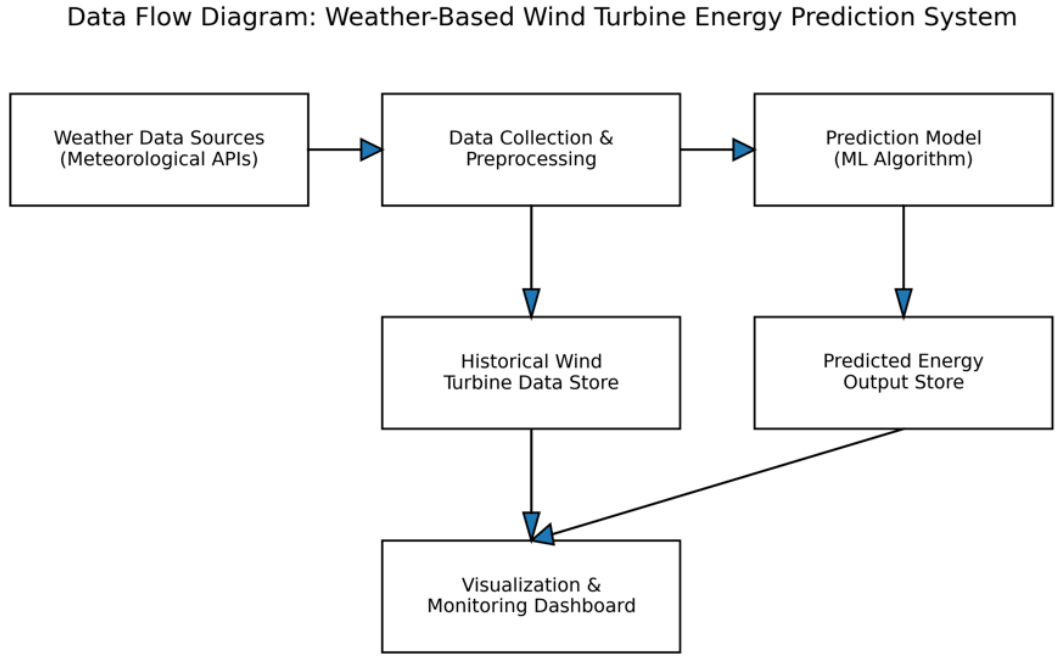
Project Design Phase-II
Data Flow Diagram & User Stories

Date	3 February 2026
Team ID	LTVIP2026TMIDS84120
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	4 Marks

Data Flow Diagrams:

A **Data Flow Diagram (DFD)** is a graphical tool used to show how data moves through a system. It illustrates where data comes from (inputs), how it is processed (transformations), where it is stored (data stores), and where it goes (outputs). By visually mapping these flows, a DFD helps stakeholders clearly understand system requirements, processes, and interactions in a simple and structured way.



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	As a user, I can register for the application by entering my email, password, and confirming my password.	User account created and dashboard accessible	High	Sprint-1
Customer (Mobile user)	Registration	USN-2	As a user, I will receive confirmation email once I have registered for the application	Email received and verified successfully	High	Sprint-1
Customer (Mobile user)	Registration	USN-3	As a user, I can register for the application through Facebook	User authenticated via Google and logged in	Medium	Sprint-1
Customer (Mobile user)	Login	USN-4	As a user, I can register for the application through Gmail	Valid credentials allow dashboard access	High	Sprint-1
Customer (Mobile user)	Dashboard	USN-5	As a user, I can log into the application by entering email & password	Predicted values displayed correctly	High	Sprint-2
Customer (Mobile user)	Dashboard	USN-6	As a user, I can view weather parameters affecting energy generation.	Weather data visible with prediction	Medium	Sprint-2
Customer (Web user)	Monitoring	USN-7	As a web user, I can view historical wind turbine energy data.	Historical charts/records displayed	High	Sprint-2
Customer (Web user)	Monitoring	USN-8	As a web user, I can compare predicted vs actual energy output.	Comparison chart available	High	Sprint-3
Customer (Web user)	Alerts	USN-9	As a web user, I receive alerts when predicted energy drops below threshold.	Notification generated when condition met	Medium	Sprint-3
Customer Care Executive	Support	USN-10	As a support executive, I can view user issues and feedback.	User queries visible in system	Medium	Sprint-3
Customer Care Executive	Support	USN-11	As a support executive, I can respond to user queries.	Reply sent and stored	Medium	Sprint-3
Administrator	Data Management	USN-12	As an admin, I can upload weather and turbine datasets.	Data uploaded and stored	High	Sprint-1
Administrator	Model Management	USN-13	As an admin, I can train/update the prediction model.	Model trained and saved successfully	High	Sprint-2
Administrator	User Management	USN-14	As an admin, I can view and manage registered users.	User list editable/manageable	Medium	Sprint-2
Administrator	Reporting	USN-15	As an admin, I can generate energy prediction reports.	Report downloadable/exportable	Medium	Sprint-3