**Project Planning Phase**

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

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| --- | --- |
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID36584 |
| Project Name | cleantech: transforming waste management with transfer learning |
| 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 | Data Collection & Preprocessing | USN-1 | As a developer, I want to collect and analyze the waste image dataset for proper labeling and balance. | 3 | High | Dev Team |
| Sprint-1 | Model Training | USN-2 | As a developer, I want to fine-tune MobileNetV2 using transfer learning for waste classification. | 5 | High | ML Dev |
| Sprint-2 | Web Interface (Upload) | USN-3 | As a user, I can upload an image through a simple HTML form. | 2 | Medium | Frontend Dev |
| Sprint-2 | Backend Integration | USN-4 | As a user, I want the backend to process the uploaded image and return a prediction. | 4 | High | Backend Dev |
| Sprint-3 | Real-time Prediction | USN-5 | As a user, I want the model to return predictions instantly for an image upload. | 3 | High | Backend+ML |
| Sprint-3 | Result UI Rendering | USN-6 | As a user, I want to see the classified category clearly along with the uploaded image. | 2 | Medium | Frontend Dev |
| Sprint-4 | Testing & Debugging | USN-7 | As a developer, I want to test the app across different devices and optimize performance. | 3 | High | QA Team |
| Sprint-4 | Deployment | USN-8 | As a user, I want to access the hosted app online (Firebase + Google Cloud Run). | 4 | High | Devops |

**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 | 4 Days | 12 Jun 2025 | 16 Jun 2025 | 8 | 16 Jun 2025 |
| Sprint-2 | 6 | 4 Days | 16 Jun 2025 | 20 Jun 2025 | 6 | 20 Jun 2025 |
| Sprint-3 | 5 | 4 Days | 20 Jun 2025 | 24 Jun 2025 | 5 | 24 Jun 2025 |
| Sprint-4 | 7 | 4 Days | 24 Jun 2025 | 28 Jun 2025 | 7 | 28 Jun 2025 |
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**Velocity:**

Imagine we have a 16-day sprint duration, and the velocity of the team is 26 (points per sprint). Let’s calculate the team’s average velocity (AV) per iteration unit (story points per day)

**AVG Velocity =** 26 / 16 = 1.625(story points per day)

**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](https://www.visual-paradigm.com/scrum/what-is-agile-software-development/) methodologies such as [Scrum](https://www.visual-paradigm.com/scrum/scrum-in-3-minutes/). However, burn down charts can be applied to any project containing measurable progress over time.

[**https://www.visual-paradigm.com/scrum/scrum-burndown-chart/**](https://www.visual-paradigm.com/scrum/scrum-burndown-chart/)

[**https://www.atlassian.com/agile/tutorials/burndown-charts**](https://www.atlassian.com/agile/tutorials/burndown-charts)

**Reference:**

[**https://www.atlassian.com/agile/project-management**](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/how-to-do-scrum-with-jira-software)

[**https://www.atlassian.com/agile/tutorials/epics**](https://www.atlassian.com/agile/tutorials/epics)

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[**https://www.atlassian.com/agile/tutorials/burndown-charts**](https://www.atlassian.com/agile/tutorials/burndown-charts)