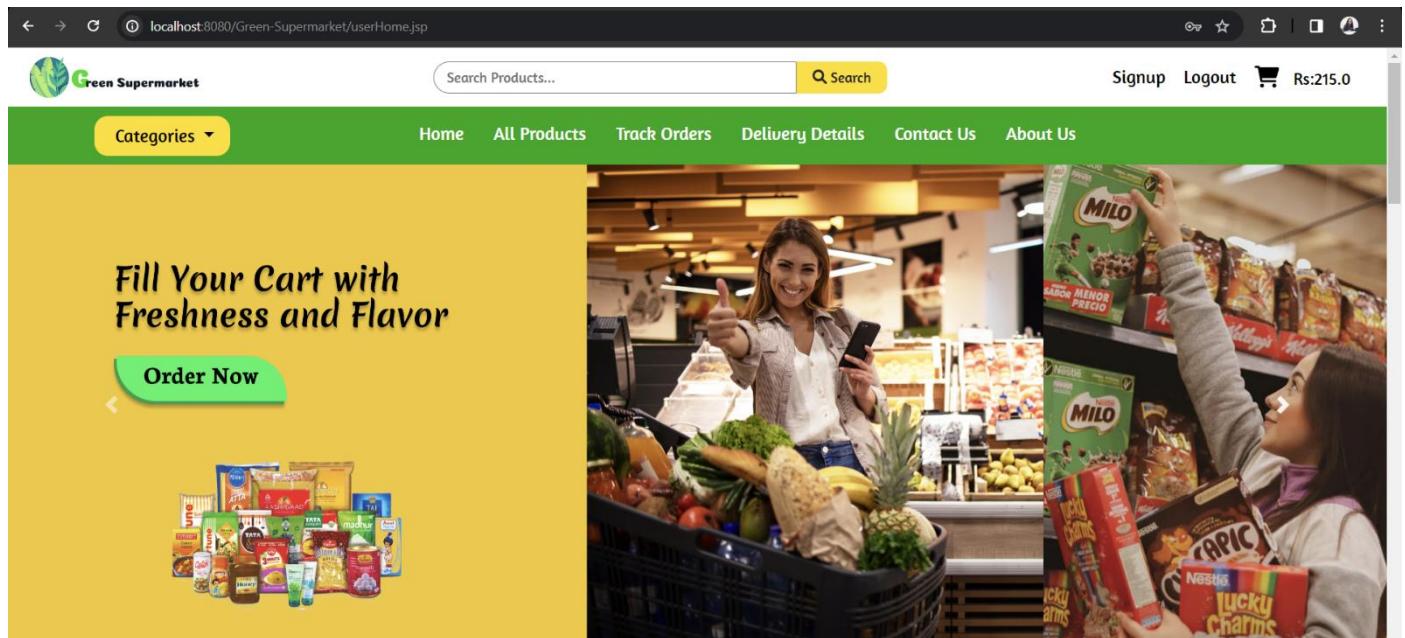
- > Home
- > All Products
- > About Us
- > Contact Us
- > Sign Up
- > Login

Get In Touch

- 📍 Pitipana, Homagama
- 📞 011 123 1234
- ✉️ Green@Gmail.Com
- 🔗 [Twitter](#) [Facebook](#) [YouTube](#) [Instagram](#) [LinkedIn](#)

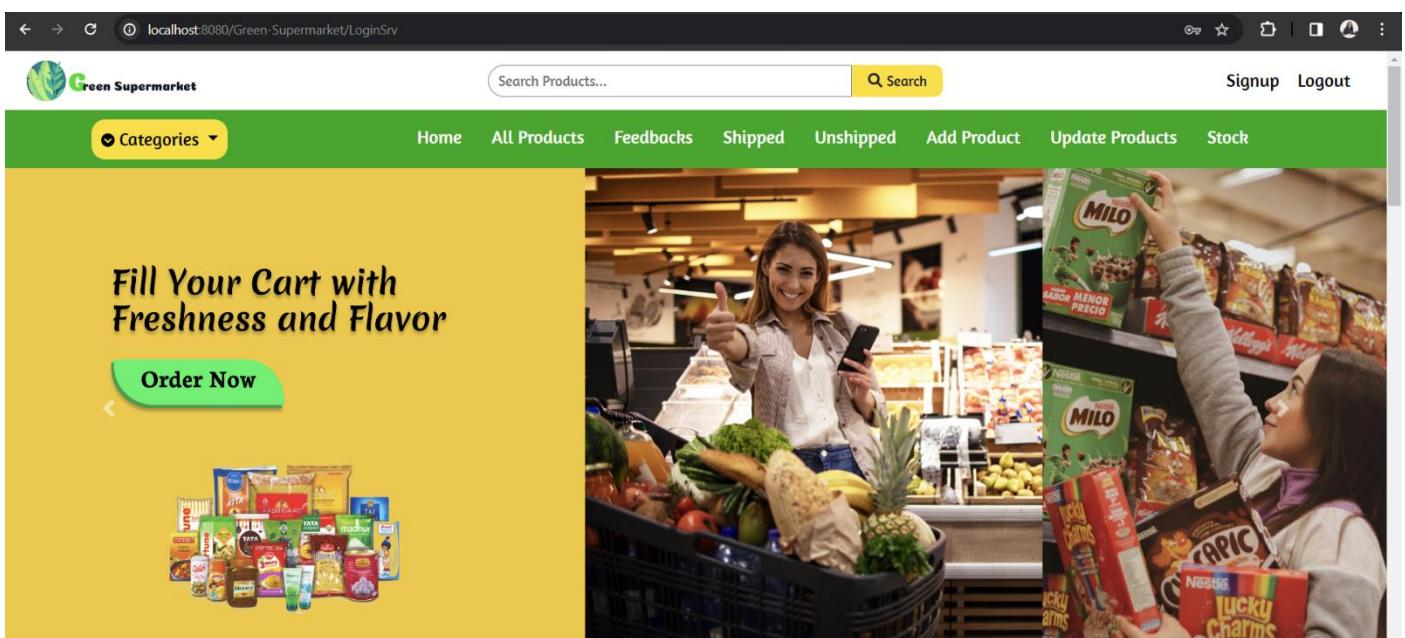
8.2 Home Page for Users Logged In

The users who are logged in to the website views a home page with a different navigation bar with extra options such as Track Orders, Profile, Contact Us, About Us and Cart



8.3 Home Page for Admin

The admins who are logged in to the website views a home page with a different navigation bar with extra admin options such as Undispatched Orders, Dispatched Orders, Add Products, Update Products and Stock.



