

Project Planning Phase
Project Planning Template (Product Backlog, Sprint Planning, Stories, Storypoints)

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|---------------|--|
| Date | 22 October 2022 |
| Team ID | PNT2022TMID28091 |
| Project Name | Efficient Water Quality Analysis and Prediction using 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 | Data Collection | USN-1 | Collect the appropriate dataset for predicting the water quality. | 10 | High | Joan Sharon N |
| Sprint-1 | | USN-2 | Data Preprocessing – Used to transform the data into useful format. | 7 | Medium | Priyadharshini CN Renisha Magdalene N Rubina angel D |
| Sprint-2 | Model Building | USN-3 | Calculate the Water Quality Index (WQI) using Regression algorithm of Machine Learning. | 10 | High | Joan Sharon N Renisha Magdalene N Rubina angel D |

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|----------|----------------------|-------|--|----|--------|--|
| Sprint-2 | | USN-4 | Splitting the Model into Training and Testing from the overall dataset. | 7 | Medium | Priyadharshini CN |
| Sprint-3 | Training and Testing | USN-5 | Train the Model using Regression algorithm and Testing the Performance of the model. | 10 | High | Priyadharshini CN Renisha Magdalene N |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|----------|-----------------------------------|-------------------|---|--------------|----------|---|
| Sprint-4 | Implementation of the Application | USN-6 | Predict the Water Quality Index (WQI) and recommend the appropriate purification technique. | 10 | High | Renisha Magdalene N Rubina angel D Priyadharshini C N |
| Sprint-4 | | USN-7 | Deploy the Model on IBM Cloud. | 7 | Medium | Rubina angel D Priyadharshini C N |

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 | 10 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | 8 | 29 Oct 2022 |
| Sprint-2 | 10 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | 7 | 05 Nov 2022 |
| Sprint-3 | 10 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | 8 | 12 Nov 2022 |
| Sprint-4 | 10 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | 7 | 19 Nov 2022 |

Velocity:

Imagine we have a 6 -day sprint duration, and the velocity of the team is 10 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day).

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = 6/10=0.6$$

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.

