**Project Planning Phase**

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

| Date | 10 November 2023 |
| --- | --- |
| Team ID | 591944 |
| Project Name | Time series Analysis for Bitcoin price prediction using Prophet |
| 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 | Data Collection and  Preprocessing | USN-1 | As a data scientist, I can collect historical Bitcoin price data and preprocess it for analysis. | 3 | High | Pranay |
| Sprint-1 | Model Training and Tuning | USN-2 | As a data scientist, I can train the Prophet model using historical data and fine-tune its parameters | 5 | High | Pranay |
| Sprint-2 | Data Visualization and Analysis | USN-3 | As a user, I can visualize the historical Bitcoin prices, model predictions and analysis results. | 3 | Medium | Dinesh |
| Sprint-2 | Integration and external Data | USN-4 | As a data scientist, I can integrate external factors into time series analysis. | 4 | Medium | Dinesh |
| Sprint-3 | Model Evaluation and Optimization | USN-5 | As a data scientist, I can evaluate the model’s performance, optimize parameters and enhance prediction accuracy | 4 | High | Pranay |
| Sprint-3 | Deployment to Production | USN-6 | As a system administrator, I can deploy the final model to production environment for real time predictions | 3 | Medium | Dinesh |

**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 | 8 | 3 Days | 1 Nov 2023 | 3 Nov 2023 | 8 | 3 Nov 2023 |
| Sprint-2 | 7 | 3 Days | 5 Nov 2023 | 8 Nov 2023 | 7 | 8 Nov 2023 |
| Sprint-3 | 7 | 5 Days | 9 Nov 2023 | 13 Nov 2023 | (To be estimated) | (To be estimated) |

**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)



**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.

