

Testing Plan

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Introduction

This report outlines the testing strategy for the web application. It includes the testing objectives, key pages to be tested, corresponding test cases, and testing tools. The goal is to ensure that both functional and non-functional requirements are met.

Test strategy

Objectives

- Ensure that the application meets client expectations and all functional and non-functional requirements.
- Ensure that the application is accessible to individuals with disabilities.

Scope

- Test user interfaces
- Test usability (including accessibility compliance)
- Test AI API

Testing Approach

- **Functional Testing:**

- Unit Testing (unittest): Test individual units of code to ensure correct functionality.
- User Acceptance Testing (manual): Validate that the software meets end-user requirements and is ready for deployment.
- Edge Case Testing (manual): Ensure that the system behaves correctly under extreme or unusual input conditions.

- **Non-Functional Testing:**

- Accessibility Testing (WAVE Evaluation/Lighthouse): Ensure compliance with accessibility standards across key pages.

Test Cases

Test Case ID	TC001
Test Description	Verify users can upload images in various formats (JPEG, PNG, GIF).
Pre-Conditions	<ul style="list-style-type: none">● The Image Upload page should be functional and accessible
Steps to Execute	<ol style="list-style-type: none">1) Navigate to the Image Upload page.2) Click the "Choose File" button.3) Select an image file in JPEG, PNG, or GIF format from the local system.4) Click the "Analyse" button.
Expected Result	<ul style="list-style-type: none">● The system should successfully accept and upload the selected image.● A confirmation message should be displayed after a successful upload.● The uploaded image should be correctly displayed in the designated preview area.
Status	Pass

Test Case ID	TC002
Test Description	Verify users can upload images in various formats (JPEG, PNG, GIF) on a mobile/tablet device.
Pre-Conditions	<ul style="list-style-type: none">● The Image Upload page should be functional and accessible
Steps to Execute	<ul style="list-style-type: none">● Navigate to the Image Upload page on a mobile or tablet device.● Press the "Choose File" button using touch input.

	<ul style="list-style-type: none"> ● Select an image file in JPEG, PNG, or GIF format from the local system. ● Press the “Analyse” button.
Expected Result	<ul style="list-style-type: none"> ● The system should successfully accept and upload the selected image. ● A confirmation message should be displayed after a successful upload. ● The uploaded image should be correctly displayed in the designated preview area. ● The interface should correctly adjust for different mobile and tablet screen sizes (portrait and landscape). ● All buttons and input fields should respond correctly to touch interactions.
Status	Pass

Test Case ID	TC003
Test Description	Verify that accurate classification results are displayed after an image is analysed.
Pre-Conditions	<ul style="list-style-type: none"> ● The Results page should be functional and accessible. ● The AI model must be trained and deployed. ● The system should have an active internet connection to communicate with the AI API.
Steps to Execute	<ul style="list-style-type: none"> ● Navigate to the Image Upload page. ● Click the "Choose File" button. ● Select an image file in JPEG, PNG, or GIF format from the local system. ● Click the “Analyse” button.
Expected Result	<ul style="list-style-type: none"> ● The system should display the correct classification e.g. sleeping. ● The system should display a confidence score (e.g. 65%) next to the classification result. ● Both classification and confidence score should be formatted correctly and clearly visible in the UI.
Status	Pass

Test Case ID	TC004
Test Description	Verify that accurate classification results are displayed after

	an image is analysed on a mobile or tablet device.
Pre-Conditions	<ul style="list-style-type: none"> • The Results page should be functional and accessible. • The AI model must be trained and deployed. • The system should have an active internet connection to communicate with the AI API.
Steps to Execute	<ul style="list-style-type: none"> • Navigate to the Image Upload page on a mobile or tablet device. • Press the "Choose File" button. • Select an image file in JPEG, PNG, or GIF format from the local system. • Press the "Analyse" button.
Expected Result	<ul style="list-style-type: none"> • The system should display the correct classification e.g. sleeping. • The system should display a confidence score (e.g. 65%) next to the classification result. • Both classification and confidence score should be formatted correctly and clearly visible in the UI. • The interface should adjust correctly to different mobile and tablet screen sizes (portrait & landscape). • All buttons and input fields should respond correctly to touch interactions. • If results are not fully visible, users should be able to scroll using touch input.
Status	Pass

