Project Planning Phase

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

Date	15 February 2025
Team ID	LTVIP2026TMIDS77028
Project Name	Rising Waters – A Machine Learning Approach to Flood Prediction
Maximum Marks	5 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 Collection	USN-1	Gather flood dataset from reliable source	2	High	Team
Sprint-1	Data Collection	USN-2	Load dataset into Python environment	1	High	Team
Sprint-1	Data Preparation	USN-3	Handle missing values	3	High	Team
Sprint-1	Data Preparation	USN-4	Perform feature engineering	3	Medium	Team
Sprint-1	Data Preparation	USN-5	Handle inconsistent data	3	Medium	Team
Sprint-2	Data Visualization	USN-6	Generate Bar Chart	2	Medium	Team
Sprint-2	Data Visualization	USN-7	Generate Pie Chart	2	Medium	Team
Sprint-2	Data Visualization	USN-8	Generate Line Chart	2	Medium	Team
Sprint-2	Data Visualization	USN-9	Generate Correlation Heatmap	4	High	Team
Sprint-2	Model Development	USN-10	Train ML models (KNN, DT, RF, XGB)	5	High	Team
Sprint-2	Web Application	USN-11	Develop Flask web interface	5	High	Team

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	12	7 Days	01 Feb 2025	07 Feb 2025	12	07 Feb 2025
Sprint-2	20	7 Days	08 Feb 2025	14 Feb 2025	20	14 Feb 2025

Velocity:
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

Total Story Points = 32

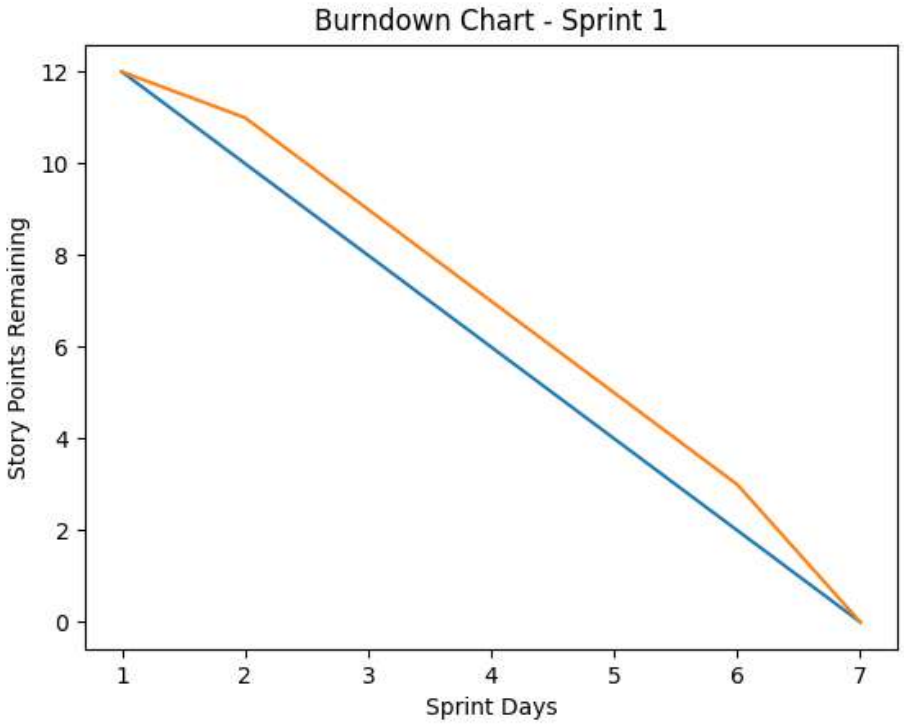
Number of Sprints = 2

Velocity = 32 / 2 = **16 Story Points per Sprint**

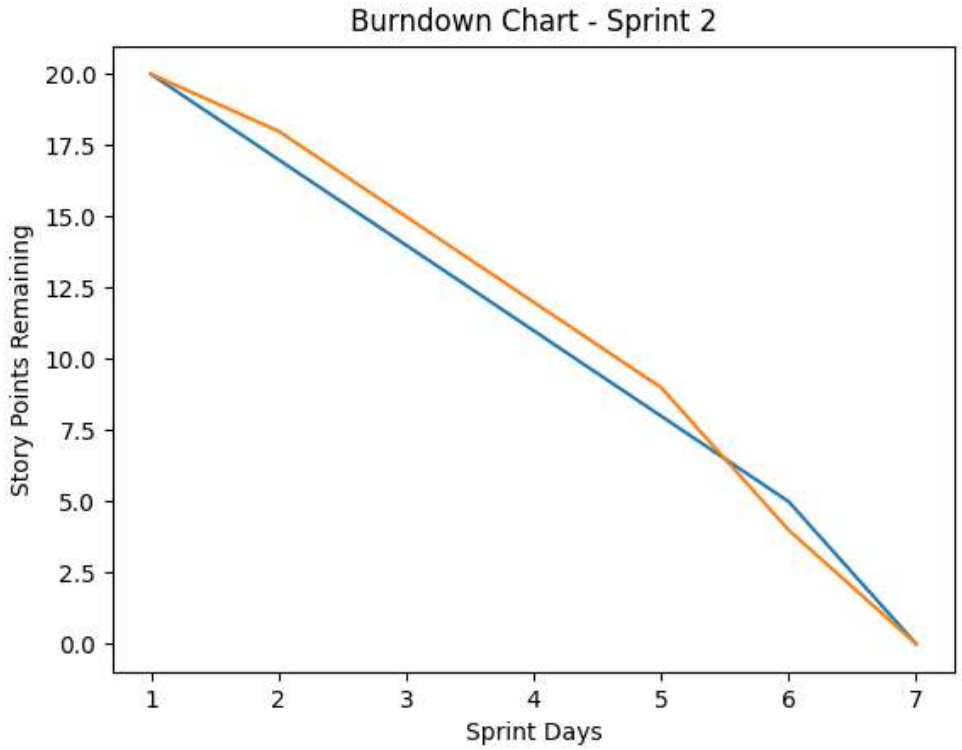
Average Velocity per Day (7-day sprint):

16 / 7 ≈ 2.28 Story Points per Day

Burndown Chart:



Sprint 1 started with 12 story points and reduced to 0 by Day 7.



Sprint 2 started with 20 story points and reduced to 0 by Day 7.

The steady decline in story points indicates effective sprint planning and execution.

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