TEST PLAN FOR HERITAGE IDENTIFICATION USING DEEP LEARNING

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Change Log

Version	Change Date	By	Description
version number	Date of Change	Name of person who made changes	Description of the changes made

TEST PLAN FOR HERITAGE IDENTIFICATION SYSTEM

Change Log

Version	Change Date	By	Description
001	15.12.2024	Vipin Chauhan	Initial Draft

1. INTRODUCTION

A Heritage Identification System leverages deep learning techniques to identify monuments from user-provided images. The system identifies the monument, displays its name, provides its geographic coordinates (latitude and longitude), and marks its location on a map. This document outlines the test plan for ensuring the system functions effectively and meets quality standards.

1.1 SCOPE

1.1.1 In Scope

The following features are included in the scope of testing:

1. **Image Upload**: Functional Requirement
    - Verify the functionality of image upload by users.
    - Ensure supported image formats (e.g., JPEG, PNG) are correctly processed.
2. **Monument Identification**: Functional Requirement
    - Validate the deep learning model's ability to accurately identify monuments.
    - Ensure identification works for various lighting conditions and angles.
3. **Location Retrieval**: Functional Requirement
    - Test the retrieval of monument's location on the map.
    - Verify the accuracy of latitude and longitude data.
4. **User Interface**: Non-functional Requirement
    - Evaluate the intuitiveness and usability of the graphical user interface.
5. **Cross-Platform Functionality**: Functional Requirement
    - Test the application on multiple platforms (e.g., Windows, macOS) and devices.

1.1.2 Out of Scope

The following features are out of scope:

- Identification of objects other than monuments.
- Real-time video processing for monument identification.
- Providing historical or detailed information about monuments.

1.2 QUALITY OBJECTIVE

The objectives of testing include:

- Ensuring the system meets functional and non-functional requirements.
- Verifying the system adheres to quality standards defined by stakeholders.
- Identifying and resolving issues before deployment.

1.3 ROLES AND RESPONSIBILITIES

Role	Name
QA Analyst	Vipin Chauhan
Test Manager	Shivam Kumar
Configuration Manager	Ujjwal Sharma
Developers	Vipin Chauhan, shivam kumar, ujjawal Sharma, Sukriti
Installation Team	Shivam Kumar Ujjawal Sharma

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2. TEST METHODOLOGY

2.1 Overview

An iterative testing approach will be used. This involves testing individual components (modules) and then verifying their integration. Testing will be conducted at multiple stages to ensure all features function as expected.

2.2 Test Levels

1. **Unit Testing**
    - Test individual components such as image upload and recognition models.
2. **Integration Testing**
    - Validate interactions between components, such as model integration with location services.
3. **System Testing**
    - Test the entire application to ensure it meets requirements.

2.3 Test Completeness

Testing will be considered complete when:

- 100% test coverage is achieved.
- All manual and automated test cases are executed.
- All critical bugs are resolved.

3.TEST DELIVERABLES

- Test Plan Document
- Test Cases and Test Scripts
- Test Execution Report
- Defect Log
- Final Test Summary Report

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4. RESOURCE & ENVIRONMENT NEEDS

4.1 Testing Tools

- Manual Testing Tools
- Selenium (for UI testing)
- Postman (for API testing)

4.2 Test Environment

Component	Requirement
Operating System	Windows 10 or above
RAM	Minimum 8GB
Processor	Intel Core i5 or above
Tools	PyCharm, Postman, VS Code
Internet Connectivity	Required

5.TEST CASES

Test Case ID	Test Scenario	Test Steps	Expected Result	Status
TC001	Image Upload	1. Upload a valid image	Image is uploaded successfully	Passed
TC002	Unsupported Image Format	1. Upload an unsupported image format	System shows an error message	Passed
TC003	Monument Identification	1. Upload an image of a known monument	Monument name is displayed accurately	Passed
TC004	Location Retrieval	1. Upload an image of a monument	Latitude, longitude, and map location are accurate	Passed
TC005	Invalid Image Input	1. Upload a non-monument image	System shows an error message	Passed

6.BOUNDARY VALUE ANALYSIS

Test Case	Test Description	Input/Condition	Expected Behavior
Test 1	Minimum Image Size	Image < 100 KB	System handles small images gracefully
Test 2	Maximum Image Size	Image > 10 MB	System rejects oversized images
Test 3	Unsupported Format	TIFF image	System displays an unsupported format error
Test 4	Maximum Concurrent Uploads	Multiple images uploaded rapidly	System processes one image at a time

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7.TERMS/ACRONYMS

Term/Acronym	Definition
DL	Deep Learning
API	Application Programming Interface
GUI	Graphical User Interface
AUT	Application Under Test
ML	Machine Learning