Table of Content

Introduction

This test plan outlines the testing approach, strategies, and methodologies to ensure the quality and reliability of the OpenCart e-commerce platform.

Objectives

To verify the functionality of key features in OpenCart.

To ensure compatibility with various browsers and devices.

To validate the performance and security of the platform.

To identify and resolve any defects or issues prior to release.

Scope

The testing will cover the following areas of OpenCart:

Core functionality including product management, order processing, and user management.

Compatibility with major web browsers (Chrome, Firefox, Safari, Edge) and devices (desktop, mobile).

Performance testing under different loads and scenarios.

Security testing to identify vulnerabilities and ensure data protection.

Testing Approach

The testing approach will include the following methodologies:

Functional Testing: To verify that all features and functionalities are working as expected.

Compatibility Testing: To ensure that OpenCart works seamlessly across different browsers and devices.

Performance Testing: To assess the platform's response time, scalability, and stability under various loads.

Security Testing: To identify and address potential security vulnerabilities such as SQL injection, cross-site scripting (XSS), and authentication issues.

Test Environment

Operating Systems: Windows, macOS, Linux

Web Browsers: Chrome, Firefox, Safari, Edge

Devices: Desktop, Laptop, Tablet, Mobile

Tools: Selenium for automated testing, JMeter for performance testing, OWASP ZAP for security testing

Test Cases

Functional Testing

User Registration:

Verify that users can register an account successfully.

Verify that validation checks are in place for required fields.

Verify that users receive a confirmation email after registration.

Product Management:

Verify that administrators can add, edit, and delete products.

Verify that product details are displayed correctly on the storefront.

Verify that product categories and attributes are functioning as expected.

Shopping Cart:

Verify that users can add products to their shopping cart.

Verify that users can update the quantity of items in the cart.

Verify that users can proceed to checkout and complete the purchase process.

Compatibility Testing

Browser Compatibility:

Test OpenCart on Chrome, Firefox, Safari, and Edge to ensure consistent behavior.

Verify that the layout and functionality are consistent across browsers.

Device Compatibility:

Test OpenCart on desktops, laptops, tablets, and mobile devices.

Verify that the platform is responsive and user-friendly on different screen sizes.

Performance Testing

Load Testing:

Simulate concurrent user traffic to assess the platform's performance under load.

Measure response time, throughput, and resource utilization under different load levels.

Stress Testing:

Apply stress to the system beyond its normal operational capacity to identify breaking points.

Measure the platform's ability to recover from stress and maintain stability.

Security Testing

Authentication:

Test login and registration forms for vulnerabilities such as SQL injection and XSS.

Verify that password hashing and encryption mechanisms are implemented securely.

Data Protection:

Test for vulnerabilities related to user data exposure and leakage.

Verify that sensitive information such as passwords and payment details are stored securely.

Risks and Mitigation

Risk: Inadequate test coverage may result in undetected defects. Mitigation: Implement comprehensive test cases covering all critical functionalities.

Risk: Security vulnerabilities may compromise user data and system integrity. Mitigation: Conduct regular security testing and implement patches and updates promptly.

Schedule

Test Planning: Week 1

Test Execution: Week 2-4

Defect Reporting and Resolution: Ongoing

Final Test and Release: Week 5

Conclusion

This test plan outlines the testing approach, strategies, and methodologies for ensuring the quality and reliability of OpenCart. By following this plan, we aim to identify and resolve any defects or issues to deliver a stable and secure e-commerce platform to our users.