

Project Planning Phase

Date	8 February 2026
Team ID	LTVIP2026TMIDS89922
Project Name	Weather-Based Prediction of Wind Turbine Energy Output
Maximum Marks	4 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Acquisition & Preprocessing	USN-1	Load SCADA dataset and clean data	2	High	All Members
Sprint-1	Data Visualization & EDA	USN-2	Visualize correlations, generate pairplots and heatmaps	2	High	Data Team
Sprint-1	Feature Engineering	USN-3	Select features and engineer new features for ML model	2	High	Data Team
Sprint-2	Model Training & Evaluation	USN-4	Train Linear Regression, Decision Tree, Random Forest models and evaluate R ²	4	High	ML Team
Sprint-2	Model Optimization & Saving	USN-5	Tune Random Forest, save trained model with joblib	3	High	ML Team
Sprint-3	Flask Web Application Setup	USN-6	Set up Flask project and create routes	3	High	Web Team
Sprint-3	Weather API Integration	USN-7	Connect OpenWeatherMap API to fetch real-time weather data	3	High	Web Team
Sprint-3	Prediction Dashboard	USN-8	Create HTML forms, display weather data, allow energy prediction	3	High	Web Team
Sprint-4	Testing & Deployment	USN-9	Test end-to-end pipeline, fix bugs, deploy locally	3	Medium	All Members
Sprint-4	Documentation & Final Report	USN-10	Prepare project report, README, and presentation	2	Medium	Leader + All

Project Tracker, Velocity & Burndown Chart (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed	Sprint Release Date (Actual)
Sprint-1	6	5 Days	09 Feb 2026	13 Feb 2026	6	13 Feb 2026
Sprint-2	7	5 Days	14 Feb 2026	18 Feb 2026	7	18 Feb 2026
Sprint-3	9	6 Days	19 Feb 2026	24 Feb 2026	9	24 Feb 2026
Sprint-4	5	4 Days	25 Feb 2026	28 Feb 2026	5	28 Feb 2026

Velocity Calculation:

- Total Story Points Completed: 27
- Total Sprint Duration: 20 Days

$$\text{Average Velocity} = \frac{\text{Total Story Points}}{\text{Sprint Duration}} = \frac{27}{20} = 1.35 \text{ story points/day}$$