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)

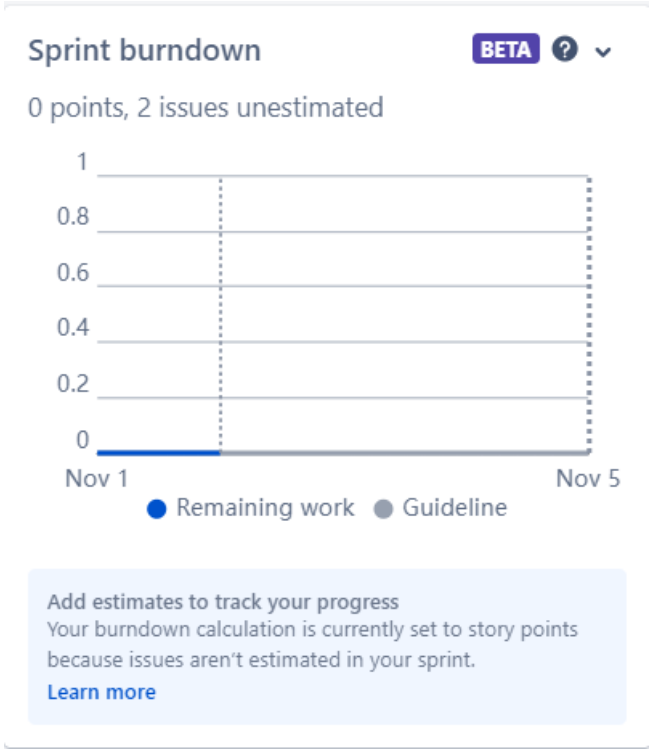
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	3	2 Days	30th October 2023	1st November 2023	3	
Sprint-2	10	4 Days	1st November 2023	5th November 2023		
Sprint-3	5	2 Days	5th November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

$AV = Sprint\ Duration/Velocity = 28/13 = 2.15$

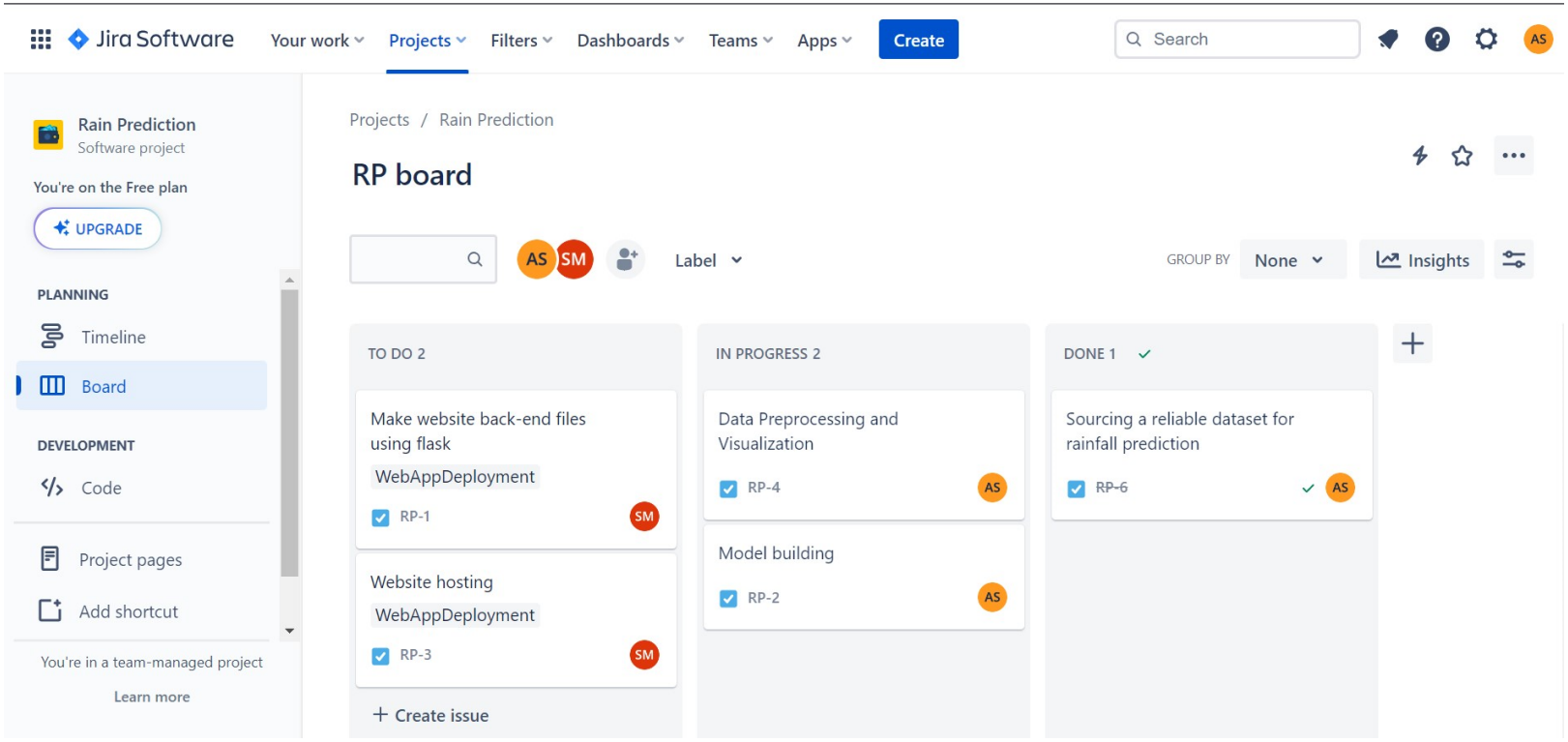
Burndown Chart:

