# Project Planning Phase

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

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|---|---|
| Date | 28 October 2022 |
| Team ID | PNT2022TMID32788 |
| Project Name | Efficient Water Quality Analysis and Prediction using Machine Learning |
| Maximum Marks | 8 Marks |

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

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint1 | Data Collection | USN-1,2 | Collecting/downloading dataset for pre-processing. | 12 | High | V.S.Roshana M.S.Sneka |
| Sprint1 | Interface sensor | USN-1,2 | Data pre-processing-formats the data and handles the missing data in the dataset. | 8 | Medium | J.Sravani Sowmya Shri K.Sneha |
| Sprint2 | Model Building | USN-1,2 | Calculate the Water Quality Index (WQI) using specified formula for every parameter. | 10 | High | V.S.Roshana M.S.Sneka |
| Sprint2 | Accessing datasets | USN-1,2 | Splitting the data into training and testing data set from the entire dataset. | 10 | High | J.Sravani Sowmya Shri K.Sneha |
| Sprint3 | Training andTesting | USN-1,2 | Training the model using Random Forest Regression algorithm and testing the performance of the model (accuracy rate) | 20 | High | V.S.Roshana M.S.Sneka J.Sravani Sowmya Shri K.Sneha |
| Sprint4 | Implementation of Web page and user login | USN-1,2 | Implementing the web page for collecting the data from user | 12 | High | J.Sravani Sowmya Shri K.Sneha |
| Sprint4 | Web application | USN-1,2 | It will display the current information of the water quality. | 8 | Medium | V.S.Roshana M.S.Sneka |

**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) |
|---|---|---|---|---|---|---|
| Sprint1 | 20 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | 20 | 29 Oct 2022 |
| Sprint2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | | |
| Sprint3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | | |
| Sprint4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | | |

**Velocity:**

Imagine we have a 10 days sprint duration and the velocity of the team is 20 (points per sprint). Let'scalculate the team's average velocity AV per iteration unit.

# Average Velocity:

$$AV = \frac{\text{Sprint duration}}{\text{Velocity}} = \frac{20}{4} = 5.$$

## Burndown Chart: