Group01

Pic2Model
Master Test Plan

Version 1.2

Revision History

Date	Version	Description	Author
10/12/2024	1.0	Write a preliminary version of the test plan document by filling in all the sections specified in the test plan template.	All group members
17/12/2024	1.1	Update the content of the sections: "Target Test Items", "Hardware Requirements" and "Software in the Test Environment".	Vũ Minh Phát, Nguyễn Trần Minh Thư, Vũ Mạnh Quân
31/12/2024	1.2	Add some more features to test in section "2. Target Test Items". These are some common functions for end users and admins after they have successfully logged in.	Vũ Minh Phát, Vũ Mạnh Quân

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Master Test Plan

1. Introduction

This document outlines the **Test Plan** for the Pic2Model project, which is focused on converting images into 3D models.

1.1 Objectives

- Define the testing strategy for the Pic2Model project.
- Ensure all functionalities of the Pic2Model application are tested thoroughly.
- Ensure that the product meets its requirements.
- Identify and resolve defects in the application before release.

1.2 About This Document

- This document provides a detailed plan for testing all aspects of the Pic2Model application.
- Identify target test items and testing techniques.
- Determine the hardware and software requirements for testing.
- Identify productivity and support tools.
- Identify the roles and responsibilities of each member.

1.3 Intended Audience

- Development Team: To understand the testing requirements and ensure the code meets quality standards.
- Tester Team: To execute the test cases and report on the findings.
- Project Managers: To monitor the testing progress and ensure the project stays on track.
- Stakeholders: To get an overview of the testing approach and ensure that the final product meets their expectations.

1.4 Key Features

- Comprehensive Coverage: Detailed test cases covering all functionalities of the Pic2Model application.
- Testing Methodologies: Description of various testing methodologies to be used (e.g., unit testing, integration testing, system testing).
- Schedules and Milestones: Timeline for executing test cases and key milestones for testing phases.
- Resource Allocation: Information on the resources required, including hardware, software, and personnel.

2. Target Test Items

Feature	Test Area	Description
Login (Admin)	Functionality, Security	Verify that admin users can log in with valid credentials.
Login (End-User)	Functionality, Security	Ensure end-users can log in with valid credentials.
Logout	Functionality	Verify that users can log out successfully.
Reset Password (Invalid Email)	Functionality, Security	Check system response when attempting a password reset with an incorrect email.
Sign Up	Functionality, Usability	Verify that new users can register with valid information.
3D Model Generation	Functionality, Performance	Ensure photos are converted into a 3D model correctly and in a reasonable time.
Photo Upload	Functionality, Usability	Verify users can upload photos successfully and handle large files.

Interactive Model Preview	Functionality, Usability	Check users can rotate, zoom, and pan the 3D model smoothly.
Error Handling	Functionality, Usability	Ensure appropriate error messages are displayed for failed actions (e.g., invalid uploads).
Upgrade	Functionality, Security	Verify that users can upgrade their subscription or account tier successfully.
Downgrade	Functionality, Usability	Ensure users can downgrade their subscription or account tier without losing access to existing data.
User Profile Management	Functionality, Usability	Verify that users can view, edit, and save updates to their profiles (e.g., name, email, avatar).
Export & Download Options	Functionality, Performance	Ensure users can export data (e.g., 3D models, reports) and download them in supported formats.

3. Environmental Needs

This section presents the non-human resources required for the **Test Plan**.

3.1 Hardware Requirements

Component	Specification	Notes
Web Server	AMD EPYC / Intel Core Xeon, 1 TB RAM, 10 Petabyte SSD, NVIDIA A series / AMD MI series	Sufficient for hosting and computing tasks. Avoid older CPUs due to performance limits. Dedicated GPU to accelerate the speed of the model.
Client Desktop (Windows)	AMD Ryzen 5 / Intel Core i5, 8 GB RAM, 256 GB SSD	Balanced performance for general testing and browser tasks with the bare minimum laptop that most user may have.
Client Desktop (macOS)	Apple M1 / Intel Core i5, 8 GB RAM, 256 GB SSD	Supports macOS Big Sur or newer.
Mobile Devices (iOS)	iPhone 8 or newer.	Ensures compatibility with iOS 14 or later. Older models may lack performance and features.
Mobile Devices (Android)	Mid-range devices (e.g., Samsung Galaxy A series or equivalent)	Compatible with Android 9 (Pie) or newer.
Network Requirements	50–100 Mbps internet connection or 4G and higher for mobile device	Stable connection for real-world testing.

Notes: Since the "standard" hardware nowadays for this specific workload requires a dedicated GPU to compute and output the model, we took the specs from the official hugging face's recommendation.

Any Hardware prior 2014 is considered as "outdated" and not recommended to put in the test suit for user.

We only offer high-end hardware for server, for user, any hardware that can load the browser that meet their "expectation" is good enough since all the heavy workload is on the server itself.

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
Google Chrome	Execute application for web browser	131.0.6778.140	Internet Browser
Firefox	Execute application for web browser	133.0.3	Internet Browser
Microsoft Edge	Execute application for web browser	131.0.2903.86	Internet Browser
Windows 10, 64-bit	Test client OS	22H2	Operating System
Windows 11, 64-bit	Test client OS	24H2	Operating System
Mac OS 13 Ventura	Test client OS	13.5.1	Operating System
Mac OS 14 Sonoma	Test client OS	14.6.2	Operating System
Ubuntu Linux	Execute application for server-side	20.04 LTS	Operating System
Gmail	Test email client functionality	Latest	eMail Client software

Notes: Since this is a website, Android is not needed since the user still needs to use browser anyway and all of them share the same test suit with the Desktop with browser, unlike iPhone that use iOS that may have problem with the Safari (which is the default browser on any Apple's OS).

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
Write test cases for key features	Microsoft Excel	Microsoft	Version 2410 (Build 16.0.18129.20158)
Write bug reports for failed test cases	Microsoft Excel	Microsoft	Version 2410 (Build 16.0.18129.20158)

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

Human Resources		
Role	**Minimum Resources Recommended** **(number of full-time roles allocated)**	**Specific Responsibilities or Comments**
Test Manager	Phạm Trịnh Bảo Tín	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	Nguyễn Hữu Gia Hiếu Phạm Trịnh Bảo Tín Vũ Minh Phát Vũ Mạnh Quân	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	Nguyễn Hữu Gia Hiếu Phạm Trịnh Bảo Tín Vũ Minh Phát Vũ Mạnh Quân	Ensures 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