

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

Date	27 October 2023
Team ID	PNT2023TMID-592801
Project Name	Machine Learning Approach for Predicting 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 Sourcing	USN-1	As a data scientist , I want to source a reliable dataset for rainfall prediction so that the machine learning models can be trained effectively.	1	High	Siddhi
Sprint-1	Data Preprocessing	USN-2	As a data scientist , I need to preprocess the sourced data to ensure it is clean and suitable for model development.	2	High	Siddhi

Sprint-2	Model Development	USN-3	As a data scientist , I want to develop a machine learning model using classification and regression techniques to predict rainfall.	2	High	Siddhi
Sprint-2	Model Training	USN-4	As a data scientist , I need to train the developed ML model to ensure it learns from data and performs well while testing	4	High	Anirudh
Sprint-2	Model Testing	USN-5	As a data scientist , I need to test the developed ML model to ensure its accuracy in predicting rainfall.	4	High	Anirudh
Sprint-3	Model Deployment	USN-6	As a developer , I want to deploy the trained ML model into a web application so that users can use it to predict rainfall.	5	High	Anirudh
Sprint-4	WebApp Deployment	USN-7	As a developer , I need to develop a simple web application using Flask that integrates with the deployed ML model so that users (general public, farmers, other stakeholders) can predict rainfall	5	High	Siddhi
Sprint-5	WebApp Functionality	USN-8	As a user, i need to be able to able to access the website and get a good enough prediction of the rainfall	5	Very High	Siddhi

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

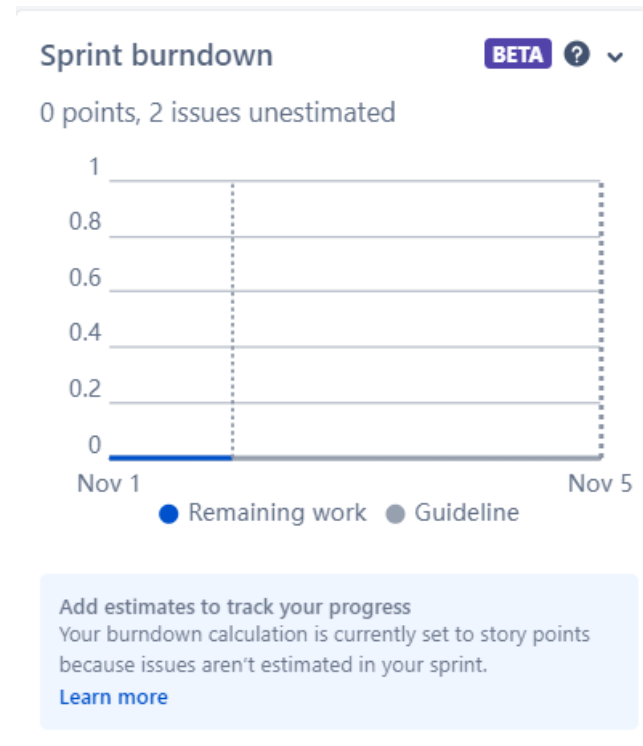
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	3	2 Days	30th October 2023	1st November 2023	3	
Sprint-2	10	4 Days	1st November 2023	5th November 2023		
Sprint-3	5	2 Days	5th November 2023	6th November 2023		
Sprint-4	5	2 Days	1st November 2023	3rd November 2023		
Sprint-5	5	3 Days	6th November 2023	9th November 2023		

Velocity:

$$AV = \text{Sprint Duration} / \text{Velocity} = 28 / 13 = 2.15$$

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, burn down charts can be applied to any project containing measurable progress over time.



Kanban Board

A Kanban board is a visual project management tool with columns representing workflow stages. Cards are used to represent tasks, and it offers visual signals for work status. Work in Progress (WIP) limits help maintain a steady workflow, and it promotes continuous improvement.

The screenshot displays the Jira Software interface for a project named 'Rain Prediction'. The top navigation bar includes 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'Teams', 'Apps', and a 'Create' button. A search bar and user profile icon are also present.

