***Ecommerce***

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1. **Introduction**

This report provides a summary of the testing activities performed on the ECommerce website. The testing activities included functional and compatibility testing. The test results revealed several defects that need to be addressed to improve the quality and usability of the website.

The ECommerce website was tested to ensure that it meets the requirements and specifications of the project. The testing activities were carried out in a controlled testing environment with a range of different browsers.

The major goal of the testing for the "Ecommerce" project is to confirm that the e-commerce website, which allows customers to buy electronics, furniture, books, and clothing, complies with the necessary quality requirements. All facets of the website, including its usability and functionality will be tested. To carry out the testing cycle, this program will be installed on the local PC.

The testing activities performed on the ECommerce website revealed several defects that need to be addressed to improve the quality and usability of the website. The defects include mainly functional defects. The defects need to be prioritized, and a plan needs to be put in place to address them. The testing activities provided valuable feedback to the development team, which will help them to improve the website's quality and user experience.

1. **Software Under Test**

The software under test is the E-Commerce website that needs to be tested to ensure that it meets the required specifications and functions correctly. The software under test includes the website's functionality and the user interface. Testing the software under test involves checking that the website's functionalities, such as product search, shopping cart, and checkout, are working as expected from the Customers perspective and Adding, Deleting and Modifying a Product and Credentials management from the Admin perspective of the Ecommerce website.

The Software being tested and the Platform it is being run is mentioned in the Tabular Column below.

|  |  |
| --- | --- |
| **Software Name** | Ecommerce |
| **Database:** | MySQL 5.x |
| **Language Used:** | PHP5.6, PHP7.x |
| **User Interface Design** | HTML, AJAX, JQUERY, JAVASCRIPT |
| **Web Browser** | Mozilla, Google Chrome, IE8, OPERA |
| **Software** | XAMPP / Wamp / Mamp/ Lamp |

**Requirement Specifications:**

Requirement Specifications for the ECommerce Website:

* **User Management**:

The website should allow users to register and create accounts. Users should be able to log in and log out of the website. The website should also have password recovery mechanisms.

* **Product Management**:

The website should allow administrators to add, edit, and delete products. The website should have a product catalog that is easy to navigate, and products should be categorized based on their attributes.

* **Cart and Checkout Management:**

The website should have a shopping cart that users can add products to while browsing. Users should be able to review the items in their shopping cart before checking out. The checkout process should be straightforward and secure.

* **Payment Gateway Integration:**

The website should integrate with a payment gateway to allow users to make payments securely. The payment gateway should support different payment methods,

* **Order Management:**

The website should allow administrators to manage orders. This includes tracking orders, updating order status, and managing returns and refunds.

* **Search Functionality:**

The website should have a search function that allows users to search for products by keyword, category, price, and other attributes.

* **Compatibility**:

The website should be compatible with different devices and browsers. The website should be responsive and should adapt to different screen sizes and resolutions.

* **Analytics and Reporting**:

The website should provide administrators with analytics and reporting tools to track user behavior, sales performance, and website performance.

1. **Test Design**

Test cases are an essential part of the software testing process, and they play a crucial role in ensuring the quality and functionality of the E-commerce website. Each test case is designed to verify a specific aspect of the website or admin functionality and ensures that the website is functioning as expected.

In an E-commerce website, there are several areas that need to be tested thoroughly to ensure a seamless user experience. These areas include user registration and login functionality, product search, product page, and checkout process, and admin login and management functionalities.

The test cases for user registration and login functionality are designed to ensure that users can create accounts, login, and access their accounts without any issues. The steps involved in this test case could include verifying the correctness of the registration form, checking if the login credentials work, and ensuring that the user can access their account after logging in.

The test cases for the product search, product page, and checkout process are designed to ensure that users can find products they are looking for, view product details, add products to their cart, and complete the checkout process without any issues. The steps involved in this test case include verifying the search bar functionality, checking the product descriptions and images, ensuring that products can be added to the cart, and confirming that the checkout process is seamless.

The admin login and management functionalities test cases ensure that the admin can manage products and orders efficiently. The steps involved in this test case include verifying the admin login credentials, checking the admin dashboard, and ensuring that product and order management functionalities work correctly.

For each test case, there are clear steps to follow to verify the functionality being tested. By performing these test cases, the quality of the E-commerce website can be assured, and any issues or bugs can be identified and fixed before the website is released to the public.

