Project Design Phase-II
Data Flow Diagram & User Stories

Date	01 November 2023
Team ID	Team-591871
Project Name	Prediction of rain fall
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.

LEVEL 0 DATA FLOW DIAGRAM :

Processes:

Process 1: Data Collection and Integration
Process 2: Data Pre-processing
Process 3: Model Training
Process 4: Data Visualization
Process 5: Model Evaluation
Process 6: Model Update
External Entities:

Weather Data Source
Machine Learning Models
Evaluation Metrics
Users (Farmers, Water Resource Managers)
Data Stores:

Raw Weather Data Store
Pre-processed Data Store
Trained Model Store

Visualization Data Store
Evaluation Metrics Store

Level 2 DFD - Detailed for Process 2 (Data Pre-processing):

Process: Data Pre-processing (Process 2)

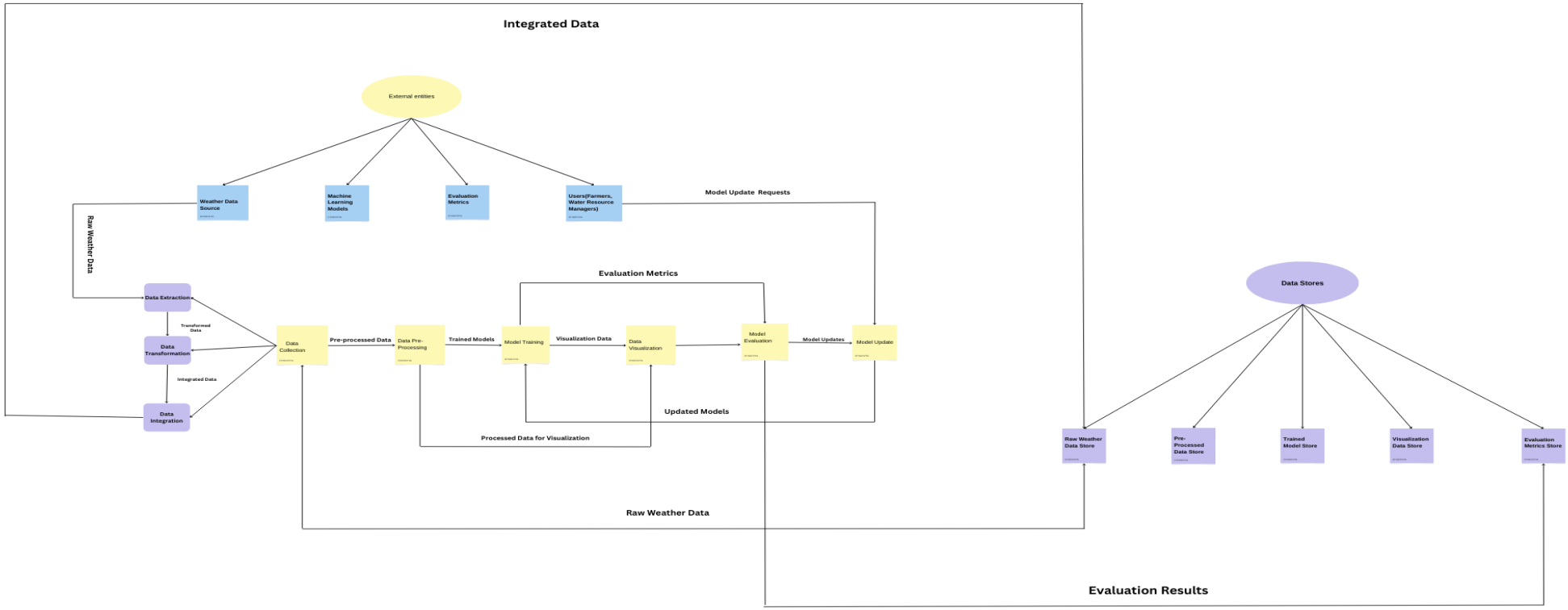
- *Processes:*
  - Process 2.1: Missing Data Handling
  - Process 2.2: Feature Scaling
  - Process 2.3: Data Transformation

- *External Entities:*
  - Weather Data Source

- *Data Stores:*
  - Raw Weather Data Store
  - Pre-processed Data Store

- *Data Flows:*
  - Data Flow 2.1: Raw Weather Data (from Raw Weather Data Store to Process 2.1)
  - Data Flow 2.2: Cleaned Data (from Process 2.1 to Process 2.2)
  - Data Flow 2.3: Scaled Data (from Process 2.2 to Process 2.3)
  - Data Flow 2.4: Transformed Data (from Process 2.3 to Pre-processed Data Store)