8.4 Category Options

The users have the option to browse products based on the category. Products are categorized into 7 categories as Organic Vegetables, Organic Fruits, Grocery Items, Bakery Items, Biscuits and Snacks, Beverages and Drinks and Beauty and Healthcare.

The screenshot shows the homepage of the Green Supermarket. At the top, there is a navigation bar with links for Home, All Products, Track Orders, Contact Us, and About Us. On the left, a sidebar titled "Categories" lists seven options: Organic Vegetables, Organic Fruits, Grocery Items, Bakery Items, Biscuits & Snacks, Beverages & Drinks, and Beauty & Healthcare. Below the sidebar is a yellow banner with the text "Cart with s and Flavor" and a small image of a shopping cart filled with various grocery items. To the right of the banner is a large promotional image featuring two women in a supermarket aisle. One woman is smiling and giving a thumbs up while holding a smartphone, and the other is reaching up to grab a box of Milo from a shelf. The background of the main content area shows shelves stocked with various products like Milo, Lucky Charms, and Nestle items.

8.5 Category Pages

Organic Vegetables:

The screenshot shows the "Organic Vegetables" category page. The top navigation bar includes links for Home, All Products, Track Orders, Delivery Details, Contact Us, and About Us. The main title "Organic Vegetables" is centered above a grid of eight product cards. Each card displays an image of a vegetable, its name, weight, and price, along with a shopping cart icon. The products listed are Leeks (1Kg, USD 2.0), Green Chillies (1Kg, USD 4.0), Pumpkin (1Kg, USD 1.0), Gotukola (USD 1.0), Carrots (USD 1.0), Cabbage (USD 1.0), Lettuce (USD 1.0), and Spinach (USD 1.0).

Product	Weight	Price
Leeks	1Kg	USD 2.0
Green Chillies	1Kg	USD 4.0
Pumpkin	1Kg	USD 1.0
Gotukola		USD 1.0
Carrots		USD 1.0
Cabbage		USD 1.0
Lettuce		USD 1.0
Spinach		USD 1.0

Organic Fruits:

The screenshot shows the 'Organic Fruits' section of the website. At the top, there's a navigation bar with links for 'Categories', 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. A search bar is also present. The main heading 'Organic Fruits' is centered above a grid of fruit images. The grid contains four items in the first row: 'Green Apple - 1Kg' (USD 5.0), 'Red Apple - 1Kg' (USD 5.0), 'Yellow Apple - 1Kg' (USD 7.0), and 'Pineapple - 1Kg' (USD 2.0). Below this row, there are two more rows of fruit images, each containing two items.

Grocery Items:

The screenshot shows the 'Grocery Items' section of the website. The layout is similar to the Organic Fruits page, with a navigation bar at the top and a main heading 'Grocery Items' centered above a grid of grocery items. The grid contains four items in the first row: 'Mysoore Dhal - 1Kg' (USD 1.0), 'White Kekulu Rice - 1Kg' (USD 1.0), 'Red Kekulu Rice - 1Kg' (USD 1.0), and 'White Slender Rice - 1Kg' (USD 2.0). Below this row, there are two more rows of grocery items, each containing two items.

Bakery Items:

The screenshot shows the 'Bakery Items' page of the Green Supermarket website. At the top, there is a navigation bar with links for 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. A search bar is also present. The main title 'Bakery Items' is centered above a grid of eight product cards. The products shown are: Top Crust Bread (450g, USD 1.0), Sandwich Bread (750g, USD 1.0), Sandwich Bread (450g, USD 1.0), Cheese And Onion Bread (USD 1.0), French Bread (USD 1.0), Chocolate Chip Cookies (USD 1.0), Smart Cream Crackers (USD 1.0), and another type of bread (USD 1.0). Each card includes a small image of the product and its details.

Biscuits and Snacks:

The screenshot shows the 'Snacks And Biscuits' page of the Green Supermarket website. The layout is similar to the bakery page, with a navigation bar at the top and a main title 'Snacks And Biscuits' centered above a grid of eight product cards. The products shown are: Real Tasty Cashew (200g, USD 5.0), Munchee Marie Chocolate (400g, USD 1.0), Maliban Smart Cream Crackers (125g, USD 1.0), Maliban Biscuit Krisco (170g, USD 1.0), Lays Potato Chips (USD 1.0), Munchies (USD 1.0), Tetos (Real Potato, USD 1.0), and another type of biscuit (USD 1.0). Each card includes a small image of the product and its details.

Beverages and Drinks:

The screenshot shows a web browser displaying the 'Drinks' category page of the 'Green Supermarket' website. The URL is 'localhost:8080/Green-Supermarket/Drinks.jsp'. The page has a green header bar with the supermarket logo, a search bar, and links for 'Signup', 'Logout', and a shopping cart showing 'Rs:0.0'. Below the header is a navigation menu with 'Categories' (selected), 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. The main title 'Beverages & Drinks' is centered above a grid of product cards. The grid contains six visible products: MD Cordial Mango 750ml (USD 3.0), MD Cordial Mixed Fruit 750ml (USD 3.0), MD Cordial Nelli 750ml (USD 3.0), MD Sherbert Syrup 750ml (USD 3.0), a can of Monster Energy drink, a can of Red Bull energy drink, and another can of Red Bull energy drink.

Beauty and Healthcare:

The screenshot shows a web browser displaying the 'beauty.jsp' category page of the 'Green Supermarket' website. The URL is 'localhost:8080/Green-Supermarket/beauty.jsp'. The page has a green header bar with the supermarket logo, a search bar, and links for 'Signup', 'Logout', and a shopping cart showing 'Rs:0.0'. Below the header is a navigation menu with 'Categories' (selected), 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. The main title 'Beauty & Healthcare' is centered above a grid of product cards. The grid contains four visible products: Ayush Turmeric Face Cream 50g (USD 2.0), 4Ever Veniuel Face Wash 185ml (USD 1.0), 4Ever Face Wash Aloe Lavender 100ml (USD 1.0), and Nature Secrets Face Wash Lotus 100ml (USD 1.0). Below these are two more product cards: POND'S White Beauty cream and Pond's Pimple Clear cream.

