**Project Planning Phase**

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

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID36031 |
| Project Name | **Revolutionizing Liver Care : Predicting Liver Cirrhosis using Advanced Machine Learning Techniques** |
| 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 can collect liver cirrhosis dataset from UCI repository. | 2 | High | 1 |
| Sprint-1 |  | USN-2 | As a developer, I can load and explore the dataset to understand structure. | 1 | High | 2 |
| Sprint-1 |  | USN-3 | As a developer, I can handle missing values in the dataset. | 3 | Medium | 3 |
| Sprint-1 |  | USN-4 | As a developer, I can encode categorical values for model compatibility. | 2 | Medium | 4 |
| Sprint-2 | Model Building & Evaluation | USN-5 | As a developer, I can train a prediction model using XGBoost. | 5 | High | 1 |
| Sprint-2 |  | UNS-6 | As a developer, I can evaluate the trained model using accuracy and ROC-AUC. | 1 | High | 2 |
| Sprint-2 | Web Interface & Deployment | UNS-7 | As a developer, I can create responsive HTML pages for prediction UI. | 3 | Medium | 3 |
| Sprint-2 |  | UNS-8 | As a developer, I can deploy the trained model using Flask backend. | 5 | High | 4 |

**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 | 5 Days | 31 Apr 2022 | 05 May 2025 | 8 | 20 May 2025 |
| Sprint-2 | 16 | 5 Days | 31 Apr 2025 | 05 May 2025 | 16 |  |
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**Velocity Calculation**

Total Story Points: 24  
Number of Sprints: 2  
Velocity (per sprint): 24 / 2 = 12 Story Points

Average Velocity per Day:  
Each sprint = 5 days → 12 / 5 = 2.4 story points/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.

**References:**

 [Visual Paradigm Burndown Chart Tool](https://www.visual-paradigm.com/scrum/scrum-burndown-chart/)

 [Atlassian Agile Tutorials](https://www.atlassian.com/agile/tutorials/burndown-charts)