Testing Results

Edge Case Testing

Action	Result
Upload image that is not of an animal behaviour eg. flower	Detects an animal behaviour with a lower classification score
Upload the wrong file type eg. word document	Error message

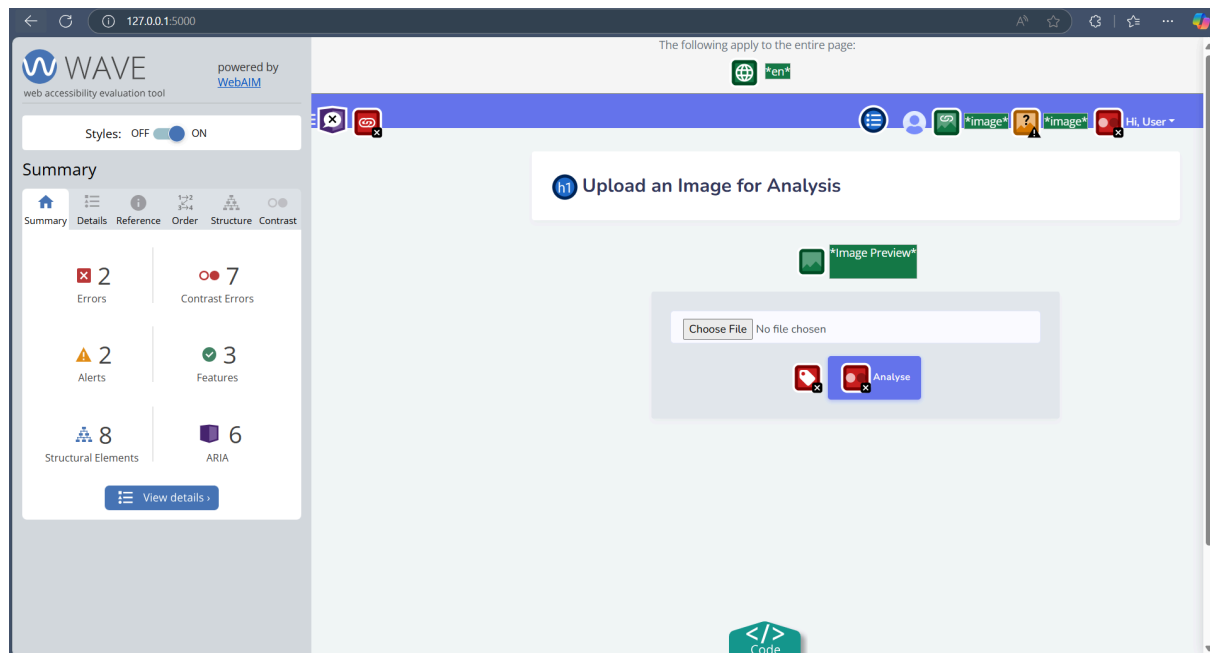
Accessibility Testing

Image Upload Page (Desktop)

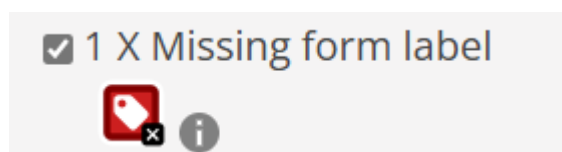
Tool: WAVE Evaluation browser extension

Browser: Microsoft Edge

Before



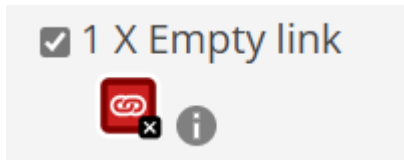
Issue 1



Fix 1

```
<!-- Upload Form -->
<div class="card p-4 bg-light">
  <form action="/analyse" method="post" enctype="multipart/form-data">
    <input type="file" aria-label="image" name="image" id="imageInput" required class="form-control mb-3">
    <button type="submit" class="btn btn-primary">Analyse</button>
  </form>
</div>
```