All Products:

The screenshot shows the 'All Products' page of the 'Green Supermarket' website. At the top, there is a navigation bar with links for 'Categories', 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. A search bar is also present. The main content area is titled 'All Products' and displays four fruit items in a grid: 'Green Apple - 1Kg USD 5.0', 'Red Apple - 1Kg USD 5.0', 'Yellow Apple - 1Kg USD 7.0', and 'Pineapple - 1Kg USD 2.0'. Below this grid, there are two more rows of fruit images, though their details are not fully visible.

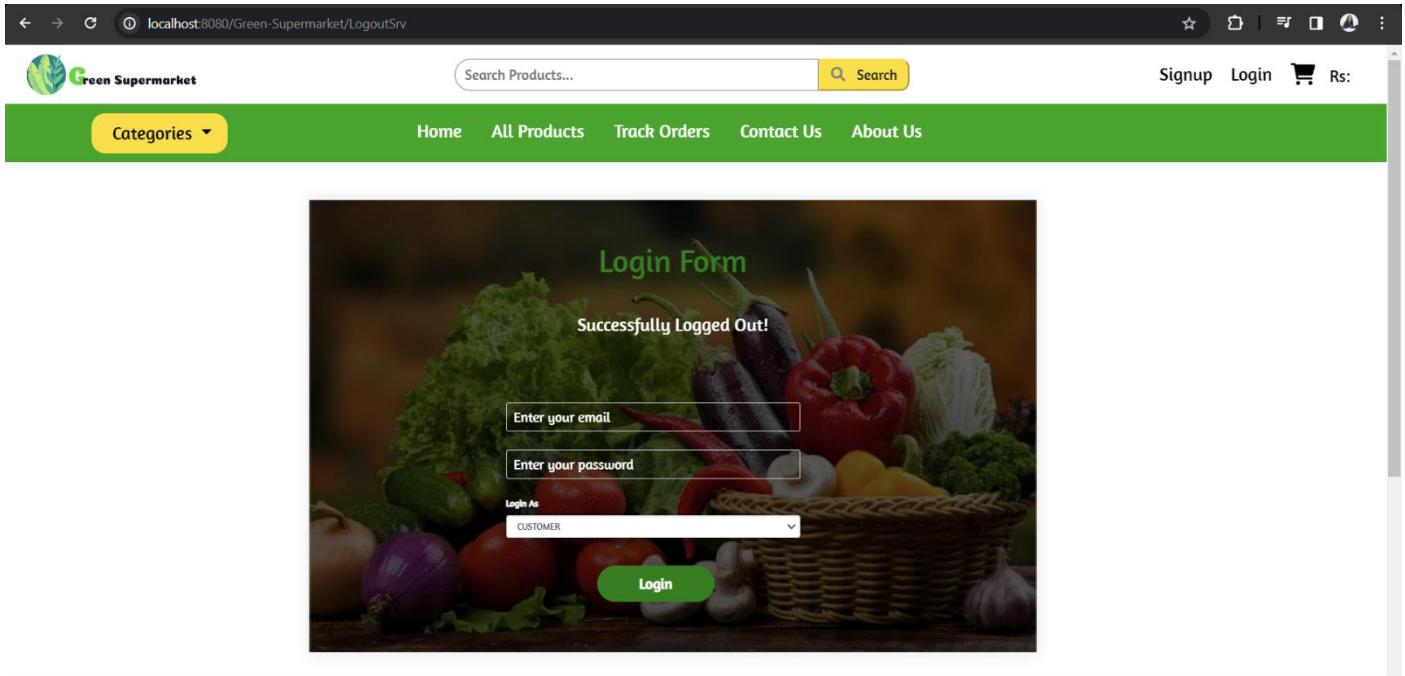
8.6 Sign Up Page

The users can sign up through this sign-up page and create accounts to place orders through the website.

The screenshot shows the 'Registration Form' page of the 'Green Supermarket' website. The page features a background image of various fruits and vegetables. It contains several input fields for user information: 'Enter full name', 'Enter email address', 'Enter password', 'Enter password again', 'Enter phone number', 'Enter postal code', and 'Enter the address'. A large green 'Submit' button is located at the bottom of the form. At the very bottom, there is a link 'Already have an account? Login'.

8.7 Login Page

The users who created accounts through the sign-up page can login to their account through the login page and place orders.



8.8 Track Orders Page

The users logged in to the website can track the orders they placed through the track orders page. Users can track whether their orders are dispatched or not.

A screenshot of a web browser showing the 'Order Details' section of the 'Track Orders' page. The page has a green header with the logo, a search bar, and navigation links for 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. Below is a table titled 'Order Details' with columns: Picture, ProductName, OrderId, Quantity, Price, Time, and Status. Three rows of data are listed: 1. Delum - 1Kg (OrderId: T20231223035729, Status: ORDER_DISPATCHED). 2. Strawberry (OrderId: T20231223044330, Status: ORDER_DISPATCHED). 3. Real Tasty Cashew 200g (OrderId: T20231223045229, Status: ORDER_PLACED). At the bottom, there are four columns: 'About Us', 'Categories', 'Useful Links', and 'Get In Touch'.

About Us

Green Supermarket, where sustainability meets convenience. At Green Supermarket, we are committed to providing you with a diverse selection of high-quality, locally-sourced, and eco-friendly products. Our mission is to create a greener shopping experience that not only meets your needs but also aligns with your values.