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.



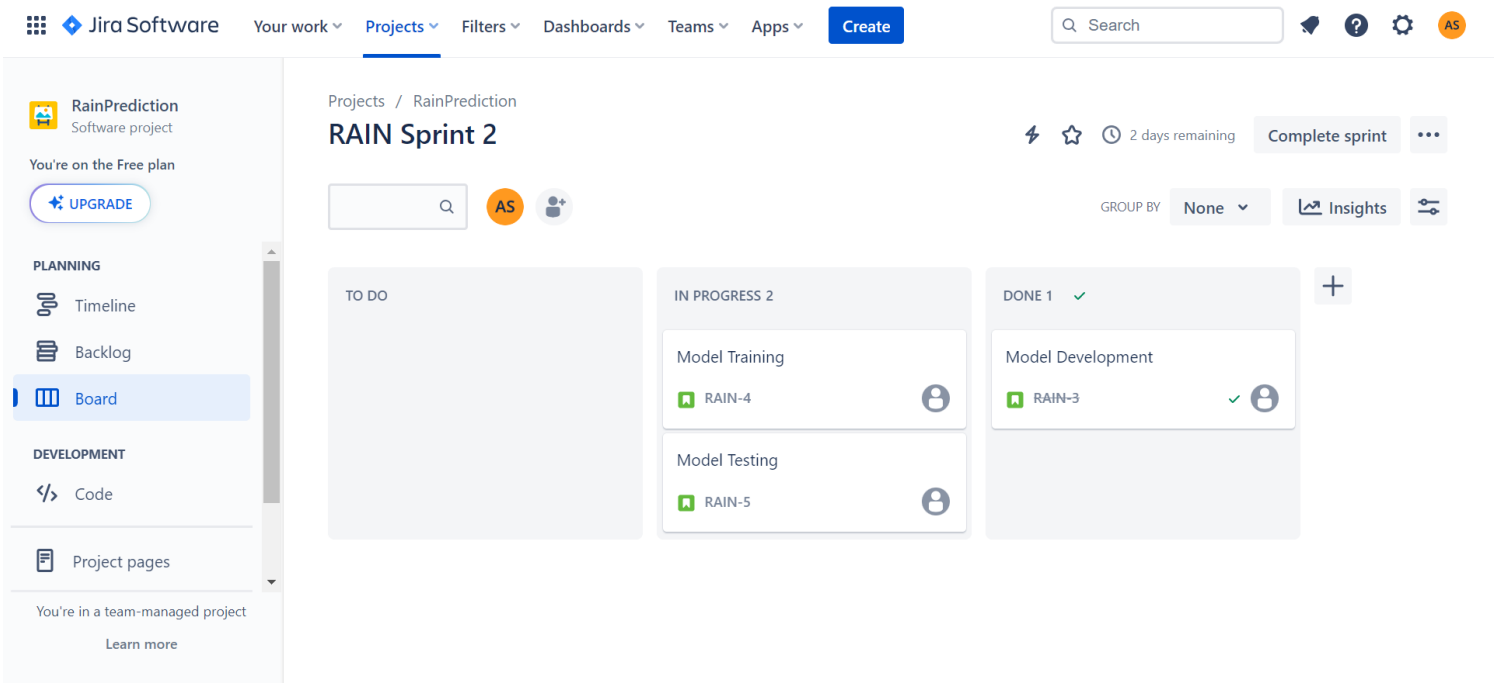
Kanban Board

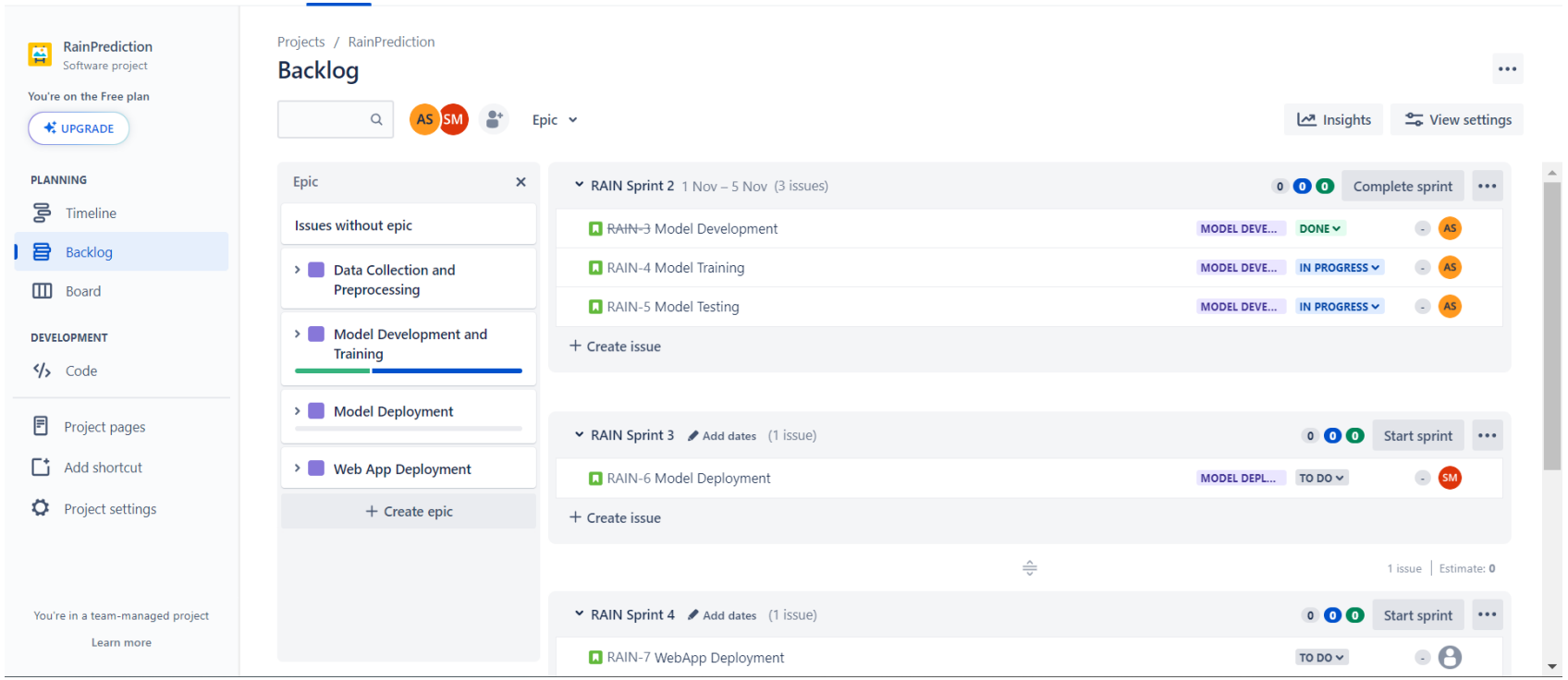
A Kanban board is a visual project management tool with columns representing workflow stages. Cards are used to represent tasks, and it offers visual signals for work status. Work in Progress (WIP) limits help maintain a steady workflow, and it promotes continuous improvement.



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.




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
RAIN-4 Model Training
MODEL DEVE...
IN PROGRESS
RAIN-5 Model Testing
MODEL DEVE...
IN PROGRESS
Create issue
RAIN Sprint 3 Add dates (1 issue)
0 0 0
Start sprint
RAIN-6 Model Deployment
MODEL DEPL...
TO DO
Create issue
1 issue | Estimate: 0
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.