5. Project Planning & Scheduling

Date	28 June 2025
Team ID	LTVIP2025TMID35678
Project Name	Pattern Sense: Classifying Fabric Patterns using Deep Learning
Maximum Marks	5 Marks

5.1 Project Planning

The Project Planning Phase lays out a structured roadmap for developing the *Pattern Sense* system using Agile methodology. The development is divided into 2 sprints, each with a fixed duration of 5 days, and includes well-defined Epics, Stories, and Story Points to estimate effort.

Product Backlog, Sprint Schedule, and Estimation

✅ Sprint 1: Data Collection & Preprocessing (5 Days)

This sprint focuses on gathering, loading, and cleaning the fabric pattern dataset to prepare it for model training. Tasks include:

- Collecting fabric pattern images from online sources.
- Importing the dataset into the development environment.
- Handling missing values and encoding categorical labels.

Each story was estimated based on team experience, with a total of 8 story points for this sprint. The goal is to complete a clean, usable dataset for model training in the next sprint.

✅ Sprint 2: Model Development & Deployment (5 Days)

This sprint involves training the deep learning model and integrating it into a working web application. Major components include:

- Designing and building the Convolutional Neural Network (CNN).
- Evaluating model accuracy and refining the architecture.
- Developing a simple frontend (HTML pages) for user interaction.
- Deploying the model using Flask to handle image uploads and predictions.

Sprint 2 has a higher complexity, assigned 16 story points, and includes critical tasks that result in a working MVP (Minimum Viable Product).

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection	USN-1	As a developer, I will collect fabric pattern images from open datasets	2	High	J. Neelaveni
Sprint-1	Data Collection	USN-2	As a developer, I will load the dataset into the workspace for preprocessing	1	High	G. Sai Neelesh
Sprint-1	Data Preprocessing	USN-3	As a developer, I will handle missing values in the dataset	3	Low	G. Manikanta
Sprint-1	Data Preprocessing	USN-4	As a developer, I will encode categorical labels (patterns) for model compatibility	2	Medium	D. Siva Teja
Sprint-2	Model Development	USN-5	As a developer, I will build a CNN model to classify fabric images	5	High	J. Neelaveni
Sprint-2	Model Evaluation	USN-6	As a developer, I will test and evaluate the model accuracy and performance	3	High	D. Siva Teja
Sprint-2	Frontend Interface	USN-7	As a user, I will upload an image and view predicted pattern in a web UI	3	Medium	G. Sai Neelesh
Sprint-2	Deployment	USN-8	As a developer, I will deploy the trained model using Flask backend	5	High	J. Neelaveni

Project Tracker, Velocity & Burndown Chart:

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	15 June 2025	20 June 2025	8	20 June 2025
Sprint-2	16	5 Days	21 June 2025	25 June 2025	16	25 June 2025

📊 Velocity and Tracking

The Velocity of the team is calculated by dividing the total story points by the number of sprints:

- Total Story Points = 24
- Sprints = 2
- Velocity = 24 / 2 = 12 Story Points per Sprint

This metric helps estimate how much work the team can handle in future iterations and ensures efficient delivery within the project timeline. With consistent sprint execution, the team has maintained a healthy and predictable development pace**.**