**Test Plan for Tutorials Ninja Web Application**

**1. Introduction**

**1.1 Purpose**

This document outlines the test strategy and approach for ensuring the quality of the web application. The main objective is to validate that the application meets all functional, non-functional, and business requirements while delivering a smooth and reliable user experience.

**1.2 Objectives**

* Validate the functionality, performance, and usability of the web application.
* Ensure that the application meets specified requirements and aligns with user expectations.
* Identify and mitigate potential risks during the testing phase.

**1.3 Scope**

This test plan covers:

* Functional Testing
* Performance Testing
* Compatibility Testing
* Security Testing
* Usability Testing

Key modules to be tested:

* User Registration & Login
* Product Search & Filtering
* Shopping Cart Management
* Checkout Process & Payment Gateway Integration
* Order History & Management
* Customer Support (Contact Us)

Third-party integrations and external APIs will be excluded from this plan.

**2. Test Strategy**

**2.1 Types of Testing**

* **Functional Testing**: Validate the features against the business requirements.
* **Regression Testing**: Ensure recent changes have not introduced defects.
* **Performance Testing**: Measure the responsiveness, stability, and scalability of the application.
* **Usability Testing**: Assess the user experience in terms of intuitiveness and ease of use.
* **Compatibility Testing**: Confirm consistent behaviour across different devices, browsers, and OS versions.
* **Security Testing**: Detect vulnerabilities such as SQL injection, CSRF, and XSS.

**2.2 Testing Tools**

* **Functional Testing**: Selenium, Cypress
* **Performance Testing**: JMeter, LoadRunner
* **Security Testing**: OWASP ZAP, Burp Suite
* **Test Management**: Jira, Zephyr
* **Collaboration**: Microsoft Teams, Slack

**3. Test Scope**

**3.1 Features to be Tested**

* **User Registration & Login**: Valid and invalid scenarios for user signup, login, and logout.
* **Product Search & Filters**: Searching via keywords, categories, and applying filters like price, brand, and ratings.
* **Product Details Page**: Validate accurate product descriptions, images, reviews, and availability.
* **Shopping Cart**: Add/remove items, update quantities, and view cart summary.
* **Checkout & Payment**: Cover all steps from shipping address entry, payment method selection to order confirmation.
* **Order Management**: Review order history, track orders, and handle returns or refunds.
* **Customer Support**: Test the Contact Us form and its responsiveness.

**3.2 Features Not to be Tested**

* Integration with payment gateways and third-party shipping APIs.
* Analytics and third-party integrations (e.g., Google Analytics).

**4. Test Environment**

**4.1 Hardware**

* **Servers**: [Specify configurations, e.g., Windows Server, Linux]
* **User Devices**: Desktop (Windows, macOS), Mobile (Android, iOS)

**4.2 Software**

* **Operating Systems**: Windows 10+, macOS, iOS 15+, Android 12+
* **Browsers**: Chrome, Firefox, Safari, Edge
* **Database**: [Specify database if relevant, e.g., MySQL]

**5. Test Schedule**

| **Activity** | **Start Date** | **End Date** | **Owner** |
| --- | --- | --- | --- |
| Test Planning | [27/08/2024] | [27/08/2024] | QA Lead |
| Test Design (Test Cases) | [28/08/2024] | [29/08/2024] | QA Engineers |
| Test Environment Setup | [30/08/2024] | [30/08/2024] | DevOps Team |
| Test Execution | [30/08/2024] | [30/08/2024] | QA Engineers |
| Defect Reporting & Retest | [31/08/2024] | [31/08/2024] | QA Engineers |
| Test Closure | [31/08/2024] | [31/08/2024] | QA Lead |

**6. Test Deliverables**

* Test Plan Document
* Test Cases & Scripts
* Test Data
* Test Execution Reports
* Defect Logs
* Final Test Summary Report

**7. Roles and Responsibilities**

**7.1 Test Manager**

* Approve the test plan and allocate resources.
* Monitor project progress and manage risks.

**7.2 Test Lead**

* Develop and maintain the test plan.
* Approve test cases and oversee execution.
* Provide feedback and support to the testing team.

**7.3 Test Engineers**

* Create and execute test cases.
* Report and track defects.
* Collaborate with developers for issue resolution.

**8. Entry & Exit Criteria**

**8.1 Entry Criteria**

* Approved requirements and design documents.
* Test environment setup is complete.
* Test data is prepared and validated.

**8.2 Exit Criteria**

* All planned tests are executed.
* Test cases achieve the desired pass rate.
* Critical defects are resolved.

**9. Risks and Mitigation Plans**

| **Risk** | **Mitigation** |
| --- | --- |
| Incomplete Requirements | Conduct regular requirement clarification sessions. |
| Resource Constraints | Backup resource planning and cross-training. |
| Testing Delays | Prioritize critical tests and extend work hours if necessary. |

**10. Approvals**

* Prepared by: Vishal
* Approved by: Shiva Kumar
* Date of Approval: 27-08-2024