Vanier College

Faculty of Science and Technology

TRANSACTIONAL WEB APPLICATIONS

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Final Report

ShopCeramics

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Project Final Report

Introduction

The ShopCeramics application is a comprehensive e-commerce web application tailored for the sale of ceramic articles. It offers a seamless integration of product management and showcase, user authentication, shopping cart functionality, and payment processing within a single platform. This application enhances the operational efficiency of e-commerce businesses and enriches the shopping experience for customers.

Version

1.0

Functional Requirements

- Upon successful user registration, the system shall send a confirmation message indicating that registration was successful, allowing the user to log in.
- After a successful login, username shall be displayed, and use can access to his/her account/shopping cart.
- In case of an unsuccessful login attempt, the system shall provide a helpful error message to guide the user.
- Access to the admin portal will be restricted and protected for users who are not in admin group.
- Logged in users can perform add/remove products to their shopping cart, make payment, check their order records.
- The order confirmation page shall show the order number, total amount paid information.

Non-Functional Requirements

- Performance: The system should respond to user actions, such as registration, login, and page loading, within 2 seconds to ensure a responsive user experience.

- Security: User data, including registration information, shopping cart details, and order records, must be stored and transmitted securely, following industry-standard encryption practices.

- Reliability: The system should have an uptime of at least 99% to ensure it is accessible to users consistently. It should also have a backup and recovery mechanism in place to prevent data loss in case of unexpected system failures.

- Usability: The user interface should be intuitive and user-friendly, ensuring that users can easily navigate through the registration process, login, and orders management. The products suggestions on the product details page should be presented in a clear and understandable manner.

- Accessibility: The application should be designed to be accessible to users with disabilities, following accessibility standards to accommodate a diverse user base.

- Scalability: The system should be able to handle a growing number of users without a significant degradation in performance, ensuring that it can accommodate an increasing user base over time.

- Data Privacy: The system must comply with data privacy regulations and provide users with the option to manage their data, including deleting their accounts and personal information.

- Error Handling: The system should have robust error handling and provide informative error messages to guide users when they encounter issues during registration, login, or products update in shopping cart.

User Stories

Title: Registration
User Story

As a User,

I want to register an account.

So that I can login to the application. |
| Acceptance Criteria

Scenario: User input username, email address and password.
Given: The application is running
Then: The user should be registered successfully if all information needed is correctly provided.

Scenario: User provides incorrect information like a week password.
Given: The application is running
Then: The system will display "please provide a stronger password" |

Title: Logging in
User Story

As a User,

I want to log in to the application. |

So that I can check my local weather information and get suggestion on how I should dress up. I also want to integrate my agenda on the same app, so I don't need check several places for different stuff.

Acceptance Criteria

Scenario: User successfully logs into the application
Given: The application is running
When: The user enters valid credentials (username & password) or has a valid google account.
Then: The user should be logged in successfully

Scenario: User enters invalid credentials
Given: The application is running
When: The user enters invalid credentials
Then: The user should not be logged in and should see an error message

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Title: Check products

User Story

As a User,

I want to browser the products and their detailed information in order to decide which ones I would like to buy.

Acceptance Criteria

Scenario: User checks products details.

Given: The user is bowering the web page

When: The user navigates to product page

Then: The user will see all products of 3 categories.

Title: Add products to shopping cart

User Story

As a User,

I want to add products to my shopping cart.

So that I can process payment later.

Acceptance Criteria

Scenario: User are interested in products from the websites

Given: The user is logged in

When: The user navigates to product page

Then: The user will click add to add products in his/her shopping cart

Then: The user will check his/her shipping cart

Title: Update products quantities in the shopping cart

As a User,

I want to add more or remove products from my shopping cart.

So that I can process order later.

Acceptance Criteria

Scenario: User is checking his/her shopping cart

Given: The user has already added products in the shopping cart

When: The user navigates to shopping cart page

Then: The user will change the quantities of products in his/her shopping cart

Then: The user will process to checkout

Title: Check out for an order

As a User,

I want to check out my orders.

So that I can make payment for this order.

Acceptance Criteria

Scenario: User confirmed the products and their quantities in the shopping cart.

Given: The user has already updated the products quantities, or the user does not need to update anything in the shopping cart.

When: The user navigates to shopping cart page

Then: The user will click checkout button.

Then: The user will fill the delivery information.

Title: Make payment

As a User,

I want to pay for my order.

So that I can wait for the delivery.

Acceptance Criteria

Scenario: The user fill his/her card detailed information.

Given: User filled the delivery form

When: The user navigates to payment page

Then: The user will click pay button

Then: The user will see an order confirmation page.

Test Case Summary and Goals: Shopping Cart Module

Test Case: Functions for Users Not Logged In

1.Goal: Ensure that functions of the shopping cart module do not apply to users who are not logged in.

Tests:

- Verify that the total cart amount is 0.
- Verify that attempting to get the cart returns an empty array.
- Verify that the total number of items in the cart is 0.
- Verify that attempts to add and remove items return false.
- Test Case: Mock Data Retrieval for Logged-In User

2. Goal: Confirm that the module returns mock data for the shopping cart when a logged-in user is provided.

Tests:

- Ensure that the retrieved cart information matches the user's shopping cart.
- Confirm that the detailed product information in the cart matches the mock data.
- Test Case: Calculation of Total Amount and Items

3.Goal: Verify the accurate calculation of the total amount and total items in the shopping cart.

Tests:

- Check that the total amount is correctly calculated for existing cart items.
- Confirm that the total number of items is accurate.
- Test Case: Adding Items to the Shopping Cart

4.Goal: Ensure that the total amount and total items increase appropriately when adding items to the cart.

Tests:

- Add an item to the shopping cart and verify the updated total amount and total items.
- Add another item to the cart and recheck the calculations.
- Test Case: Removing Items from the Shopping Cart

5.Goal: Validate that the total amount and total items decrease correctly when removing items from the cart.

Tests:

- Remove an item from the shopping cart and verify the updated total amount and total items.
- Ensure that removing another item results in accurate calculations.

Overall Summary:

The test cases aim to cover various scenarios, including user authentication, data retrieval, and cart manipulation. The goals include validating the correctness of calculations, the accuracy of data retrieval, and the proper functioning of add and remove operations in the shopping cart module. The tests are designed to ensure the reliability and functionality of the shopping cart features in a user's session.

Contributions:

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Task Team member	*Design*	*Activity Flow*	Database /API	Frontend-react	Authentication	Internationalization and localization	Deploy	Test Cases	CI/CD	Doc/Report
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