

**Project Planning Phase**  
**Project Planning (Product Backlog, Sprint Planning, Stories, Story points)**

Date	27 October 2023
Team ID	Team-592514
Project Name	Machine Learning Approach for Predicting the Rainfall
Maximum Marks	8 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 Analysis and Pattern Recognition	USN-1	As a data analyst, I can dive into historical rainfall datasets to identify patterns and trends.	5	High	Data Analyst
Sprint-1	Data Analysis and Pattern Recognition	USN-2	As a data analyst, I can utilize regression analysis to gain insights into rainfall patterns.	3	High	Data Analyst
Sprint-2	Flask Application Development	USN-1	As a backend developer, I can create a Flask application to serve the trained machine learning model for rainfall prediction.	8	High	Backend Developer
Sprint-2	Flask Application Development	USN-2	As a backend developer, I can use the pickle library to serialize and deserialize the model for predictions.	5	Moderate	Backend Developer

Sprint-3	Data Visualization	USN-1	As a data visualization expert, I can create visualizations that enhance rainfall predictions by visualizing important data points, patterns, and challenges in the data.	10	Moderate	Data Visualization Expert
Sprint-3	Data Visualization	USN-2	As a data visualization expert, I can find the accuracy of models through accuracy scores, confusion matrices, and ROC-AUC curves after dividing the data into training and testing sets and saving the model.	5	High	Data Visualization Expert
Sprint-4	User Registration and Location	USN-1	As a web user, I can register for the rainfall prediction application by providing my location.	3	High	Frontend Developer

#### Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	8	6 Days	12 Oct 2023	17 Oct 2023	8	17 Oct 2023
Sprint-2	13	7 Days	19 Oct 2023	25 Oct 2023	13	25 Oct 2023
Sprint-3	15	8 Days	27 Oct 2023	03 Nov 2023	15	03 Nov 2023

Sprint-4	3	2 Days	04 Nov 2023	06 Nov 2023	3	06 Nov 2023
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### Velocity:

Imagine we have a 23-day sprint duration, and the velocity of the team is 39 (total points). Let's calculate the team's average velocity (AV) per iteration unit (story points per day):

Total Story Points = 39

Total Sprint Duration = 23 days

We calculate the average velocity (AV) as follows:

$AV = \text{Total Story Points} / \text{Total Sprint Duration}$

$AV = 39 \text{ story points} / 23 \text{ days} \approx 1.7 \text{ story points per day}$

### Burndown Chart:

A burndown chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burndown charts can be applied to any project containing measurable progress over time.

<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>