**User Acceptance Testing (UAT) Template**

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| --- | --- |
| Date | 26 June 2025 |
| Team ID | LTVIP2025TMID39268 |
| Project Name | HematoVision-Advanced Blood Cell Classification Using Transfer Learning |
| Maximum Marks | 2 Marks |

**Project Overview:**

Project Name: HematoVision – Blood Cell Classification Using Transfer Learning

Project Description:

This project involves developing a deep learning-based image classification system to identify blood cell types including neutrophils, lymphocytes, monocytes, and eosinophils. It uses pre-trained models like MobileNetV2 for transfer learning to improve classification accuracy. The trained model is integrated with a Flask web application allowing real-time prediction and interaction.

Project Version: v1.0

Testing Period: 17 June 2025 to 26 June 2025 **Testing Scope:**

List of Features and Functionalities to be Tested :

1. Image upload functionality
2. Cell type prediction using .h5 model
3. Real-time result display on Flask web app
4. Handling of invalid inputs (non-image files, corrupted images)
5. Display of predicted class
6. Mobile responsiveness of web interface

List of User Stories or Requirements to be Tested :

1. As a medical user, I want to upload a blood smear image and get the cell type prediction.
2. As a lab technician, I want accurate prediction for efficient diagnostics.
3. As a user, I want clear error messages if I upload an invalid file.

**Testing Environment:**

URL/Location: <http://127.0.0.1:5000/>

Credentials (if required): Not Required

**Test Cases:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Case**  **ID** | **Test**  **Scenario** | **Test Steps** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| TC-001 | Upload valid image | Open app → Upload image → Submit | Prediction shown | As  Expected | Pass |
| TC-002 | Upload non-image  file | Upload .txt or .pdf | Error message shown | Error handled | Pass |
| TC-003 | Upload corrupted image | Upload invalid .jpg | Show error | Message displayed | Pass |
| TC-004 | Submit empty form | Click Submit without  file | Prompt for upload | Prompt shown | Pass |
| TC-005 | Upload large resolution image | Upload HD image | Successfully classified | Done | Pass |
| TC-006 | Accuracy verification | Upload known image | >90% Accuracy | Validated | Pass |
| TC-007 | Mobile responsive UI | Open app in phone browser | Layout adapts | Works well | Pass |

**Bug Tracking:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Bug ID** | **Bug**  **Description** | **Steps to reproduce** | **Severity** | **Status** | **Additional feedback** |
| BG-001 | Incorrect cell label | Upload blurred image | Medium | Open | May need more samples |
| BG-002 | Model loads slowly | First time server run | Low | In  Progress | Optimize model loading |
| BG-003 | UI scaling issue | Open on small screen | Low | Closed | Fixed via responsive CSS |

**Sign-off:**

Tester Name: Vidavaluru Glory Manvitha

Date: 26 June 2025

Signature: V. Glory Manvitha

**Notes:**

* + Ensure that all test cases cover both positive and negative scenarios.
  + Encourage testers to provide detailed feedback, including any suggestions for improvement.
  + Bug tracking should include details such as severity, status, and steps to reproduce.
  + Obtain sign-off from both the project manager and product owner before proceeding with deployment.