Power Rangers

AI Copilot Application
Master Test Plan
Version 1.0

Revision History

Date	Version	Description	Author
16/12/24	1.0	First version of Master Test Plan	Phung To Uyen

Table of Contents

Master Test Plan

1. Introduction

- The objectives of this document are as follows:
  - **Defining tasks and responsibilities**: It outlines who is responsible for each testing activity and task.
  - **Service level agreement**: It can act as a reference document for agreements on testing service levels.
  - **Testing strategy**: This document describes the overall approach, methodology, and scope of testing activities.
  - **Test schedule**: It provides a detailed schedule and timeline of all testing phases and activities.
  - **Resources**: It identifies the resources, including tools, personnel, and infrastructure required for testing.
  - **Communication**: It serves as a central means of communication among team members and stakeholders involved in the testing process.
- **This document is about**: This document outlines the testing plan for AI Copilot to ensure its functionality, performance, and reliability. It provides a structured approach to testing by detailing objectives, strategies, schedules, resource allocation, and communication protocols.
- The document is intended for:
  - **Project Managers**: To track progress and ensure testing aligns with project goals.
  - **Testers**: To perform tests according to the defined strategy and plan.
  - **Developers**: To understand test expectations and collaborate on issue resolution.
  - **Stakeholders (Instructors)**: To review the testing scope, progress, and outcomes.
- **Key features of this document:**
  - **Clear Objectives**: The document defines specific goals for the testing process.
  - **Comprehensive Test Strategy**: It explains the methods, tools, and testing techniques to be used.
  - **Task Assignments**: Roles and responsibilities are clearly allocated to ensure accountability.
  - **Resource Management**: Lists the tools, personnel, and environments required for testing.
  - **Test Schedule**: Includes timelines and milestones for each testing phase.
  - **Communication Plan**: Ensures all team members and stakeholders are informed and updated throughout the testing lifecycle.

2. Target Test Items

- Lists software items for testing
  - Register and Login
  - Chat with AI Bot
  - Upload photos to chat
  - Create AI Bot
  - Add/delete knowledge data to AI Bot
  - Display/search AI Bot

2.1 Performance

- **Load Testing**: Verify the AI Copilot's ability to handle simultaneous usage by 100+ users without performance degradation.
- **Stress Testing**: Assess the AI system's behavior and robustness under extreme workloads, ensuring it maintains stability.
- **Response Time**: Evaluate the response time of AI interactions and ensure timely results are delivered under varying conditions.

2.2 Usability

- **Navigation**: Ensure that all features (e.g., chat history, upload image, …) are intuitive and easy to use.
- **Responsiveness**: Test the layout and interface responsiveness across different devices (laptops, tablets, and mobile screens).
- **User Experience**: Verify a seamless and user-friendly experience while interacting with the AI for various tasks.

2.3 Compatibility

- **Cross-Browser Testing**: Test AI Copilot’s functionality across different browsers such as Chrome, Firefox, Edge, and Safari.
- **Device Compatibility**: Ensure that AI Copilot works seamlessly on a range of devices, including desktops, tablets, and smartphones.

2.4 Functional Features

- **Chat History**: Verify that users can revisit and continue chat threads with proper time tracking (7 days ago, 30 days ago, etc.).
- **Image Upload**: Ensure the "Add Image" button functions correctly, allowing users to upload images with proper notifications and labels.
- **Register, Login:**
  - Verify that users can successfully create an account using their email and password
  - Validate the login process with correct credentials and ensure proper error messages for invalid attempts.
  - Verify Google login integration works consistently across multiple devices and browsers.
- **Chat with AI Bot**
  - Verify that the AI Copilot generates accurate and context-aware responses to user queries.
  - Ensure multi-turn conversations flow smoothly, retaining previous context for follow-up questions.
  - Validate the relevance and correctness of the AI's answers for different types of queries.
  - Confirm additional functionalities, such as formatting responses, summaries, or follow-up suggestions.
- **Create AI Bot:** Verify that users can successfully create an AI Bot with different agent, name, description, and language settings.
- **Add/Delete Knowledge Data to AI Bot**
  - Verify that users can add structured or unstructured data to their AI Bot, ensuring it is processed and applied for accurate responses.
  - Ensure users can selectively delete specific knowledge entries or clear all data linked to the AI Bot.
- **Display/Search AI Bot**

- Verify all AI Bots created or available to a user are displayed in an organized and readable format.
- Ensure users can search for AI Bots by name, keywords, or descriptions, and that search results are accurate.

3. Environmental Needs

3.1 Hardware Requirements

- Operating System: Windows 10 or 11 (64 bit).
- Internet Browser: Google Chrome or Microsoft Edge with latest version.
- Display: The screen aspect ratio is 16:9 with a minimum resolution of 1280x720.
- RAM: To run and test programs smoothly, it is necessary to have at least 8GB RAM (enough to run the Internet Browser).

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
Firefox	To deploy the system of the website	**133.0.3**	Internet Browser
Google Chrome	To deploy the system of the website	**130.0.6723.93**	Internet Browser
Windows 10, 64 bit	The operating system for running the website	**22H2**	Operating System
Windows 11, 64 bit	The operating system for running the website	**23H2**	Operating System
Microsoft Edge	To deploy the system of the website	**131.0.2903.99**	Internet Browser
Github	Source code management and collaboration, with repositories hosted on GitHub.	**2.46.0**	Version control

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	MS Excel 2010	MS	2010
Word	MS Word	MS	2010
Bug tracking, sprint planning, and issue management	JIRA	Atlassian	Latest

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	1 - Phùng Tố Uyên	Provides management oversight. Responsibilities include: • planning and logistics • agree mission • identify motivators • acquire appropriate resources • present management reporting • advocate the interests of test • evaluate effectiveness of test effort
Tester	5 - All member	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