Categories

- › Organic Vegetables
- › Organic Fruits
- › Grocery Items
- › Bakery Items
- › Biscuits & Snacks
- › Beverages & Juices
- › Beauty & Healthcare

Useful Links

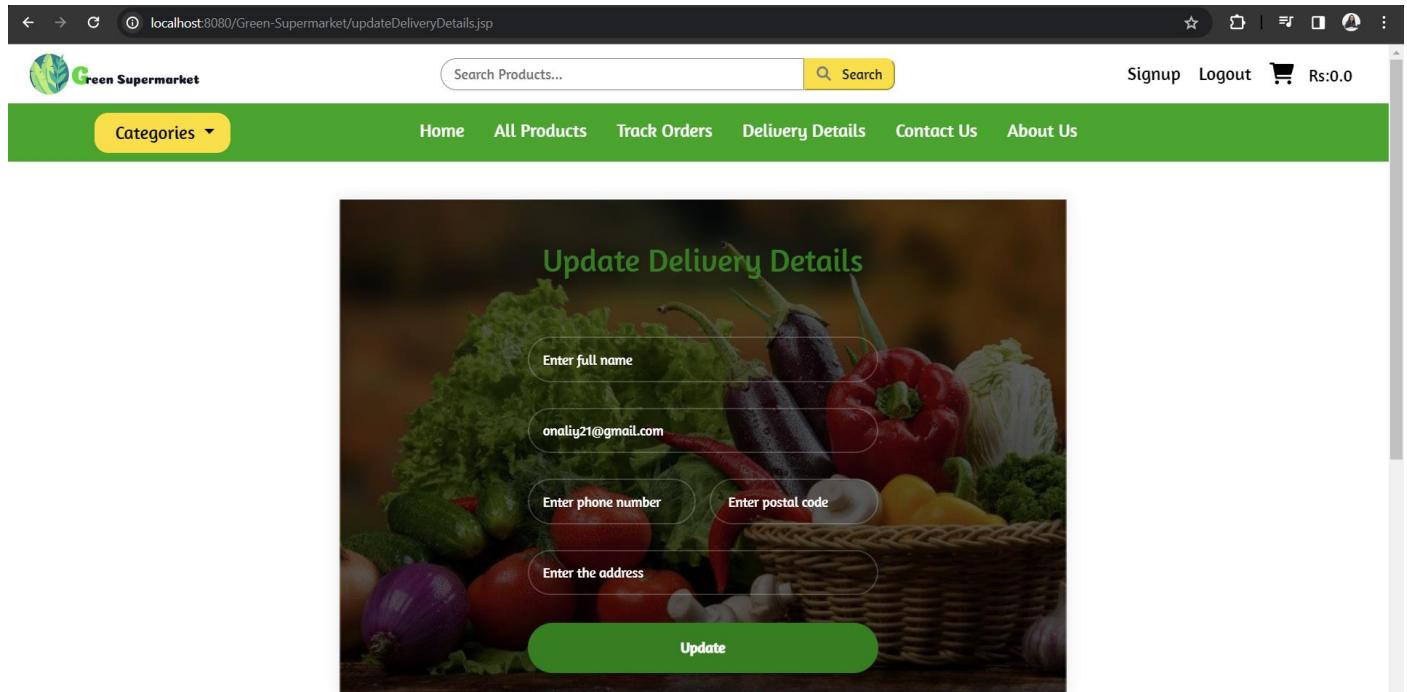
- › Home
- › All Products
- › About Us
- › Contact Us
- › Sign Up
- › Login

Get In Touch

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- ✉️ green@gmail.com
- 🔗 [Twitter](#) [Facebook](#) [YouTube](#) [Instagram](#) [LinkedIn](#)

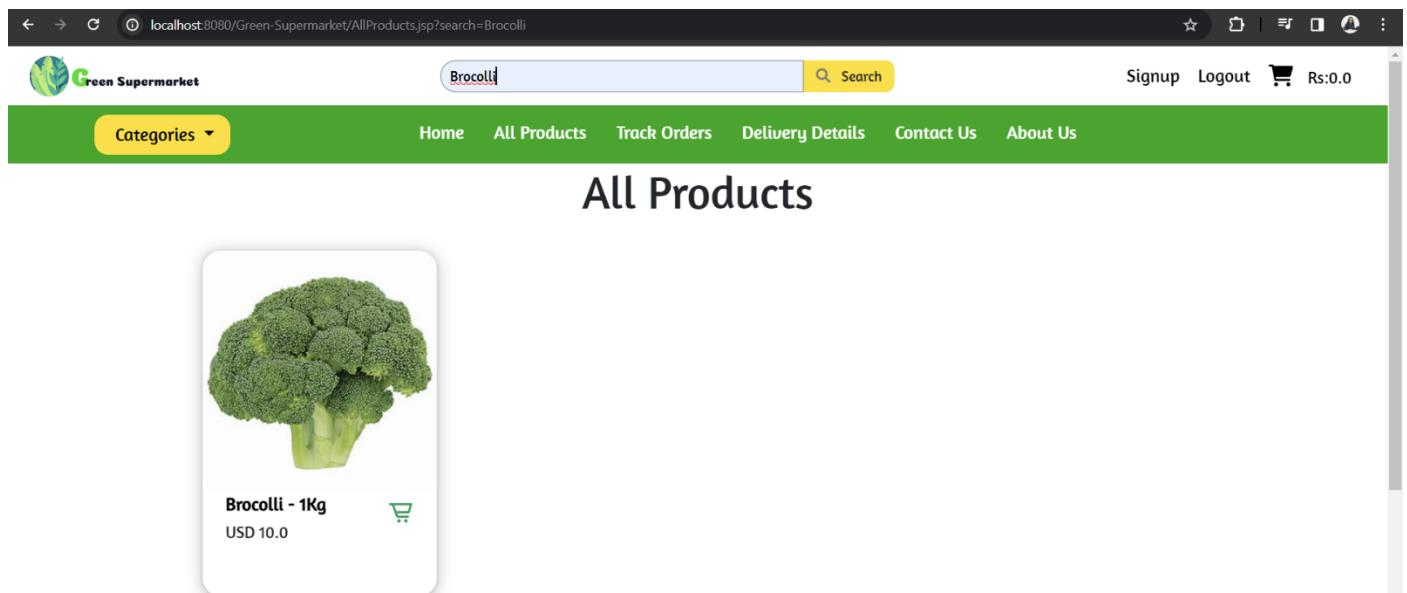
8.9 Delivery Details Page

The users can update their delivery details using the form given in this delivery details page.



8.10 Search Function

Users can easily search products using the search bar.



