User Acceptance Testing (UAT) Template

Date	19 February 2025
Team ID	LTVIP2026TMIDS75186
Project Name	Project - Rising waters: A Machine Learning Approach to Flood Prediction
Maximum Marks	10 Marks

Project Overview:

Project Name: Rising waters: A Machine Learning Approach to Flood Prediction

Project Description: This project uses machine learning techniques to predict the possibility of floods based on environmental factors such as rainfall, river level, temperature, and humidity. Historical data is used to train models like Logistic Regression and Random Forest to classify flood risk. The system aims to provide early warnings and improve disaster management through accurate data-driven predictions.

Project Version: V1.0

Testing Scope:

Features & Functionalities to be Tested:

- Data collection from rainfall and river datasets
- Data preprocessing and feature engineering
- Flood risk prediction (Low / Medium / High)
- API response validation
- Dashboard risk visualization
- Alert notification system (SMS/Email)

User Stories / Requirements to be Tested:

- Citizen receives flood alert when risk is High
- Authority dashboard shows correct district-wise risk
- Admin can retrain and update model
- API returns correct probability score

Testing Environment:

URL / Location:
http://localhost:5000 (Local Deployment)

Backend: Flask API
Database: PostgreSQL
Model: Random Forest Classifier

Test Cases:

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	Validate rainfall input	Step 1: Enter rainfall data Step 2: Submit request	System accepts valid rainfall values	System accepted values correctly	Pass
TC-002	Invalid data handling	Step 1: Enter negative rainfall value Step 2: Submit	System shows validation error	Validation error displayed	Pass

Bug Tracking:

Bug ID	Bug Description	Steps to Reproduce	Severity	Status	Additional Feedback
BG-001	Incorrect risk classification for edge rainfall values	Step 1: Input borderline rainfall data Step 2: Predict	Medium	Closed	Fixed by retraining model
BG-002	Dashboard loading delay	Step 1: Open dashboard Step 2: Load district data	Low	In Progress	Optimize query performance

Sign-off:

Tester Name: Manthina Subhash Raju

Date: February 2026

Signature: M. Subhash Raju