Project Planning Phase

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

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| Date | 20 October 2022 |
| Team ID | PNT2022TMID00376 |
| Project Name | Real Time River Quality Monitoring and Control System. |
| Maximum Marks | 8 Marks |

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

Use the below template to create product backlog and sprint schedule

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| --- | --- | --- | --- | --- | --- | --- |
| **Sprint** | **Functional Requirement (Epic)** | **User Story Number** | **User Story / Task** | **Story Points** | **Priority** | **Team Members** |
| Sprint-1 | Procurement of Hardware requirements (if needed) | USN-1 | Procurement of quality sensors and actuators, microcontroller that will be required to sense the physical parameters like pH, turbidity and Temperature. | 2 | High | SUSHANTH |
| Create IBM Cloud Services | USN-2 | Creation of an IBM Cloud account and registering a device. | 2 | High |
| Configure the IoT device in IBM Cloud. | USN-3 | Creation and registering of a device | 1 | Medium |
| Sprint-2  Sprint-3 | Development of the Python code in IDLE, Install all required libraries like ibmiotf. | USN-4 | To develop the Python Code to generate random values of pH ,Temperature and turbidity values along with their units. | 1 | Medium |
| Create a IBM Watson IoT service and Publish the values generated by python code to Cloud. | USN-5 | To create the IBM Watson IoT Platform and integrate the microcontroller with it, to send the sensed data on cloud | 1 | High |
| Create a Node Red  Service | USN-6 | To create a node red service to integrate the IBM Watson along with the Web UI | 2 | Medium | H RAMA KRISHNAN, SHARFARAS J. |
| Create a Web UI | USN-7 | To create a Web UI, to access the data from the cloud and display all parameters. | 2 | Medium | SETHURAMAN B |
| Generate a link to Interface the node red service with the Web UI/Mobile app | USN-8 | Generate Link to interface the services. | 3 | High | SUSHANTH |
| Sprint-4 | Design a Mobile App, to display pH, Temperature and turbidity values | USN-9 | To design a Android App using MIT App inventor, to display pH, Temperature and turbidity values. | 2 | High | SETHURAMAN |
| Fast-SMS Service | USN-10 | Use Fast SMS to send alert messages once the parameters like pH, Turbidity and temperature goes beyond the threshold | 3 | High | SUSHANTH, H RAMA KRISHNAN, SETHURAMAN B, SHARFARAS J. |
| Product Testing | USN-11 | Testing of project and final deliverables | 3 | Medium |

Project Tracker, Velocity & Burndown Chart: (4 Marks)

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| --- | --- | --- | --- | --- | --- | --- |
| **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 | 6 Days | 24 Oct 2022 | 30 Oct 2022 | 20 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 5 Nov 2022 | 40 |  |
| Sprint-3 | 20 | 6 Days | 5 Nov 2022 | 12 Nov 2022 | 60 |  |
| Sprint-4 | 20 | 6 Days | 12 Nov 2022 | 19 Nov 2022 | 80 | 19 Nov 2022 |
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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](https://www.visual-paradigm.com/scrum/what-is-agile-software-development/) methodologies such as [Scrum](https://www.visual-paradigm.com/scrum/scrum-in-3-minutes/). However, burn down charts can be applied to any project containing measurable progress over time.

