Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	06 February 2026
Team ID	LTVIP2026TMIDS90283
Project Name	rising waters: a machine learning approach to flood prediction

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Input Module	Enter rainfall data
		Enter temperature data
		Enter humidity level
		Enter river water level
FR-2	Data Preprocessing	Validate input values
		Handle missing values
		Normalize/Scale input data
FR-3	Model Prediction Engine	Load trained ML model (.pkl file)
		Process input through model
		Generate flood prediction result
FR-4	Result Display Module	Display prediction (Flood / No Flood)
		Show confidence/accuracy (optional)
		Display alert message
FR-5	Admin / System Management	Update dataset
		Retrain model (future enhancement)

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	Simple and user-friendly web interface
NFR-2	Security	Secure input handling and validation
NFR-3	Reliability	Accurate and consistent prediction results
NFR-4	Performance	Prediction response time less than 3 seconds
NFR-5	Availability	System accessible via web browser 24/7
NFR-6	Scalability	Can handle multiple users and larger datasets in future