In addition to the areas mentioned above, other areas that are covered in the test cases include shipping and payment methods. By testing these areas, the website can be optimized, made more efficient, and meet the user's needs. In summary, well-designed test cases and thorough testing processes are vital for ensuring the quality and success of an E-commerce website.

Designing effective test cases for an E-commerce website is crucial to ensure that the website functions correctly and meets the user's needs. The test cases cover various scenarios that a user may encounter while using the website, such as registration, login, product search, product listing, shopping cart, checkout, and payment.

To design effective test cases, it is important to consider the following factors:

* **User Scenarios**: The test are designed based on user scenarios, which involve understanding how the user would interact with the website, what their goals are, and what problems they may encounter. For example, if the user wants to search for a specific product, the test case should cover the scenario of entering the correct keywords and getting the desired results.

* **Functional Requirements**: The test cases cover all the functional requirements of the website, such as the ability to search for products, add products to the cart, checkout, and make payment. Each of these functional requirements have test cases designed to ensure that the website functions correctly.
* **Edge Cases:** The test cases should cover edge cases, such as invalid inputs, out-of-stock items, and unexpected errors. Edge cases are scenarios that are less likely to occur but can still happen. By testing these cases, the website can be improved to handle them correctly.

To ensure that the test cases provide adequate coverage, various coverage criteria can be used, such as:

* **Functional Coverage:** This coverage criteria involves testing all the functional requirements of the website, such as the ability to add products to the cart and checkout. This ensures that all of the functional requirements are working as expected.

* **User Interface Coverage:** This coverage criteria involves testing all the user interface elements of the website, such as buttons, links, and forms. This ensures that the website is user-friendly and easy to navigate.

* **Error Handling Coverage:** This coverage criteria involves testing all the error handling scenarios of the website, such as invalid inputs and out-of-stock items. This ensures that the website handles errors correctly and does not crash or break.

Overall, designing effective test cases and choosing the right coverage criteria will depend on the specific requirements of the E-commerce website being tested and the goals of the testing process. By designing effective test cases and choosing the right coverage criteria, the website can be optimized, made more efficient, and meet the user's needs.

1. **Test Case Specifications**

**Customer Perspective Test cases**

|  |  |
| --- | --- |
| Test Case Identifier | **TC 001** |
| Test Items/feature | Creating a new account |
| Preconditions | The customer is on the login page and has not registered an account before |
| Test Steps | 1. Click on the "Create an Account" button 2. Fill in the registration form with valid details such as name, email, and password 3. Submit the form by clicking on the "Create Account" button |
| Output Specifications | The system should create a new customer account with the provided details  The system should redirect the customer to the dashboard page or the home page |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 002** |
| Test Items/feature | Logging in to an existing account |
| Preconditions | The customer has a registered account on the website |
| Test Steps | 1. Enter the email and password customer used to register in the login form 2. Click on the "Login" button |
| Output Specifications | The system should authenticate the customer credentials and redirect to the dashboard or home page  The system should display an error message if the customer enters invalid credentials |
| Inter-case Dependencies | None |
| **Test Result** | Pass |
|  |  |
|  |  |
| Test Case Identifier | **TC 003** |
| Test Items/feature | Searching for a product |
| Preconditions | The customer is on the home page or a category page |
| Test Steps | 1. Enter the product name or keyword in the search bar 2. Click on the "Search" button |
| Output Specifications | The system should display a list of products that match the search query  The product list should include relevant details such as name, image, price, and availability  The system should display a message if there are no matching products found |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 004** |
| Test Items/feature | Adding a product to the cart |
| Preconditions | The customer is on the product detail page |
| Test Steps | 1. Select the quantity and size (if applicable) of the product 2. Click on the "Add to Cart" button |
| Output Specifications | The system should add the selected product to the customer's cart  The system should display a message confirming that the product has been added to the cart |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 005** |
| Test Items/feature | Viewing the cart |
| Preconditions | The customer has added one or more products to the cart |
| Test Steps | 1. Click on the cart icon in the header or the "View Cart" button |
| Output Specifications | The system should display a summary of the products in the cart, including name, image, price, and quantity  The system should display the total price of the products in the cart  The system should provide options to remove or modify the products in the cart |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 006** |
| Test Items/feature | Placing an order |
| Preconditions | The customer has added one or more products to the cart and is on the checkout page |
| Test Steps | 1. Fill in the shipping and billing details in the checkout form 2. Select the payment method (e.g., credit card, PayPal) 3. Review the order summary and confirm the purchase by clicking on the "Place Order" button |
| Output Specifications | The system should process the payment and create an order for the customer  The system should redirect the customer to the order confirmation page and display the order details, including order number, date, and total amount  The system should send an email confirmation to the customer's registered email address |
| Inter-case Dependencies | None |
| **Test Result** | Pass |
|  |  |
|  |  |
| Test Case Identifier | **TC 007** |
| Test Items/feature | Deleting a product from the Shopping Cart |
| Preconditions | The user should have added products to their cart. |
| Test Steps | 1. Click on the ‘Cart’ icon on the website. 2. Verify that the products added to the cart are displayed. 3. Verify that the product information such as quantity and total price are accurate. 4. Verify that the user is able to update the product quantity or remove a product from the cart. |
| Output Specifications | The cart should display the products added to it, and the user should be able to manage their cart items. |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 008** |
| Test Items/feature | Paypal Testing account Checkout |
| Preconditions | The user should have products in their cart. |
| Test Steps | 1. Click on the ‘Checkout’ button on the cart page. 2. Verify that the order summary is displayed correctly. 3. Click on the ‘Place Order’ button. |
| Output Specifications | The user should be able to place their order successfully and receive an order confirmation. |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 009** |
| Test Items/feature | Updating account information |
| Preconditions | The customer is logged in to the website |
| Test Steps | 1. Go to the account dashboard or profile page 2. Click on the "Edit Profile" or "Account Settings" button 3. Update the account information, such as name, email, password, and shipping address 4. Save the changes by clicking on the "Save" button |
| Output Specifications | The system should update the customer account information with the new details  The system should display a message confirming that the changes have been saved successfully  The customer should be able to see the updated information in the account dashboard or profile page. |
| Inter-case Dependencies | None |
| **Test Result** | **Fail** |

