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

Date	22 October 2022
Team ID	PNT2022TMID06977
Project Name	Gas Leakage Monitoring and Alerting System
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	Objective	USN-1	As a system, everyone must have a basic Knowledge about the Gas Sensor	2	Low	Chinnasamy Hariskumar
Sprint-1	Features	USN-2	As a system, the gas sensor must be connected to Arduino and the Gas Sensor value must be read	8	High	Hariskumar Narenkumar
Sprint-1	Features	USN-3	As a system, the Gas Sensor Value must be displayed in the LCD Screen	6	Medium	Thiyanesh Narenkumar
Sprint-1	Features	USN-4	As a system, as soon as the detected gas reaches the threshold level, the Buzzer should be turned ON.	6	High	Chinnasamy Thiyanesh
Sprint-1	Feature	USN-5	As a system, as soon as the detected gas reaches the threshold level, the Alarm LED should be turned ON	4	Medium	Thiyanesh Hariskumar
Sprint-2	Focus	USN-6	As a system, the Sensor Data is Generated randomly with the help of Python code	4	Medium	Thiyanesh Narenkumar
Sprint-2	Data Transfer	USN-7	As a system, to connect with the IBM IoT Watson Platform, A Device is Created	2	Low	Chinnasamy Hariskumar
Sprint-2	Features	USN-8	As a system, Connection is created with the help of the credentials of created Device	4	Medium	Narenkumar Chinnasamy
Sprint-2	Data Transfer	USN-9	As a program, the Python Code should able to publish and subscribe to a topic in the device	8	High	Thiyanesh Hariskumar

Sprint	Category	USN	User Story	Points	Priority	Assignee
Sprint-2	Data Transfer	USN-10	As a system, we should be able to create cards in the platform to visualize the sensor readings.	2	Low	Narenkumar Chinnasamy
Sprint-3	Login	USN-11	As a cloud system, we should be able to create a Web application UI to the login page in Node Red.	2	Low	Thiyanesh Hariskumar
Sprint-3	Login	USN-12	As a system, the Node-Red must connect to the Database and Validate User entered credential and do redirections	4	Medium	Thiyanesh Hariskumar
Sprint-3	Features	USN-13	As a cloud system, we should be able to create a Web application UI to the Home page in Node Red.	2	Low	Narenkumar Thiyanesh
Sprint-3	Features	USN-14	As an application, it should display the details of the gas level and current valve state to the user through the frontend of Node-Red.	4	Medium	Chinnasamy Hariskumar
Sprint-3	Data Transfer	USN-15	As a System, the Node-Red must Communicate with IBM IoT Watson to get the required data	8	High	Hariskumar Narenkumar
Sprint-3	Features	USN-16	As a Application, It must create a page to get valve state as input from the user	4	Medium	Chinnasamy Thiyanesh
Sprint-3	Data Transfer	USN-17	As a System, the Node Red must be able to update the user entered state to the device in the IBM IoT Watson Platform	8	High	Chinnasamy Hariskumar
Sprint-3	Focus	USN-18	As a System, we must create an API Endpoint to which gives the sensor data and current valve state when requested.	6	Medium	Narenkumar Thiyanesh
Sprint-4	Focus	USN-19	As a System, we must create an API Endpoint which gets the valve state and update it to the Device in the IBM IoT Watson Platform	6	Medium	Hariskumar Narenkumar
Sprint-4	Allocation	USN-20	As a System, we must create an API Endpoint which gets the User Credential and verifies it to the database and sends the response	4	Medium	Chinnasamy Thiyanesh
Sprint-4	Allocation	USN-21	As an App, we should be able to create a Mobile Application UI to the login page in MIT App Inventor	2	Low	Hariskumar Narenkumar
Sprint-4	Allocation	USN-22	As an App, the MIT App must connect to the Node-Red and Validate User entered credential and do redirections	4	Medium	Chinnasamy Thiyanesh
Sprint-4	Allocation	USN-23	As an App, the MIT App Inventor should display	4	Medium	Haris kumar

			the details of the gas level and current valve state to the user through its Front end.			Narenkumar
Sprint-4	Allocation	USN-24	As a System, the MIT App Invenotr must Communicate with Node-Red to get the required data	8	High	Chinnasamy Thiyanesh
Sprint-4	Allocation	USN-25	As an App It must create a page to get valve state as input from the user	6	Medium	Haris kumar Narenkumar
Sprint-4	Allocation	USN-26	As a System, the MIT App Inventor must be able to update the user entered state to the Node-Red.	8	High	Chinnasamy Thiyanesh

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	6 Days	24 Oct 2022	29 Oct 2022		29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022		05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022		12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022		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)

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

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.

https://www.visual-paradigm.com/scrum/scrum-burndown-chart/
https://www.atlassian.com/agile/tutorials/burndown-charts

Reference:
https://www.atlassian.com/agile/project-management
https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software
https://www.atlassian.com/agile/tutorials/epics
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