This Level 2 DFD provides a more detailed view of the Data Pre-processing process. The raw weathe…


Integrated Data
External entities
Weather Data Source
Machine Learning Models
Evaluation Metrics
Users(Farmers, Water Resource Managers)
Model Update Requests
Raw Weather Data
Data Extraction
Transformed Data
Data Transformation
Integrated Data
Data Integration
Data Collection
Pre-processed Data
Data Pre-Processing
Trained Models
Model Training
Visualization Data
Data Visualization
Evaluation Metrics
Model Evaluation
Model Updates
Model Update
Updated Models
Processed Data for Visualization
Raw Weather Data
Data Stores
Raw Weather Data Store
Pre-Processed Data Store
Trained Model Store
Visualization Data Store
Evaluation Metrics Store
Evaluation Results

Reference link :
https://www.canva.com/design/DAF0t5YjvUU/YAGPEUms3TZe_OFRngCzBA/edit?utm_content=DAF0t5YjvUU&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

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	Release
Customer (Mobile user)	Registration	USN-1	User stories are a way to capture and describe features from an end user's perspective. They are often used in Agile development methodologies to define the functionality of a system	The app should be able to create and validate the user's account and profile, and allow the user to access and edit their information, preferences, and history. The app should also have a secure and user-friendly interface and a help section..	High	Sprint-1
		USN-2	. In the context of your rainfall prediction project, here are some example user stories that represent the needs and expectations of various users	I can receive confirmationemail & click confirm	High	Sprint-1
		USN-3	I want to access raw weather data easily for analysis. - I want the system to provide a mechanism to clean and preprocess the raw weather data.	I can register & access thedashboard with Social media credentials or registered phone number, or continue with gmail/outlook.	Low	Sprint-2
	Login	USN-5	I want to access pre-processed weather data for training machine learning models. - I want the system to support various machine learning algorithms for rainfall prediction.	I can login using the saved password with the help of chrome or microsoft edge or anyother software available	High	Sprint-1
	Dashboard	USN-6	I want to create visually appealing and informative charts and graphs based on the rainfall prediction results.	The app should be able to retrieve and analyze the user's diagnosis results, and display the summary and statistics of the images, diseases, treatments, and preventive measures that the user has obtained from the app. The app should also have a user-friendly interface and a help section.	Medium	Sprint-1
Customer (Web user)	Registration	USN-7	I want to receive accurate and timely rainfall predictions for effective water resource planning. - I want to be alerted if there are predictions of heavy rainfall that may lead to flooding.	The website should be able to create and validate the user's account and profile, and allow the user to access and edit their information, preferences, and history. .	High	Sprint-1

Researcher,	Report	USN-8	I want to ensure the system is continuously updated with the latest weather data. - I want to monitor the performance of the machine learning models and receive alerts if they need retraining.	The mechine learning model should be able to demonstrate a high performance and accuracy in detecting and diagnosing the diseases of the tea leaves, and be able to compare and contrast with other	Low	Sprint-1

				existing methods and models. Mechine learning model should also have a clear report and a presentation section.		
Developer	Support	USN-9	. I want to manage user access and permissions to the system. These user stories provide a foundation for developing and testing features in your rainfall prediction system.	he API should be able to receive and process the image of therain fall, and return the diagnosis result with a confidence score, as well as some suggestions for treatment and prevention. The API should also have a clear documentation and a support section.	Medium	Sprint-2
Programmer	Training	USN-10	. Each user story typically follows the format: "As a [type of user], I want [an action] so that [benefit/value]." This format helps teams focus on delivering features that provide real value to users	The mechine learning model should be able to achieve a high accuracy and reliability in detecting and diagnosing the diseases of the tea leaves, and be able to handle various scenarios and conditions, such as different lighting, angles, backgrounds, etc. mechine learning model should also have a clear code and a comment section.	Medium	Sprint-1
Project manager	Communication	USN-11	You can further break down each user story into tasks or sub-stories for implementation and testing.	The project should be able to achieve the desired outcomes and objectives, and meet the expectations and requirements of the stakeholders. The project should also have a clear plan and a communication section.	Low	Sprint-2