# Project Planning Phase

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

| | |
|---|---|
| Date | 16 JUNE 2025 |
| Team ID | LTVIP2025TMID33932 |
| 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 want to collect patient data from liver function test records and clinical databases. | 3 | High | |
| Sprint-1 | Data Collection & Preprocessing | USN-2 | As a developer, I want to clean and preprocess the data by handling missing values and normalizing formats. | 5 | High | |
| Sprint-2 | Model Development | USN-3 | As a data scientist, I want to build a machine learning model to predict the risk of liver cirrhosis. | 8 | High | |
| Sprint-2 | Model Evaluation & Tuning | USN-4 | As a data scientist, I want to validate and tune the model using metrics like accuracy, precision, recall. | 4 | Medium | |
| Sprint-3 | Real-Time Prediction & API Deployment | USN-5 | As a developer, I want to build APIs for real-time cirrhosis risk prediction based on new patient data. | 5 | High | |
| Sprint-3 | Visualization & Results Interpretation | USN-6 | As a clinician, I want to view patient risk scores and contributing factors via a dashboard. | 6 | High | |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint -4 | Visualization & Use Case Integration | USN-7 | As a developer, I want to integrate prediction APIs with a web interface for hospital use. | 3 | Medium | |
| Sprint-4 | Patient Monitoring & Alert System | USN-8 | As a healthcare provider, I want to receive alerts for high-risk patients through SMS or email notifications. | 5 | High | |

**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 | June 1, 2025 | June 5, 2025 | 7 | June 5, 2025 |
| Sprint-2 | 12 | 5 Days | June 8, 2025 | June 12, 2025 | 8 | June 12, 2025 |
| Sprint-3 | 11 | 5 Days | June15, 2025 | June 19, 2025 | 7 | June 19, 2025 |
| Sprint-4 | 8 | 5 Days | June 22, 2025 | June 26, 2025 | 6 | June 26, 2025 |

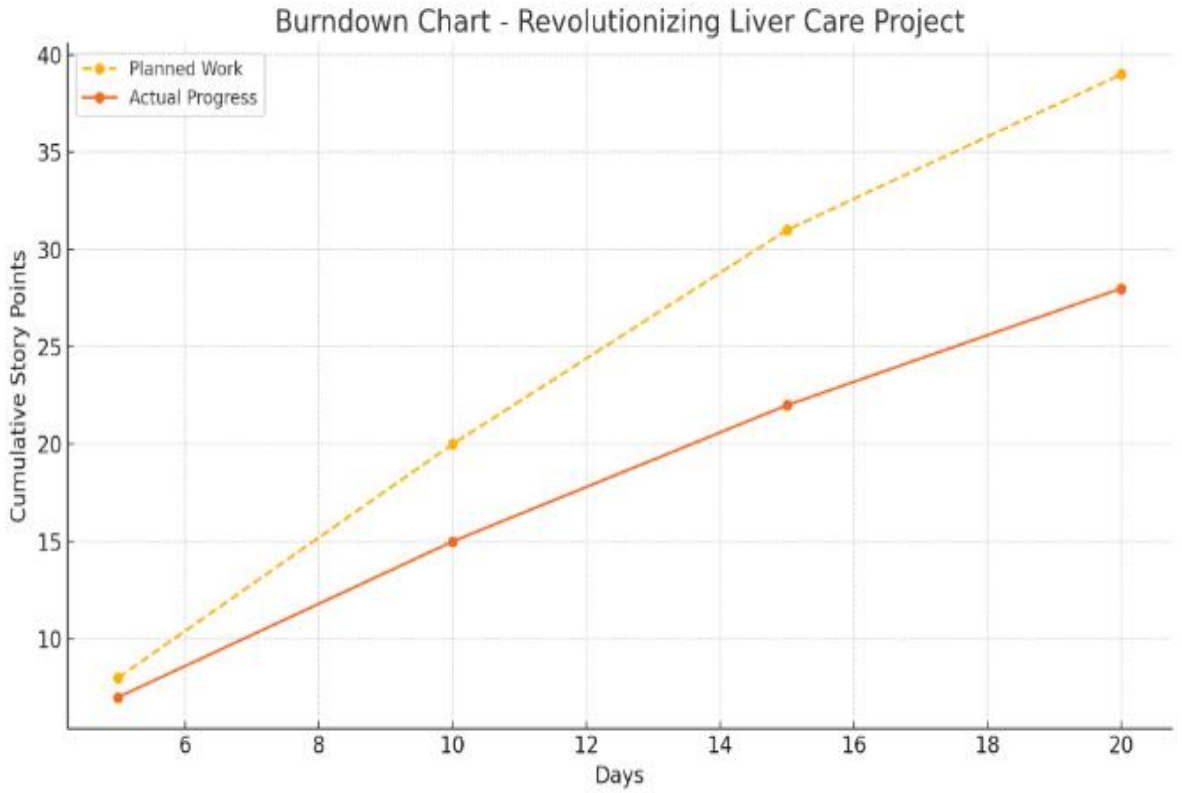
**Velocity:**

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)

$$AV = \text{sprint duration} / \text{velocity} = 28/20 = 1.4$$

**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.




https://www.visual-paradigm.com/scrum/scrum-burndown-chart/

https://www.atlassian.com/agile/tutorials/burndown-charts

**Reference:**

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/epics

https://www.atlassian.com/agile/tutorials/sprints

https://www.atlassian.com/agile/project-management/estimation

https://www.atlassian.com/agile/tutorials/burndown-charts