Project Planning Phase

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

Date	25 JUNE 2025
Team ID	LTVIP2025TMID38998
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	5 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Here's a proposed sprint schedule and estimation for the TRAFIICTELLIGENCE Project, distributing the user stories across several sprints. Story points are assigned using a modified Fibonacci sequence (1, 2, 3, 5, 8, 13...) based on estimated complexity.

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	Development Team

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Sprint-1	Registration	USN-4	As a user, I can register for the application through Gmail.	2	Medium	Development Team
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password.	1	High	Development Team
Sprint-1	Real-time Traffic Monitoring	USN-6	As a user, I can view real-time traffic conditions on a map for my current location.	5	High	Development Team
Sprint-1	User & Role Management	USN-16	As an administrator, I can create, modify, and delete user accounts.	3	High	Development Team
Sprint-1	User &	USN-17	As an	3	High	Develop

	Role Management		administrator, I can assign and modify roles and permissions for different users.			ment Team
Sprint-1	Customer Support	USN-20	As a customer care executive, I can view user registration details to assist with login issues.	2	High	Development Team
Sprint-1	Customer Support	USN-21	As a customer care executive, I can reset a user's password if they forget it.	2	High	Development Team
Sprint-2	Registration	USN-2	As a user, I will receive a confirmation email once I have registere	1	High	Development Team

			d for the applicati on.			
Sprint-2	Real-time Traffic Monitorin g	USN-7	As a user, I can search for traffic condition s in a specific area or route.	3	High	Develop ment Team
Sprint-2	Alerts & Notificati ons	USN-8	As a user, I can receive real-time alerts about traffic incidents or congesti on on my subscribe d routes.	5	High	Develop ment Team
Sprint-2	Predictiv e Traffic Analytics	USN-9	As a user, I can view predicted traffic condition s for a future time.	8	Medium	Develop ment Team
Sprint-2	Data Ingestion & Manage ment	USN-18	As an administr ator, I can monitor the	3	High	Develop ment Team

			status of data ingestion from various sources.			
Sprint-2	Reporting & Visualization	USN-12	As a web user, I can access detailed traffic analytics dashboards.	5	High	Development Team
Sprint-3	Registration	USN-3	As a user, I can register for the application through Facebook.	2	Low	Development Team
Sprint-3	Predictive Traffic Analytics	USN-10	As a user, I can find the optimal route to a destination based on current and predicted traffic.	8	High	Development Team
Sprint-3	Traffic Control	USN-15	As a web user, I	8	High	Development

	Recommendations		can view system-generated recommendations for traffic light optimization.			Team
Sprint-3	Reporting & Analytics	USN-13	As a web user, I can customize the types of data displayed on my dashboard.	3	Medium	Development Team
Sprint-3	Reporting & Analytics	USN-14	As a web user, I can generate and export detailed traffic reports for specific areas or time periods.	5	High	Development Team
Sprint-3	Reporting & Analytics	USN-19	As an administrator, I can view system	3	High	Development Team

			performance metrics and logs.			
Sprint-4	Reporting & Analytics	USN-11	As a user, I can view my historical travel patterns and efficiency reports.	5	Low	Development Team

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Project Tracker, Velocity & Burndown Chart: (4 Marks)

Assuming a 6-day sprint duration (including Saturday as a potential working day for planning purposes, consistent with the example), and starting from the week of February 17, 2025 (Monday).

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	17 Feb 2025	22 Feb 2025	20	22 Feb 2025
Sprint-2	25	6 Days	24 Feb 2025	01 Mar 2025	23 (Hypothetical)	01 Mar 2025
Sprint-3	29	6 Days	03 Mar 2025	08 Mar 2025	28 (Hypothe	08 Mar 2025

					tical)	
Sprint-4	5	6 Days	10 Mar 2025	15 Mar 2025	5 (Hypothetical)	15 Mar 2025

Velocity Calculation:

Imagine we have a 6-day sprint duration, and the velocity of the team for Sprint-1 was 20 (points per sprint).

Let's calculate the team's average velocity (AV) per iteration unit (story points per day):

- **Average Velocity (AV) per iteration unit (story points per day) = Total Story Points Completed / Sprint Duration (in days)**

For Sprint-1:
AV = 20 Story Points / 6 Days
AV ≈ 3.33 Story Points per day
If we consider the average velocity over multiple sprints (e.g., Sprint 1, 2, and 3):
Total Story Points Completed (S1+S2+S3) = 20 + 23 + 28 = 71
Total Duration (S1+S2+S3) = 6 + 6 + 6 = 18 Days
Average Velocity (AV) over 3 sprints = 71 Story Points / 18 Days
AV ≈ 3.94 Story Points per day
This average velocity helps in predicting how much work the team can realistically complete in future sprints.

Burndown Chart:

A burndown chart is a graphical representation of work left to do versus time. It typically shows the total remaining work (in story points or hours) for a sprint or project on the y-axis and the days of the sprint/project on the x-axis.

- **Ideal Burndown Line:** A straight line from the total estimated work at the start of the sprint to zero work remaining at the end of the sprint.
- **Actual Burndown Line:** Plots the actual remaining work each day.

How it's used:

- **Progress Tracking:** It visually shows if the team is on track to complete the sprint's work.
- **Early Warning:** If the actual burndown line is consistently above the ideal line, it indicates the team might not finish on time, prompting adjustments.
- **Transparency:** Provides a clear, real-time view of sprint progress to the entire team and stakeholders.

For the TRAFIICTELLIGENCE Project, a burndown chart would be generated daily for each

sprint, helping the team visualize their progress in completing the user stories and ensuring they meet their sprint goals.