8.11 Cart Page

Users can view their cart items and easily checkout and pay through PayPal or using their debit and credit card details through this page. Users can update the stock quantity they added to the cart from a particular item. Also, they can remove the items from the cart.

The screenshot shows a web browser window for 'localhost:8080/Green-Supermarket/cartDetails.jsp'. The page has a green header bar with the 'Green Supermarket' logo, a search bar, and navigation links for 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. A 'Categories' dropdown is also present. The main content area is titled 'Cart Items' and displays a table with one item: 'Red Apple - 1Kg' at 5.0. Below the table, there are fields for 'Total Amount to Pay (in Rupees)', 'Shipping (in Rupees)', 'Tax (in Rupees)', and 'Total Amount'. At the bottom right, there are buttons for 'PayPal' and 'Debit or Credit Card'.

Picture	Products	Price	Quantity	Add	Remove	Amount	
	Red Apple - 1Kg	5.0	1	<input type="button" value="Update"/>	<input type="button" value="+"/>	<input type="button" value="-"/>	5.0

Total Amount to Pay (in Rupees) 5.0
Shipping (in Rupees) 1.0
Tax (in Rupees) 1.0
Total Amount: 7.0

Cancel PayPal
Debit or Credit Card PayPal

Important!: If you want to deliver the order to a different address other than the address mentioned in the registration form, please update your delivery address [from here](#).

8.12 Avoid Order Collisions

The user will not be able to add a product to the cart which is out of stock.

The screenshot shows a web browser window for 'localhost:8080/Green-Supermarket/cartDetails.jsp'. The page has a green header bar with the 'Green Supermarket' logo, a search bar, and navigation links for 'Home', 'All Products', 'Track Orders', 'Delivery Details', 'Contact Us', and 'About Us'. A 'Categories' dropdown is also present. The main content area is titled 'Cart Items' and displays a table with one item: 'Red Apple - 1Kg' at 5.0. Above the table, a message says 'Product is Out of Stock!' and 'Later, We Will Mail You when Yellow Apple - 1Kg will be available into the Store!'. Below the table, there are fields for 'Total Amount to Pay (in Rupees)', 'Shipping (in Rupees)', 'Tax (in Rupees)', and 'Total Amount'. At the bottom right, there are buttons for 'PayPal' and 'Debit or Credit Card'.

Picture	Products	Price	Quantity	Add	Remove	Amount	
	Red Apple - 1Kg	5.0	1	<input type="button" value="Update"/>	<input type="button" value="+"/>	<input type="button" value="-"/>	5.0

Product is Out of Stock!
Later, We Will Mail You when Yellow Apple - 1Kg will be available into the Store!

Total Amount to Pay (in Rupees) 5.0
Shipping (in Rupees) 1.0
Tax (in Rupees) 1.0
Total Amount: 7.0

Cancel PayPal
Debit or Credit Card PayPal

8.13 Order Cancellation

Users can easily cancel the orders by clicking on cancel order button, which will remove all the items they added to the cart.

The screenshot shows the 'Cart Items' page of the Green Supermarket website. At the top, there is a success message: 'Order Cancelled Successfully!'. Below this, a table displays the total amount to pay in Rupees, shipping cost, tax, and the total amount, all of which are currently 0.0. At the bottom of the table are two buttons: 'Cancel Order' (in blue) and 'PayPal' (in yellow). A note at the bottom states: 'Important!: If you want to deliver the order to a different address other than the address mentioned in the registration form, please update your delivery address from here.'

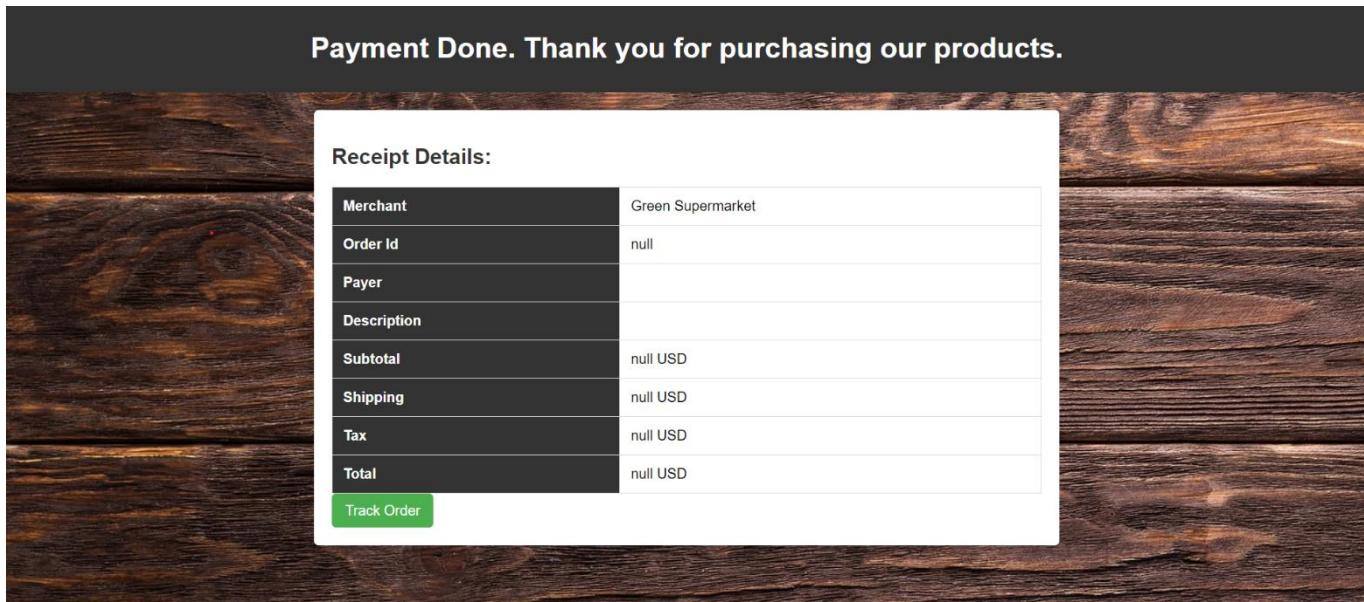
8.14 PayPal Payments

Users can easily make online payments through PayPal payment option.

