Group 03

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
29/05/2024	1.4	Review and complete final submission	All

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Iteration/ Master Test Plan

1.   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.

2.   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.

3. Environmental Needs

3.1 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.

3.2 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

3.3   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	

4.   Responsibilities, Staffing, and Training Needs

4.1   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