The left sidebar shows the project's structure, including 'Rain Prediction' (Software project), 'You're on the Free plan', an 'UPGRADE' button, and sections for 'PLANNING' (Timeline, Board) and 'DEVELOPMENT' (Code, Project pages, Add shortcut). A note at the bottom states 'You're in a team-managed project' with a 'Learn more' link.

The main area is titled 'RP board' and shows three columns representing workflow stages:


- TO DO 2**: Contains two task cards. The first card, 'Make website back-end files using flask', has a sub-task 'WebAppDeployment' and is assigned to 'RP-1' (SM). The second card, 'Website hosting', has a sub-task 'WebAppDeployment' and is assigned to 'RP-3' (SM). A '+ Create issue' button is at the bottom.
- IN PROGRESS 2**: Contains two task cards. The first card, 'Data Preprocessing and Visualization', has a sub-task 'RP-4' (AS). The second card, 'Model building', has a sub-task 'RP-2' (AS).
- DONE 1**: Contains one task card, 'Sourcing a reliable dataset for rainfall prediction', with a sub-task 'RP-6' (AS) and a green checkmark indicating completion.

Additional UI elements include a search bar, a 'Label' dropdown, a 'GROUP BY' dropdown set to 'None', and 'Insights' and 'Filter' icons.

Scrum

Scrum is an agile framework that divides work into time-boxed iterations called **sprints**, typically lasting 2-4 weeks. A product **backlog** contains all prioritized features and tasks (epics) to be completed. During a sprint, the team selects items from the backlog to work on, aiming to deliver a potentially shippable product increment. The team reviews progress and adapts during regular sprint ceremonies. This iterative approach fosters flexibility, collaboration, and frequent releases.

The screenshot displays the Jira Software interface for a project named 'RainPrediction'. The top navigation bar includes 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'Teams', 'Apps', and a 'Create' button. A search bar is located on the right. The left sidebar shows the project name 'RainPrediction' and a 'Software project' icon. Below this, it states 'You're on the Free plan' with an 'UPGRADE' button. The sidebar also lists 'PLANNING' (Timeline, Backlog, Board) and 'DEVELOPMENT' (Code, Project pages) sections. The main content area is titled 'RAIN Sprint 2' and shows a Scrum board with three columns: 'TO DO', 'IN PROGRESS 2', and 'DONE 1'. The 'IN PROGRESS' column contains two items: 'Model Training' (RAIN-4) and 'Model Testing' (RAIN-5). The 'DONE' column contains one item: 'Model Development' (RAIN-3). The board also shows a '2 days remaining' timer and a 'Complete sprint' button. The bottom of the sidebar indicates 'You're in a team-managed project' with a 'Learn more' link.

 **RainPrediction**
Software project

You're on the Free plan

UPGRADE

PLANNING

Timeline

Backlog

Board

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

You're in a team-managed project

Learn more

Projects / RainPrediction

Backlog

AS SM

Epic

Insights

View settings

Epic

Issues without epic

> Data Collection and Preprocessing

> Model Development and Training

> Model Deployment

> Web App Deployment

+ Create epic

RAIN Sprint 2 1 Nov – 5 Nov (3 issues)

0 0 0 Complete sprint

RAIN-3 Model Development

MODEL DEVE...

DONE

- AS

RAIN-4 Model Training

MODEL DEVE...

IN PROGRESS

- AS

RAIN-5 Model Testing

MODEL DEVE...

IN PROGRESS

- AS

+ Create issue

RAIN Sprint 3 Add dates (1 issue)

0 0 0 Start sprint

RAIN-6 Model Deployment

MODEL DEPL...

TO DO

- SM

+ Create issue

RAIN Sprint 4 Add dates (1 issue)

0 0 0 Start sprint

RAIN-7 WebApp Deployment

TO DO

-

In Scrum, the timeline is structured around fixed-duration iterations known as sprints, usually lasting 2-4 weeks. These sprints provide a clear time frame for teams to plan and execute their work, ensuring regular, predictable releases and opportunities for feedback and adaptation.

