Project Planning Phase

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

Date	15 February 2025
Team ID	LTVIP2025TMID36498
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	5 Marks

Project Planning – TrafficTelligence

Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection Integration	USN-1	As a developer, I can collect and store historical traffic, weather, and event data from various sources.	3	High	
Sprint-1	Data Preprocessing	USN-2	As a data engineer, I can clean and normalize data to	3	High	

			prepare it for machine learning modeling.			
Sprint-2	**Model Development**	**USN-3**	**As a data scientist, I can train a regression model to predict traffic volume based on historical and real-time data.**	**5**	**High**	
Sprint-2	**Model Evaluation**	**USN-4**	**As a data scientist, I can evaluate the model using MAE, RMSE, and R^2 metrics.**	**2**	**High**	
Sprint-3	**Real-time Prediction Pipeline**	**USN-5**	**As a developer, I can deploy the model to provide real-time traffic predictions via an API.**	**3**	**Medium**	

Sprint-3	**Visualization Dashboard**	**USN-6**	**As a user, I can view traffic volume trends and predictions on a dashboard interface.**	**3**	**Medium**	
Sprint-4	**Commuter Interface API**	**USN-7**	**As a commuter, I can use an API to get real-time alternate route suggestions based on predicted traffic conditions.**	**4**	**Medium**	
Sprint-4	**Planning Insights Tool**	**USN-8**	**As an urban planner, I can access predicted traffic volume reports to assist in future infrastructure**	**4**	**Low**	

			development decisions.			

Project Tracker, Velocity & Burndown Chart

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date	Story Points Completed
Sprint-1	**6**	**6 Days**	**01 Aug 2025**	**06 Aug 2025**	**6**
Sprint-2	**7**	**6 Days**	**07 Aug 2025**	**12 Aug 2025**	
Sprint-3	**6**	**6 Days**	**13 Aug 2025**	**18 Aug 2025**	
Sprint-4	**8**	**6 Days**	**19 Aug 2025**	**24 Aug 2025**	

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	
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	Low	
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	
	Dashboard					

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	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022		
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022		

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.

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