The screenshot shows the 'Cart Details' page with a single item in the cart: a Red Apple - 1Kg priced at 5.0. A modal window for 'PayPal Checkout' is open. It shows the amount as \$ 7.00 USD and provides options to change the recipient to 'Onalify Sharu' in Colombo, Kottawa, Pannipitiya 10230. Below this, it says 'Pay with' and lists a Mastercard ending in 0672 as the preferred method. It also shows a conversion rate of 1 LKR = 0.00544 USD and links to currency options. There is a '+ Add debit or credit card' button. At the bottom of the modal are 'Complete Purchase' and 'Cancel and return to Test Store' buttons. The background of the main page shows the cart summary with the same items and amounts.

8.15 Payment Confirmation

After successfully paying through PayPal, users will be redirected to the receipt page where the user will receive a confirmation about the payment. By clicking on the track order button users will be redirected to the track orders page where they can view the details (image of the product, product id, order id, quantity ordered, amount, and the status of the order) of the order placed.



8.16 Feedback Form

Users can send their feedback through this feedback form. All the feedback sent by the users are displayed on the feedback carousel slider. All the users can view all the feedback and the names of the users who sent that feedback, while the admin can view the feedback, name and the email address of the user who sent the feedback.

The screenshot shows a web browser window for "localhost:8080/Green-Supermarket/feedback.jsp". The header includes the logo "Green Supermarket", a search bar with "Search Products...", and links for "Signup", "Logout", and "Rs:9.0". A green navigation bar at the top has "Categories" and other links: "Home", "All Products", "Track Orders", "Delivery Details", "Contact Us", and "About Us". The main content area has a green header "Feedback Form". On the left, there are icons for "Address" (location pin), "Phone" (telephone receiver), and "Email" (envelope). On the right, there is a "Send us a message" section with instructions: "We value your feedback, you can send us message from here. It's our pleasure to help you." It contains three input fields: "Enter your name", "Enter your email", and "Enter your message", each with a placeholder text. A green "Send Now" button is at the bottom.

How all users view the feedback:



How admin view the feedback:



8.17 Product Pages – Admin

The admin gets a separate view of the product pages. The admin has the option to update or remove a particular product through these pages.

A screenshot of the 'Organic Fruits' product page. The page has a green header bar with the 'Green Supermarket' logo, a search bar, and navigation links for 'Home', 'All Products', 'Feedbacks', 'Dispatched', 'Undispatched', 'Add Product', 'Update Products', and 'Stock'. Below the header, the title 'Organic Fruits' is centered. The main content area displays four fruit categories in a grid: 'Green Apple - 1Kg USD 5.0' (with 'Remove' and 'Update' buttons), 'Red Apple - 1Kg USD 5.0' (with 'Remove' and 'Update' buttons), 'Yellow Apple - 1Kg USD 7.0' (with 'Remove' and 'Update' buttons), and 'Pineapple - 1Kg USD 2.0' (with 'Remove' and 'Update' buttons). Below this grid, there are two more rows of fruit images: a row with a banana and a bunch of bananas, and a row with a green apple and a red apple.

8.18 Add Product Page - Admin

The admin can add new products to the website through this page.

localhost:8080/Green-Supermarket/addProduct.jsp

Green Supermarket

Search Products...

Signup Logout

Categories Home All Products Feedbacks Dispatched Undispatched Add Product Update Products Stock

Product Addition Form

Product Name:

Product Type:

Product Description:

Unit Price:

Stock Quantity:

Product Image: No file chosen

8.19 Update Product Page - Admin

The admin can update the details of the existing products of the website through this update option given for each product.

localhost:8080/Green-Supermarket/updateProduct.jsp?prodid=P20231121080120

Green Supermarket

Search Products...

Signup Logout

Categories Home All Products Feedbacks Dispatched Undispatched Add Product Update Products Stock

Product Update Form

Product Name: 
Green Apple - 1kg

Product Type:

Product Description: Green Apple - 1kg

Unit Price:

Stock Quantity:

8.20 Delete Product Page - Admin

The admin can delete existing products through the remove option given for each product.

A screenshot of a web browser displaying the 'Green Supermarket' website. The URL in the address bar is 'localhost:8080/Green-Supermarket/RemoveProductSrv?prodid=P20231225121316'. The page title is 'Green Supermarket'. The main navigation menu includes 'Categories', 'Home', 'All Products', 'Feedbacks', 'Dispatched', 'Undispatched', 'Add Product', 'Update Products', and 'Stock'. A green sidebar on the left contains sections for 'About Us', 'Categories' (listing Organic Vegetables, Organic Fruits, Grocery Items, Bakery Items, Biscuits & Snacks, Beverages & Juices, and Beauty & Healthcare), 'Useful Links' (Home, All Products, About Us, Contact Us, Sign Up, Login), and 'Get In Touch' (address: Pitipana, Homagama, phone: 011 123 1234, email: green@gmail.com, social media icons for Twitter, Facebook, YouTube, and LinkedIn). The main content area features a yellow box titled 'Product Deletion Form' with the message 'Product Removed Successfully!'. At the bottom of the page, there is a copyright notice '© Green Supermarket, All Right Reserved.' and a credit 'Developed By Group A19'.

8.21 Dispatched Items Page – Admin

The orders which are dispatched are displayed in this page.

A screenshot of a web browser displaying the 'Green Supermarket' website. The URL in the address bar is 'localhost:8080/Green-Supermarket/shippedItems.jsp'. The page title is 'Green Supermarket'. The main navigation menu includes 'Categories', 'Home', 'All Products', 'Feedbacks', 'Dispatched' (highlighted in blue), 'Undispatched', 'Add Product', 'Update Products', and 'Stock'. A green sidebar on the left contains sections for 'About Us', 'Categories' (listing Organic Vegetables, Organic Fruits, Grocery Items, Bakery Items, Biscuits & Snacks, Beverages & Juices, and Beauty & Healthcare), 'Useful Links' (Home, All Products, About Us, Contact Us, Sign Up, Login), and 'Get In Touch' (address: Pitipana, Homagama, phone: 011 123 1234, email: green@gmail.com, social media icons for Twitter, Facebook, YouTube, and LinkedIn). The main content area features a table titled 'Dispatched Orders' with columns: TransactionId, ProductId, Username, Address, Quantity, Amount, and Status. The table lists four entries: T20231223035729 (P20231121081202, onaliy21@gmail.com, Hokandara Road, Pannipitya, 1, Rs. 6.0, DISPATCHED), T20231223044330 (P20231121081727, onaliy21@gmail.com, Hokandara Road, Pannipitya, 1, Rs. 3.0, DISPATCHED), T20231223045229 (P20231123011615, onaliy21@gmail.com, Hokandara Road, Pannipitya, 1, Rs. 5.0, DISPATCHED), and T20231225010346 (P20231121081318, onaliy21@gmail.com, Hokandara Road, Pannipitya, 1, Rs. 8.0, DISPATCHED).

