Ideation Phase
Brainstorm & Idea Prioritization Template

Date	19 February 2026
Team ID	LTVIP2026TMIDS75186
Project Name	Rising Waters: A Machine Learning Approach to Flood Prediction
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: https://www.mural.co/templates/brainstorm-and-idea-prioritization

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Problem Statement:
Due to climate change and extreme rainfall, floods are increasing in frequency and intensity. Traditional forecasting methods are slow and less accurate. There is a need for a machine learning model that can analyze historical weather, rainfall, and river level data to predict floods early and reduce damage to life and property.

Step-2: Brainstorm, Idea Listing and Grouping

1. Collect historical rainfall, river level, temperature, and humidity data.
2. Perform data cleaning and exploratory data analysis (EDA).
3. Create features like rainfall intensity, water level rise rate, and seasonal patterns.
4. Train and compare multiple models (Logistic Regression, Random Forest, XGBoost).
5. Handle class imbalance (since flood events are rare).
6. Evaluate model using accuracy, precision, recall, F1-score, and ROC-AUC.
7. Build a simple dashboard to display flood risk levels.

Step-3: Idea Prioritization

High Priority:

- Data collection and preprocessing
- Exploratory Data Analysis (EDA)
- Model training and comparison
- Handling imbalanced data

Medium Priority:

- Feature engineering (rainfall trend, water level growth rate)

- Hyperparameter tuning and performance optimization

Low Priority (Future Scope):

- Real-time data integration from weather APIs
- SMS/email alert system for early warning
- Continuous model retraining with new data