Bilinguo

<Iteration/ Master> Test Plan

Version 1.4

Revision History

| **Date** | **Version** | **Description** | **Author** |
| --- | --- | --- | --- |
| 25/05/2024 | 1.0 | First update, create test plan | Tấn Phát |
| 26/05/2024 | 1.1 | Update section 2: Target Test Items | Minh Triết |
| 26/05/2024 | 1.2 | Update section 3: Environment Needs | Minh Triết |
| 28/05/2024 | 1.3 | Update section 4: Responsibilities, Staffing, and Training Needs | Tấn Phát |
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**Iteration/ Master Test Plan**

# Introduction

**Overview of the Test Plan Document**

**Objectives of this Document:** The primary objectives of this test plan document are to:

1. Define the scope and approach of the testing activities.
2. Outline the testing objectives and strategies to ensure the quality and performance of the product.
3. Provide a detailed schedule and resource allocation for the testing process.
4. Identify potential risks and their mitigation strategies.

This document details the testing strategy, methodologies, and processes to be followed for the project. It includes information on what will be tested, the criteria for success, the tools and environments that will be used, and how the testing will be carried out. This comprehensive plan ensures that all aspects of the product are tested thoroughly and consistently.

The test plan document should be used by:

1. **QA Engineers and Testers**: To understand their roles, responsibilities, and the specific tests they need to perform.
2. **Project Managers**: To monitor the progress of the testing phase and ensure it aligns with the overall project schedule.
3. **Developers**: To understand the testing scope and prepare their code accordingly.
4. **Stakeholders**: To get an overview of the testing process and assurance that the product will meet quality standards.

**Key Features of this Document:**

1. **Testing Objectives and Scope**: Clear definition of what will be tested and the goals of the testing process.
2. **Test Strategy and Methodologies**: Detailed approach to how testing will be conducted, including types of testing (functional, performance, security, etc.).
3. **Test Environment and Tools**: Description of the hardware and software environments, and the tools required for testing.
4. **Resource Allocation**: Allocation of human resources, detailing who will do what and when.
5. **Schedule and Milestones**: Timeline for the testing activities, including key milestones and deadlines.
6. **Risk Management**: Identification of potential risks and their mitigation strategies.
7. **Metrics and Reporting**: How testing progress will be measured and reported.

# Target Test Items

This section identifies the specific items that will be tested within the scope of the project. These include, but are not limited to:

* **Functional Requirements:**
* **User Registration and Login:**
* Verify that new users can create accounts and existing users can log in.
* Ensure password recovery and reset functionality works correctly.
* **User Roles:**
* Test functionality specific to each user role: students, teachers, and admin.
* **Course Selection and Enrollment:**
* Ensure users can browse available courses and enroll in the ones they choose.
* **Lesson Content Delivery:**
* Verify that all lessons load correctly.
* Ensure interactive elements (e.g., quizzes, drag-and-drop exercises) function as expected.
* **Flashcards for Vocabulary:**
* Ensure users can create, view, edit, and delete flashcards.
* Verify that flashcards can be categorized and accessed easily.
* Ensure the correct display of words, definitions, and example sentences.
* Verify functionality for spaced repetition and progress tracking on flashcards.
* Using the dictionary.
* **Assign Homework:**
* Test the ability to create, assign, and manage homework assignments.
* Verify functionality for students to submit homework and teachers to review and grade submissions.
* Test for notifications to students regarding assigned homework and upcoming deadlines.
* **Progress Tracking:**
* Ensure users' progress is accurately tracked and displayed on their dashboard.
* **Performance:**
* **Response Time:**
* Test the system’s response time for loading pages and submitting answers under various conditions.
* **Scalability:**
* Evaluate how the system handles a large number of simultaneous users.
* **Usability:**
* **User Interface (UI):**
* Assess the ease of navigation and the intuitiveness of the user interface.
* Ensure the design is consistent and user-friendly across different devices and screen sizes.
* **Security:**
* **Data Protection:**
* Verify that user data, including flashcards and progress, is securely stored and transmitted.
* **Authentication and Authorization:**
* Ensure that only authorized users can access certain features and data.
* **Vulnerability Testing:**
* Test for common security vulnerabilities such as SQL injection,..
* **Compatibility:**
* **Cross-Browser:**
* Ensure the web application works correctly on different web browsers
* **Cross-Device:**
* Verify functionality on various devices and operating systems.

# Environmental Needs

## Hardware Requirements

* Laptop or PC with CPU of Intel or AMD series.
* Smartphone Android or IOS.
* Laptop or PC with at least 4GB RAM and need more than 50GB hard drive.
* Network bandwidth greater than 1 Mbps.

## 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** |
| --- | --- | --- | --- |
| Microsoft Edge | To display a software interface  that allows user interaction  with the system for testing |  | Internet Browser |
| Google Chrome | To display a software interface  that allows user interaction  with the system for testing |  | Internet Browser |
| Windows 10, 64 bit | The operating system will be  the software that manages the  software and hardware needed  for testing |  | Operating System |
| Windows 11, 64 bit | The operating system will be  the software that manages the  software and hardware needed  for testing |  | Operating System |
| Android 13 | The operating system will be  the software that manages the  software and hardware needed  for testing |  | Operating System |
| MS Outlook | Send and receive confirmation  upon successful registration |  | Email Client software |
| Visual Studio Code | To run the frontend and backend source code of the system for testing | 1.90.0 | IDE |
| SQL Server | Database management system for storing flashcards data | 2019 | Database management system |

## Productivity and Support Tools

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 Sheet | Google Drive |  |
| Write Test Plan | Google Doc | Google Drive |  |
| Database Testing | SQL Server Management | SQL Server | 2019 |
| Testing | Visual Studio Code | Microsoft | 1.90.0 |
| Source code management | Github | Microsoft |  |

# 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 | Ngoc Cham  Minh Triet | Provides management oversight.  Responsibilities include:   * planning and logistics * agree on mission * identify motivators * acquire appropriate resources * present management reporting * advocate the interests of test * evaluate the effectiveness of the test effort |
| Tester | Trong Phuc  Truong Sinh  Minh Triet  Tan Phat | Implements and executes the tests.  Responsibilities include:   * implement tests and test suites * execute test suites * log results * analyze and recover from test failures * document incidents |
| Test System Administrator | Tan Phat  Ngoc Cham | Ensures the test environment and assets are managed and maintained.  Responsibilities include:   * administer test management system * install and support access to, and recovery of, test environment configurations and test labs |