8.22 Stock Page - Admin

Through the stock page the admin can view all the details about the available products and the remaining stock quantity. The admin can update these details including the stock amount as well as remove products through this page.

The screenshot shows a web browser window for 'Green Supermarket' with the URL 'localhost:8080/Green-Supermarket/adminStock.jsp'. The page has a green header bar with navigation links: 'Categories', 'Home', 'All Products', 'Feedbacks', 'Dispatched', 'Undispatched', 'Add Product', 'Update Products', and 'Stock'. A search bar at the top right contains the placeholder 'Search Products...' with a yellow 'Search' button. Below the header is a section titled 'Stock Details' containing a table with the following data:

Image	Productid	Name	Type	Price	Sold Qty	Stock Qty	Actions
	P20231121080213	Red Apple - 1Kg..	ORGANICFRUITS	5.0	1	49	<button>Update</button> <button>Remove</button>
	P20231121080240	Yellow Apple - 1Kg..	ORGANICFRUITS	7.0	2	0	<button>Update</button> <button>Remove</button>
	P20231121080338	Pineapple - 1Kg..	ORGANICFRUITS	2.0	1	49	<button>Update</button> <button>Remove</button>
	P20231121080612	Cavendish Banana - 1Kg..	ORGANICFRUITS	1.0	0	50	<button>Update</button> <button>Remove</button>
	P20231121080712	Ambul Banana - 1Kg..	ORGANICFRUITS	1.0	0	50	<button>Update</button> <button>Remove</button>
	P20231121080733	Melon - 1Kg..	ORGANICFRUITS	1.0	0	49	<button>Update</button> <button>Remove</button>
	P20231121080859	Mango - 1Kg..	ORGANICFRUITS	1.0	1	49	<button>Update</button> <button>Remove</button>
	P20231121081035	Papaya - 1Kg..	ORGANICFRUITS	1.0	0	50	<button>Update</button> <button>Remove</button>

8.23 Un Dispatched Item Page – Admin

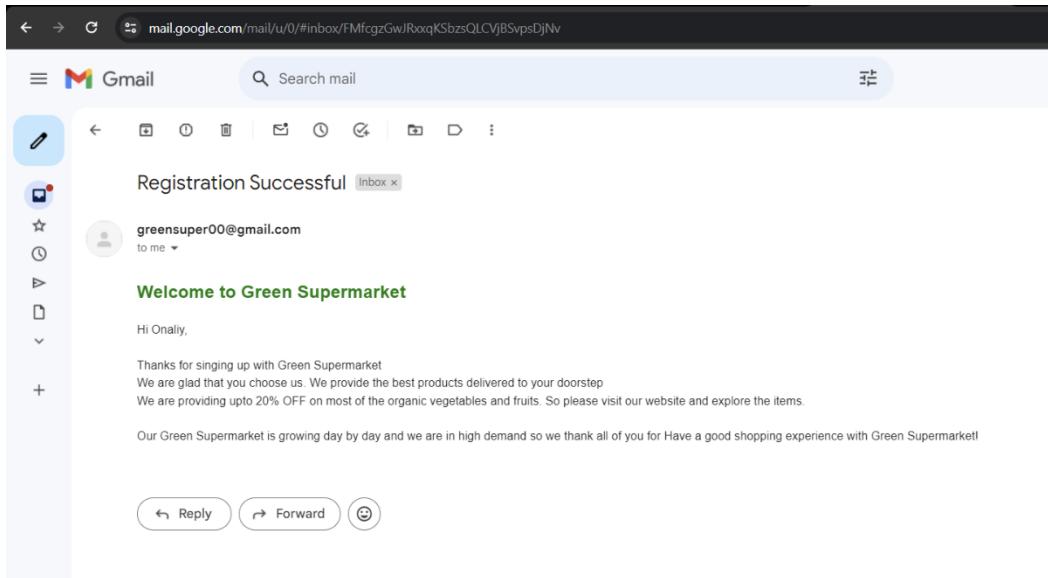
The admin can view all the orders placed by users, and not yet dispatched in this page. Once the order is dispatched, the admin can mark them as dispatched. Then the order record will be removed from this page and will be sent to Dispatched Items Page.

The screenshot shows a web browser window for 'Green Supermarket' with the URL 'localhost:8080/Green-Supermarket/unshippeditems.jsp'. The page has a green header bar with navigation links: 'Categories', 'Home', 'All Products', 'Feedbacks', 'Dispatched', 'Undispatched', 'Add Product', 'Update Products', and 'Stock'. A search bar at the top right contains the placeholder 'Search Products...' with a yellow 'Search' button. Below the header is a section titled 'Undispatched Orders' containing a table with the following data:

