Project Planning Phase

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

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| --- | --- |
| Date | 20 October 2022 |
| Team ID | PNT2022TMID26485 |
| 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 | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |
| 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 | Development of Python code in IDLE, Install all required libraries. | USN-4 | To develop the Python Code to generate random values of pH ,Temperature and turbidity values along with their units. | 1 | Medium |

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|  | 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 |  |
| Sprint-3 | 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 | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |

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| --- | --- | --- | --- | --- | --- | --- |
|  | Create a Web UI | USN-7 | To create a Web UI, to access the data from the cloud and display all parameters. | 2 | Medium | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |
| 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 | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |
| 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 | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |
| 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 | Gowsika G  Dhatshineswaran B  Adithyan P  Guruprasad V |
| 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 | 15 | 6 Days | 24 Oct 2022 | 31 Oct 2022 | 15 | 31 Oct 2022 |
| Sprint-2 | 15 | 6 Days | 1 Nov 2022 | 07 Nov 2022 | 15 | 07 Nov 2022 |
| Sprint-3 | 10 | 6 Days | 08 Nov 2022 | 13 Nov 2022 | 10 | 13 Nov 2022 |
| Sprint-4 | 10 | 6 Days | 14 Nov 2022 | 20 Nov 2022 | 10 | 20 Nov 2022 |

**Velocity:**

Sprint-1 and Sprint-2*Sprint duration*

*AV* =*~~Velocity~~* = 15 = 2.14

7

Sprint-3 and Sprint-4

*AV* =*Sprint duration*

*~~Velocity~~*=10= 1.6