

## Project Planning Phase

### Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Date	15 February 2026
Team ID	LTVIP2026TMIDS38689
Project Name	Electric Motor Temperature Prediction using Machine Learning
Maximum Marks	5 Marks

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

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint-1	Data Engineering	USN-1	As a developer, I can load the measures_v2.csv and handle missing sensor values.	3	High
Sprint-1	Data Engineering	USN-2	As a developer, I can scale features using StandardScaler to prepare for ML.	3	High
Sprint-1	Model Training	USN-3	As a developer, I can train a <b>Random Forest Regressor</b> to predict motor temperature.	5	High
Sprint-2	Web Integration	USN-4	As a user, I can access the <b>Manual Prediction</b> dashboard to test load scenarios.	3	Medium

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint-2	Web Integration	USN-5	As a user, I can use the <b>Sensor Prediction</b> form to get real-time temperature results.	3	High
Sprint-2	System Reliability	USN-6	As a user, I want the system to show an "Error..." message for non-numeric inputs.	2	Medium
Sprint-3	Cloud Deployment	USN-7	As an admin, I can deploy the application on <b>IBM Watson</b> for remote monitoring.	5	Low

**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	11	6 Days	24 Oct 2022	29 Oct 2022	11	29 Oct 2022

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed	Sprint Release Date (Actual)
Sprint-2	8	6 Days	31 Oct 2022	05 Nov 2022	8	05 Nov 2022
Sprint-3	5	6 Days	07 Nov 2022	12 Nov 2022	5	12 Nov 2022

### Velocity Calculation

Velocity measures how much work your team can handle in a single iteration.

- Total Story Points Completed: 11 (S1) + 8 (S2) + 5 (S3) = 24 Points
- Number of Sprints: 3
- Average Velocity (AV):  $24 \text{ points} / 3 \text{ sprints} = \mathbf{8} \text{ points per sprint}$ .

Average Velocity per Day (Iteration Unit):

- Duration: 6 days per sprint
- Calculation:  $8 \text{ points} / 6 \text{ days} = \mathbf{1.33} \text{ story points per day}$ .

### Burndown Chart (Concept)

The Burndown chart for your project would show a steady decline in "Story Points Remaining" as you move from the complex Data Engineering phase (Sprint 1) toward the UI and Deployment phases (Sprints 2 & 3).

- Start of Project: 24 Story Points remaining.

- After Sprint 1: 13 Story Points remaining (Data and Model logic completed).
- After Sprint 2: 5 Story Points remaining (Dashboard and UI completed).
- End of Sprint 3: 0 Story Points remaining (Deployment completed).

<https://www.visual-paradigm.com/scrum/scrum-burndown-chart/>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

**Reference:**

<https://www.atlassian.com/agile/project-management>

<https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software>

<https://www.atlassian.com/agile/tutorials/epics>

<https://www.atlassian.com/agile/tutorials/sprints>

<https://www.atlassian.com/agile/project-management/estimation>

<https://www.atlassian.com/agile/tutorials/burndown-charts>