**Admin Test cases**

|  |  |
| --- | --- |
| Test Case Identifier | **TC 010** |
| Test Items/feature | Login functionality |
| Preconditions | The admin is on the login page of the website |
| Test Steps | 1. Enter valid Admin username and password and click the login button 2. Enter invalid username and password and click the login button |
| Output Specifications | The admin should be able to log in successfully with valid credentials  The admin should not be able to log in with invalid credentials  The admin should be redirected to the correct page after logging in |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 011** |
| Test Items/feature | Product management - Adding a new product |
| Preconditions | The admin is logged in to the website and on the product management page |
| Test Steps | 1. Click on the "Add Product" button 2. Enter product details such as name, description, price, and image 3. Click on the "Save" button |
| Output Specifications | The admin should be able to add a new product with correct details  The new product should be displayed in the product list page |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 012** |
| Test Items/feature | Product management - Editing an existing product |
| Preconditions | The admin is logged in to the website and on the product management page  There is an existing product in the product list |
| Test Steps | 1. Select the product to be edited 2. Click on the "Edit" button 3. Modify the product details such as name, description, price, and image 4. Click on the "Save" button |
| Output Specifications | The admin should be able to edit an existing product with correct details  The updated product should be displayed in the product list page with updated details |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case Identifier | | **TC 013** | |
| Test Items/feature | | Product management - Deleting a product | |
| Preconditions | | The admin is logged in to the website and on the product management page  There is an existing product in the product list | |
| Test Steps | | 1. Select the product to be deleted 2. Click on the "Delete" button | |
| Output Specifications | | The admin should be able to delete an existing product  The deleted product should not be displayed in the product list page | |
| Inter-case Dependencies | | None | |
| **Test Result** | | Pass | |
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|  | |  | |
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| Test Case Identifier | | **TC 014** | |
| Test Items/feature | | Order management - Viewing all orders | |
| Preconditions | | The admin is logged in to the website and on the order management page  There are at least two orders placed on the website | |
| Test Steps | | 1. Click on the "View All Orders" button | |
| Output Specifications | | The admin should be able to view a list of all orders placed on the website  The list of orders should display relevant details such as order ID, customer name, order status, and date | |
| Inter-case Dependencies | | None | |
| **Test Result** | | Fail | |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 015** |
| Test Items/feature | Order management - Viewing individual orders |
| Preconditions | The admin is logged in to the website and on the order management page  There is an existing order in the list of orders |
| Test Steps | 1. Click on the order ID of the desired order |
| Output Specifications | The admin should be able to view details of an individual order  The details should include relevant information such as order ID, customer name, shipping address, order items, and payment information |
| Inter-case Dependencies | None |
| **Test Result** | Fail |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 016** |
| Test Items/feature | User management - Viewing all users |
| Preconditions | The admin is logged in to the website and on the user management page  There are at least two registered users on the website |
| Test Steps | 1. Click on the "View All Users" button |
| Output Specifications | The admin should be able to view a list of all registered users on the website  The list of users should display relevant details such as user ID, username, email, and registration date |
| Inter-case Dependencies | None |
| **Test Result** | Pass |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 017** |
| Test Items/feature | User management - Editing users |
| Preconditions | The admin is logged in to the website and on the user management page  There is at least one registered user on the website |
| Test Steps | 1. Select the user to be edited from the list of users 2. Click on the "Edit" button next to the selected user 3. Modify the user details such as username, email, password, and address 4. Click on the "Save" button |
| Output Specifications | The admin should be able to edit the user details with correct information  The updated user details should be saved and reflected in the list of users |
| Inter-case Dependencies | None |
| **Test Result** | Fail |