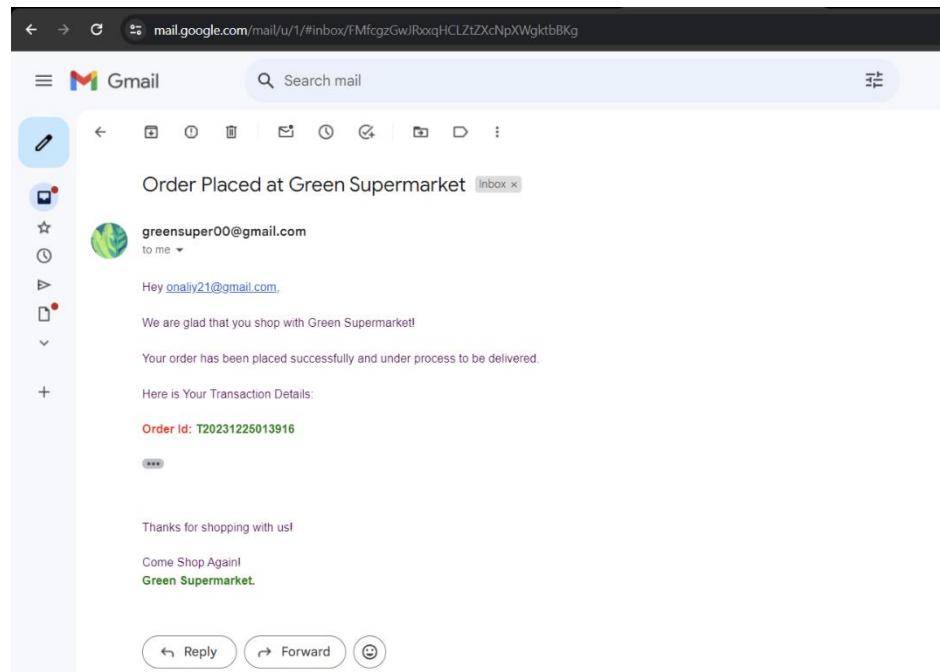
TransactionId	Productid	User Email Id	Address	Quantity	Status	Action
T20231225010346	P20231123020219	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225010804	P20231121080240	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225010938	P20231121080338	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225011238	P20231121080240	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225013004	P20231121080859	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225013232	P20231121080213	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225013916	P20231121081318	onaliy21@gmail.com	Hokandara Road, Pannipitya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>
T20231225021717	P20231121080338	onaliylink@gmail.com	Pannipitiya	1	READY_TO_DISPATCH	<button>DISPATCH NOW</button>

8.24 Email Notifications

Users will receive an email once they get registered with the website.



Users will receive an email once they successfully placed an order and made the payment through PayPal.



Users will receive an email once their order is dispatched.

The screenshot shows a Gmail inbox with a single email from 'greensuper00@gmail.com' to the user. The subject of the email is 'Hurray!! Your Order has been Dispatched from Green Supermarket'. The body of the email contains a message of thanks for shopping with them, confirmation of successful dispatching, transaction details, and an order ID (T20231225010346). It also encourages the user to come back again and ends with the 'Green Supermarket' logo. At the bottom, there are standard Gmail reply and forward buttons.

Users will receive an email once the products they tried to add to the cart, and which were out of stock are restocked.

The screenshot shows a Gmail inbox with a single email from 'greensuper00@gmail.com' to the user. The subject of the email is 'Product Yellow Apple - 1Kg is Now Available at Green Supermarket'. The body of the email expresses gladness at the user's recent browsing history and informs them that the previously out-of-stock item is now available. It provides the product ID (P20231121080240) and name (Yellow Apple - 1Kg), along with a detailed description of the product. It also thanks the user for shopping with them and encourages them to come back again, ending with the 'Green Supermarket' logo. At the bottom, there are standard Gmail reply and forward buttons.

Users will receive an email once they cancel their orders.

The screenshot shows a Gmail inbox with one unread email. The subject of the email is "Order Cancelled!" and it is from "greensuper00@gmail.com". The email body starts with "Welcome to Green Supermarket" and includes a message to the recipient. It expresses regret over the cancellation of the recent order and offers assistance. It also mentions that the cart has been updated and encourages feedback. The email ends with "Best Regards! Green Supermarket". At the bottom of the email view, there are three buttons: "Reply", "Forward", and a smiley face icon.

Order Cancelled! Inbox

greensuper00@gmail.com
to me ▾

4:32 PM (1 minute ago)

Welcome to Green Supermarket

Hi onaly21@gmail.com,

We regret to inform you that your recent order with us has been canceled. We understand that circumstances may have led to this decision, and we want to assure you that we are here to assist you in any way possible.

Your cart has been updated, and all the items have been removed. If you have any specific feedback or encountered any issues during the ordering process, please feel free to share them with us. We value your input and are committed to improving our services based on customer experiences.

Thank you for considering Green Supermarket. We appreciate your interest in our products, and we hope to have the opportunity to serve you better in the future.

Best Regards!
Green Supermarket

Reply Forward Smiley Face

8.25 Our Team

localhost:8080/Green-Supermarket/teams.jsp

Green Supermarket

Search Products...

Signup Login Rs:

Categories ▾ Home All Products Track Orders Contact Us About Us

Our Team

Chamindu Rashminda
Developer

Onaliy Jayawardana
Developer

Avish Madushanka
Developer

Geeth Induwara
Developer

Shanushki Asinsala
Developer

Kalindu Perera
Developer

10. Conclusion

In conclusion, the completion of this project marks a significant milestone in the transformation journey of Green Supermarket's digital infrastructure. The objectives set out to address the shortcomings of an outdated website have been successfully achieved through the implementation of cutting-edge technologies and the integration of innovative features.

The adoption of Java Servlets, and JSP technologies has not only modernized the user interface but has also laid a solid foundation for future scalability and adaptability. The introduction of online shopping capabilities, collision avoidance during shopping, secure payment processing via PayPal Sandbox configuration, and real-time communication through SMS or email notifications have collectively elevated the overall user experience.

We believe that the enhancements made to the website will not only meet the current expectations of Green Supermarket's customer base but will also attract new users, thereby expanding the market reach. The successful collaboration of technology and business processes in this project underscores our dedication to delivering solutions that not only meet but exceed the expectations of our clients.

As a conclusion this project meets all the requirements listed below,

- Online shopping
- Online payment handling
- Avoid shopping collisions.
- Visualization of the customer feedback for managerial decision-making
- Email notification of purchase and cancellation options, replace of requested stocks, and registration.

GitHub Repository Link - <https://github.com/Java-WebProject/Green-Supermarket.git>

OneDrive Link - https://nsbm365-my.sharepoint.com/:u/g/personal/uamrodrigo_students_nsbm_ac_lk/EZbeEi-92LFNvGgrF1leLyABZz3BYB7-oimE8U9axSUM_A?e=apwOqm