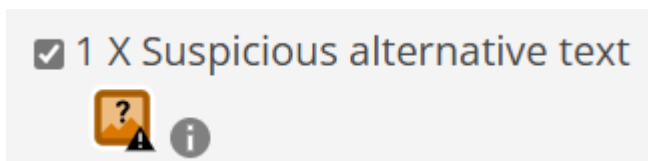
Issue 2



Fix 2

```
<!-- Removed unnecessary href tag -->
<li data-toggle="sidebar" class="nav-link nav-link-lg"><i class="fas fa-bars"></i></li>
```

Issue 3

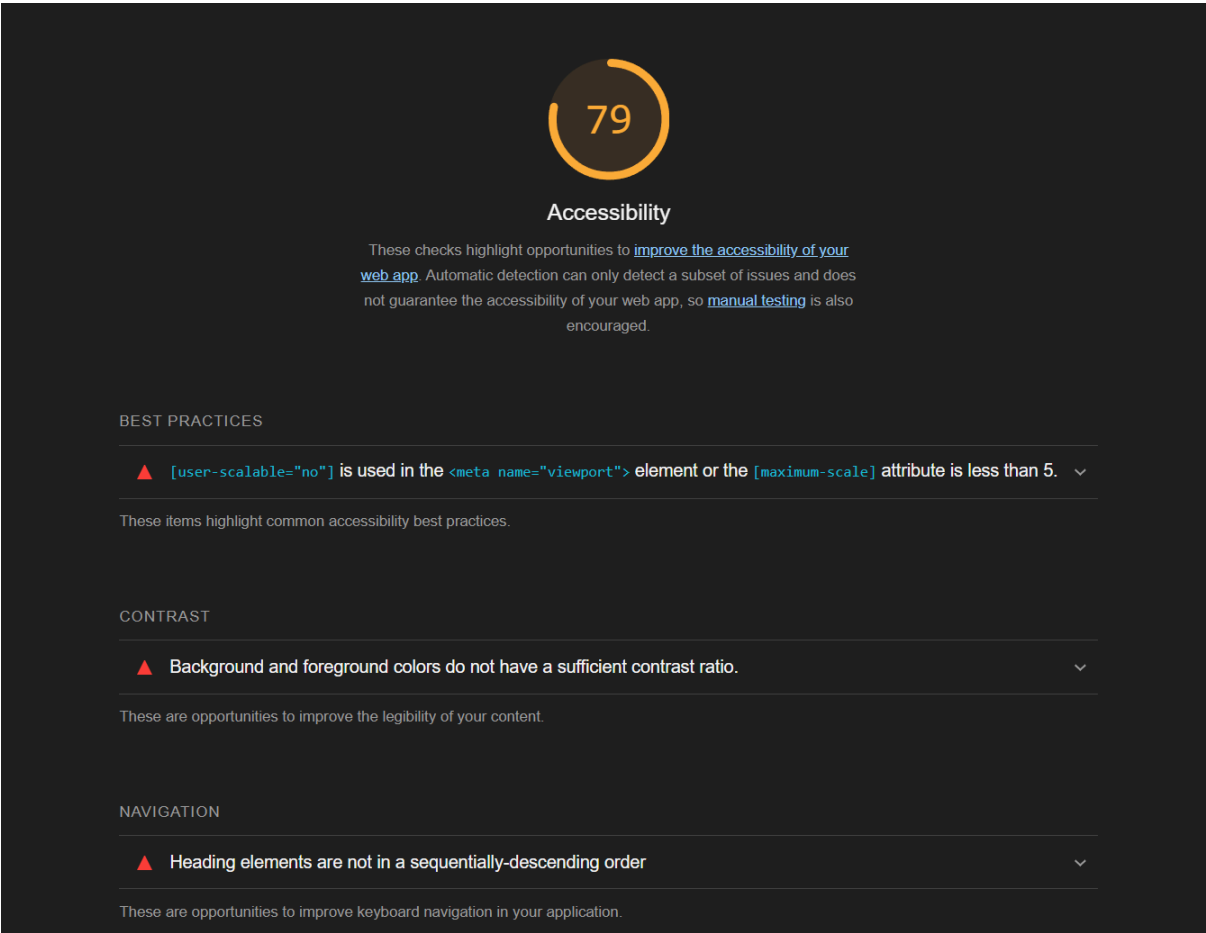


Fix 3

```
<!-- Replaced 'image' with 'profile-picture' -->

```

Lighthouse test results



Fix - Added Contrast toggle button

