

Project Planning Phase

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

Date	4 November 2022
Team ID	PNT2022TMID15034
Project Name	Real Time River Quality Monitoring and Control System.
Maximum Marks	8 Marks

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

Sprint	Functional Requirement (Epic)	User Story	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	2	High	PREMASAI PRATEEK MOHANRAM DEEPAK
	Create IBM Cloud Services	USN-3	Creation of an IBM Cloud account and registering a device.	2	Low	
	Configure the IoT device in IBM Cloud.	USN-4	Creation and registering of a device	2	Medium	
Sprint-2	Development of the Python code in IDLE, Install all required libraries.	USN-2	To develop the Python Code to generate random values of pH and turbidity values along with their units.	1	High	
	Create a IBM Watson IoT service and Publish the values.	USN-5	To create the IBM Watson IoT Platform and integrate the microcontroller with it, to send the sensed data on cloud	1	High	

	IBM Cloud service access		Get access to IBM cloud services.	2	High	
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Sprint-3	Create the IBM Watson IoT and device Settings	USN-6	To create the IBM Watson IoT Platform and integrate the microcontroller with it, to send the sensed data on cloud	2	High	PREMASAI PRATEEK MOHANRAM DEEPAK
	Create a node red service	USN-7	To create a node red service to integrate the IBM Watson along with the Web UI	2	Medium	MOHANRAM DEEPAK
	Create a Web UI	USN-8	To create a Web UI, to access the data from the cloud and display all parameters.	2	Medium	PREMASAI MOHANRAM
	To develop a Python code	USN-9	Create a python code to sense the physical quantity and store data.	2	Medium	PRATEEK DEEPAK

Sprint-4	Design a Mobile App, to display pH, Temperature and turbidity values	USN-10	To design a Android App using MIT App inventor, to display pH, Temperature and turbidity values.	3	High	PREMASAI PRATEEK MOHANRAM DEEPAK
	Fast-SMS Service	USN-11	Use Fast SMS to send alert messages once the parameters like pH, Turbidity and temperature goes beyond the threshold	3	High	PREMASAI PRATEEK MOHANRAM DEEPAK
	Testing	USN -12	Testing of project and final deliverables	3	Medium	

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	20	2 Days	24 Oct 2022	26 Oct 2022	20	29 Oct 2022
Sprint-2	20	4 Days	26 Oct 2022	30 Oct 2022	40	
Sprint-3	20	12 Days	1 Nov 2022	12 Nov 2022	60	
Sprint-4	20	6 Days	13 Nov 2022	19 Nov 2022	80	19 Nov 2022

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)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

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.

