**Project Planning Phase**

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

|  |  |
| --- | --- |
| Date | 19 September 2023 |
| Team ID | **593090** |
| Project Name | |  | | --- | | TrafficTelligence: Advanced Traffic  Volume Estimation with Machine Learning | |  | |
| Maximum Marks | 8 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 | Project setup &  Infrastructure | USN-1 | USN-1 Set up the development environment with the required tools and frameworks to start the advanced traffic volume estimation project. | 1 | High | Prince Raj  Hanut Bhatt |
| Sprint-1 | development  environment | USN-2 | USN-2 Gather a diverse dataset containing different types of holidays in a year (Durga Puja, Diwali, Chath Puja) for training the machine learning model. | 2 | High | Prince Raj  Hanut Bhatt |
| Sprint-2 | Data collection | USN-3 | USN-3 Preprocess the collected dataset by removing the outliers and splitting it into training and testing or validation sets. | 2 | High | Prince Raj |
| Sprint-2 | data preprocessing | USN-4 | USN-4 Explore and evaluate different machine learning architectures to select the most suitable model for advanced traffic volume estimation project. | 3 | High | Ayush Jha  Prince Raj |
| Sprint-3 | model development | USN-5 | USN-5 train the machine learning model using the pre-processed dataset and monitor its performance on the validation set. | 4 | High | Ayush Jha |
| Sprint-3 | Training | USN-6 | USN-6 implementing the hyperparameter tuning technique to improve the model's robustness and accuracy. | 6 | Medium | Hanut Bhatt  Prince Raj |
| Sprint-4 | model deployment & Integration | USN-7 | USN-7 deploy the trained machine learning model as a web service to make it accessible for advanced traffic volume estimation project. integrate the model's API into a user-friendly web interface for users and receive advanced traffic volume estimation results | 1 | Medium | Prince Raj  Hanut Bhatt  Ayush Jha |
| Sprint-5 | Testing & quality assurance | USN-8 | conduct thorough testing of the model and web interface to identify and report any issues or bugs. fine-tune the model | 1 | Medium | Prince Raj  Ayush Jha |

**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 | 2 Days | 10 Nov 2023 | 12 Oct 2023 | 20 | 10 Nov 2022 |
| Sprint-2 | 20 | 1 Days | 13 Nov 2023 | 14 Nov 2023 | 10 | 13 Nov 2023 |
| Sprint-3 | 20 | 3 Days | 15 Nov 2023 | 18 Nov 2023 | 10 | 15 Nov 2023 |
| Sprint-4 | 20 | 2 Days | 19 Nov 2023 | 21 Nov 2023 | 20 | 19 Nov 2023 |

**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=29/20 = 1.45

**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**