**Fitness and supplement shop**

<Iteration/ Master> Test Plan

Version <1.0>

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 06/12/2024 | 1.0 | Initial Release | Võ Hoàng Anh Khoa |
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**<Iteration/ Master> Test Plan**

# Introduction

## Purpose

This Iteration Test Plan outlines the strategy for testing the **Forum Web Application**, focusing on validating critical features such as role-based functionalities (User, Admin, PT), product transactions, service postings, forum discussions, and reviews. It serves as a key document to manage and direct the testing process across RUP phases and Agile iterations.

The Iteration Test Plan is designed to validate the functionality, usability, performance, and security of the **Forum Web Application** across different iterations. The testing efforts focus on ensuring the following:

1. **Role-Based Access**: Each user role (User, Admin, PT) can access only their designated functionalities, such as user-specific purchases, PT-specific service postings, and admin moderation.
2. **Product and Service Transactions**: Buyers can browse, add to cart, purchase products, and leave reviews, while PTs can successfully post and manage services.
3. **Forum Discussion**: Users can create threads, post replies, and receive notifications, with admins able to moderate content effectively.
4. **Review System**: Users can leave product and service reviews with proper content filtering and rating calculations.
5. **Cross-Platform Compatibility**: The application performs consistently across different operating systems, browsers, and devices.
6. **System Reliability**: The application can handle concurrent users for forum discussions, product purchases, and service bookings without performance degradation.
7. **Security**: Sensitive data is protected, and vulnerabilities like SQL injection and XSS are mitigated.

# Target Test Items

List of software features for testing:

1. **Login**: Validate role-specific access (User, Admin, PT).
2. **Sign-Up**: Ensure data integrity, validations, and unique usernames.
3. **Buy Products**: Test browsing, adding to cart, payments, and order confirmation.
4. **Post PT Service**: Validate service postings, profile editing, and user bookings.
5. **Forum Discussion**: Test post creation, replies, and admin moderation.
6. **Product/Service Reviews**: Validate review submissions, ratings, and content filtering.

**Testing technique:**

1. **Functional Testing:**

|  |  |
| --- | --- |
| Test Objective: | Ensure navigation, data entry, and retrieval work as expected.  Test error/warning messages for invalid inputs. |
| Technique: | Execute each use case, use case flow, or function, using valid and invalid data, to verify the following:  - The expected results occur when valid data is used.  - The appropriate error / warning messages are displayed when invalid data is used. |
| Completion Criteria: | All planned tests have been executed.  All identified defects have been addressed |

1. **Usability Testing:**

|  |  |
| --- | --- |
| Test Objective: | **Visually appealing, intuitive, and user-friendly website design**  Ensure the following:  -Interface elements, such as menus, dimensions, positioning, states, and focus, adhere to established standards and guidelines.  -Develop and refine test cases for each interface window to validate seamless navigation and proper functionality of all interactive elements. |
| Technique: | Test the website's layout across different window sizes.  Develop or update test cases for each window to ensure smooth navigation and correct behavior of all interface elements within the application. |
| Completion Criteria: | Verify that each window aligns with the benchmark version or meets the defined acceptable standards. |

1. **Perfomance Testing:**

|  |  |
| --- | --- |
| Test objective | To ensure that the application performs efficiently under expected and peak user loads, providing a seamless experience across all key features such as product transactions, service postings, forum discussions, and reviews. |
| Technique | **Load Testing**: Simulate concurrent users interacting with features like browsing products, posting/replying in forums, and booking services to evaluate response times and system behavior under normal and peak loads.  **Stress Testing**: Push the application beyond its capacity to identify its breaking point and evaluate how it handles failures.  **Scalability Testing**: Assess how the application scales with increasing user loads or data volume, ensuring consistent performance.  **Endurance Testing**: Simulate prolonged usage to check for memory leaks, system stability, and performance degradation over time. |
| Completion Criteria | Response time for all critical features remains within the acceptable range under expected load conditions.  The application sustains functionality and acceptable performance levels under peak load conditions.  No critical errors, crashes, or memory leaks are observed during extended usage.  Scalability tests confirm that the system can handle a 20% increase in expected user load without performance degradation. |

# Environmental Needs

## Hardware Requirements

* Operating system: Windows, Android, iOS
* Memory: minimum 8GB
* 50GB HDD/SSD

## Software in the Test Environment

The following base software elements are required in the test environment for this *Test Plan*.

| **Software Name** | **Purpose** | **Version** | **Type and Other Notes** |
| --- | --- | --- | --- |
| Google Chrome | Run web application | Latest version | Internet Browser |
| Microsoft Edgelord | Run web application | Latest version | Internet Browser |
| Firefox | Run web application | Latest version | Internet Browser |
| Windows 10, 64 bit | OS compatible checking | 21H2 | Operating System |
| IOS | OS compatible checking | 17 | Operating System |
| Android | OS compatible checking | Lolipop or higher | Operating System |

## Productivity and Support Tools

1. The following tools will be employed to support the test process for this *Test Plan*.

| **Tool Category or Type** | **Tool Brand Name** | **Vendor or In-house** | **Version** |
| --- | --- | --- | --- |
| Defect Tracking | Google Sheets | Google | 2024 - Latest |
| Prepare test plan | Google Docs | Google | 2024 - Latest |

# Responsibilities, Staffing, and Training Needs

## People and Roles

This table shows the staffing assumptions for the test effort.

| **Human Resources** | | |
| --- | --- | --- |
| **Role** | **Minimum Resources Recommended**  **(number of full-time roles allocated)** | **Specific Responsibilities or Comments** |
| Test Manager | Võ Hoàng Anh Khoa | Oversees management activities and ensures the testing process runs smoothly.  **Responsibilities include:**   * Planning and coordinating logistics. * Defining and aligning the testing mission. * Developing and documenting the test plan. * Identifying drivers and key motivators for testing. * Securing necessary resources. * Creating and maintaining the test model. * Establishing and managing the test environment. * Providing detailed management reports on testing progress and outcomes. * Championing the importance of testing within the project. * Assessing the overall effectiveness of the testing efforts. |
| Tester | Võ Hoàng Anh Khoa  Ngô Viết Long  Nguyễn Đình Kiên | Carries out the testing process and ensures its proper execution.  **Responsibilities include:**   * Designing and implementing test cases and test suites. * Executing test suites as planned. * Recording and documenting test results. * Analyzing test failures and implementing solutions or recovery measures. * Reporting and documenting any incidents or issues encountered during testing. |
| Test System Administrator | Võ Hoàng Anh Khoa  Ngô Viết Long | Oversees the management and upkeep of the test environment and resources.  **Responsibilities include:**   * Managing and maintaining the test management system. * Setting up, providing access to, and ensuring the recovery of test environment configurations and test labs. |