|  |  |
| --- | --- |
| Test Case Identifier | **TC 018** |
| Test Items/feature | User management - Deleting user accounts |
| Preconditions | The admin is logged in to the website and on the user management page  There is at least one registered user on the website |
| Test Steps | 1. Select the user to be deleted from the list of users 2. Click on the "Delete" button next to the selected user 3. Confirm the deletion by clicking on the "Yes" button in the confirmation dialog box |
| Output Specifications | The admin should be able to delete the user account successfully  The selected user account should be permanently removed from the website  The admin should not be able to undo the deletion once it is confirmed |
| Inter-case Dependencies | None |
| **Test Result** | Fail |

1. **Test Results**

Summary of the results (how many executed, passed, failed, etc.)

|  |  |  |
| --- | --- | --- |
| Test Case ID | Result | Defect Report |
| TC 001 | **Pass** |  |
| TC 002 | **Pass** |  |
| TC 003 | **Pass** |  |
| TC 004 | **Pass** |  |
| TC 005 | **Pass** |  |
| TC 006 | **Pass** |  |
| TC 007 | **Pass** |  |
| TC 008 | **Pass** |  |
| TC 009 | Fail | The option is unavailable to update the customers information |
| TC 010 | Pass |  |
| TC 011 | Pass |  |
| TC 012 | Pass |  |
| TC 013 | Pass |  |
| TC 014 | Fail | The orders being placed by the customer is not reflected in the Orders page of the Admin module |
| TC 015 | Fail | Admin is unable to view the Individual orders placed by the customer. |
| TC 016 | Pass |  |
| TC 017 | Fail | Admin is unable to Edit the Customers information that are registered with the Website. No edit option is available |
| TC 018 | Fail | The Admin is unable to delete the Users that are registered with the Website. No option available to delete. |

**Test Report**

**Total Test Cases** - 18

**Pass** - 13

**Fail** - 5

**Execution Rate** - 100 %

**Pass Rate** - 72.22 %

**Fail Rate** - 27.77 %

1. **Defect Reports**

|  |  |  |
| --- | --- | --- |
| **Test Case ID** | **Test Case Name** | **Comments** |
| TC 009 | Updating account information | The option is unavailable to update the customers information |
| TC 014 | Order management - Viewing all orders | The orders being placed by the customer is not reflected in the Orders page of the Admin module |
| TC 015 | Order management - Viewing individual orders | Admin is unable to view the Individual orders placed by the customer. |
| TC 017 | User management - Editing users | Admin is unable to Edit the Customers information that are registered with the Website. No edit option is available |
| TC 018 | User management - Deleting user accounts | The Admin is unable to delete the Users that are registered with the Website. No option available to delete. |

1. **Test Summary**

The testing scope covered all the functionalities of the customer module, including account creation and login, product browsing, shopping cart, checkout, order history, and account management. The testing was conducted on the latest version of the website on different web browsers and devices. The test results indicated that most of the functionalities of the customer module worked correctly, and the user experience was positive. The testing for an ecommerce website admin module involved testing six key functionalities: User Management, Product Management, Inventory Management, Order Management, Payment Management, and Shipping Management. The tests were successful, with most of the functions working correctly and accurately displaying data on the website.