

Project Design Phase-II

Data Flow Diagram & User Stories

Date	31 January 2025
Team ID	LTVIP2026TMIDS56565
Project Name	Rising Waters: A Machine Learning Approach to Flood Prediction
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: (Simplified)

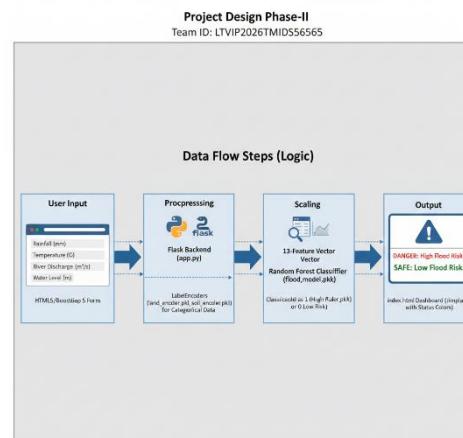


Fig. 3: Rising Waters - Data Flow Diagram. This illustrates the logical sequence from user input to final flood prediction.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority
End User	Flood Prediction	USN-1	As a user, I want to enter environmental data (rainfall, temp, humidity) into a form so I can get a flood risk prediction.	System captures all 5 primary inputs and processes them through the model.	High
End User	Data Validation	USN-2	As a user, I want the system to alert me if I miss a required field so that I don't get an error.	Form fields are marked "required" and prevent submission if empty.	Medium
End User	Visual Feedback	USN-3	As a user, I want to see a color-coded result (Red for Danger, Green for Safe) so I can easily understand the risk level.	The dashboard background colour changes based on the prediction status.	High
Data Scientist	Model Management	USN-4	As a developer, I want to use Random Forest as the production model because it provides stable and accurate results.	Model achieves at least 88.75% accuracy on the test set.	High
Administrator	System Deployment	USN-5	As an admin, I want to run the application on a local server so I can test real-time environmental data analysis.	The app successfully launches on http://127.0.0.1:5000 via VS Code.	High