Planning Logic: TrafficTelligence

The planning of the TrafficTelligence project followed the Agile Scrum methodology, ensuring iterative development, accurate estimation, and continuous delivery of working components. The project was organized into two sprints, each spanning 5 working days, aligned with task complexity and key milestones.

1. Task Breakdown Approach

The overall project was divided into major Epics, each representing a critical functional area:

- - Data Acquisition & Preprocessing
- - Model Development & Training
- - Deployment & Visualization

Each Epic was further broken down into smaller, actionable User Stories—manageable tasks designed to be completed within a sprint cycle.

2. Effort Estimation Using Story Points

To estimate the required effort, we adopted Story Points based on the Fibonacci sequence (1, 2, 3, 5), considering factors like complexity, time, and uncertainty.

Definition of Story Points:

- - 1 Point – Very Easy (e.g., importing historical traffic data)
- - 2 Points – Easy (e.g., encoding weather variables)
- - 3 Points – Moderate (e.g., training a regression model)
- - 5 Points – Difficult (e.g., integrating real-time data or building Flask API)

3. Sprint Allocation Logic

Tasks were grouped to ensure each sprint had a balanced workload, aiming for realistic completion within the sprint window.

- - Sprint 1: Data collection, preprocessing, and exploratory analysis.
- - Sprint 2: Model development, evaluation, and deployment with visualization.

4. Velocity-Based Planning

After execution, the total project effort was assessed at 24 story points:

- - Sprint 1: 8 points
- - Sprint 2: 16 points

Velocity Calculation:

Velocity = Total Story Points / No. of Sprints = 24 / 2 = 12 Story Points/Sprint

This velocity provides a reliable benchmark for planning similar future projects.

5. Benefits of the Planning Logic

- - Promotes efficient task prioritization based on effort.
- - Ensures realistic sprint goals and timely deliveries.
- - Encourages better team coordination and accountability.
- - Facilitates predictable progress tracking through metrics.