Project Planning Phase

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

Date	27 June 2025
Team ID	LTVIP2025TMID34022
Project Name	Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables
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	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Burla Devi Vara Prasad
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Bhattu Jagadeesh Prasad
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	Low	Ch Vamsi
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	Boina Venkat
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Burla Devi Vara Prasad
	Dashboard					Bhattu Jagadeesh

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
						Prasad
Sprint-1	Image Capture & Preprocessing		As a system, I want to capture high-quality images of fruits on a conveyor belt in real-time.	3	High	Ch Vamsi
Sprint-1	Data Preparation		As a developer, I want to prepare and augment the dateset to improve model accuracy and prevent over fitting.	2	High	Boina Venkat
Sprint-2	Transfer Learning Model		As a developer, I want to fine-tune a pre-trained CNN model (e.g. ResNet/MobileNet) for fruit classification.	3	High	Burla Devi Vara Prasad
Sprint-2	Classification & Decision Logic		As a system, I want to classify fruit as fresh or rotten and trigger the appropriate robotic response.	3	High	Bhattu Jagadeesh Prasad
Sprint-3	Robotic Arm Integration		As a system, I want to control robotic arms to sort fruits based on model predictions.	2	Medium	Ch Vamsi
Sprint-3	User Dashboard		As a system, I want to control robotic arms to sort fruits based on model predictions.	2	Low	Boina Venkat
Sprint-4	Evaluation & Optimization		As a developer, I want to evaluate the system's accuracy (using metrics like F1 Score) and optimize performance.	2	Medium	Burla Devi Vara Prasad

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	20	6 Days	01Oct 2022	29 July 2025	20	06 July 2025
Sprint-2	20	6 Days	08 Oct 2022	05 July 2025	18	13 July 2025
Sprint-3	20	6 Days	07 Nov 2022	15 July 2025	16	21 July 2025
Sprint-4	20	6 Days	14 Nov 2022	22 July 2025	20	27 July 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)

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

Burndown Chart:

A burn down 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.

Diagram for the burn down chart: