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

| Date | BE-2M4E |
|---|---|
| Team ID | **PNT2022TMID29465** |
| Project Name | Project - Gas Leakage Monitoring and Alerting System |

**Product Backlog, Sprint Schedule, and Estimation**

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, sensor should detect gas | 8 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-1 | Features | USN-2 | As a system, the gas sensor values should be displayed in a LCD screen | 2 | Low | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-1 | Features | USN-3 | As a system, as soon as the detected gas reaches the threshold level, the red color LED should be turned ON. | 5 | High | . SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-1 | Features | USN-4 | As a system, as soon as the detected gas reaches the threshold level, the siren should be turned ON. | 5 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-2 | Focus | USN-5 | As a system, it should the send the location where the gas is detected | 8 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-2 | Focus | USN-6 | As a system, it should also send the alerting | 2 | Low | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| | | | SMS to the registered phone number | | | |
| Sprint-2 | Features | USN-7 | As a system, the gas leakage pipe should be closed automatically once there it attains the threshold value | 5 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-2 | Features | USN-8 | As a system, it will indicate that the gas leakage pipe is closed in the LCD screen and send SMS to the registered mobile number. | 5 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-3 | Data Transfer | USN-9 | As a program, it should retrieve the API key of the IBM cloud to send the details of the system. | 2 | Low | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-3 | Data Transfer | USN-10 | As a system, it should send the data of sensor values along with latitudes and longitudes to the IBM cloud | 5 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-3 | Data Transfer | USN-11 | As a cloud system, the IBM cloud should send the data to NodeRed | 2 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-3 | Data Transfer | USN-12 | As a system, it should collect the data from the NodeRed and give it to the backend of the mit app. | 3 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-3 | Data Transfer | USN-13 | As an application, it should display the details of the gas level and other details to the user through the front end of the mit app. | 8 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-4 | Registration | USN-14 | As a user, I must first register my email and mobile number in the website | 2 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Registration | USN-15 | As a user, I must receive confirmation mail and SMS on registration. | 2 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Login | USN-16 | As a user, I can login into the web application through email and password. | 3 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Dashboard | USN-17 | As a user, I can access the dashboard and make use of available resources. | 2 | Medium | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Focus | USN-18 | As a user, I must receive an SMS once the leakage is detected. | 5 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Allocation | USN-19 | As an admin, I must receive information about the leakage along with location and share exact location and route to the person. | 3 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |
| Sprint-4 | Allocation | USN-20 | As an admin, I must allot particular person to look after the leakage in a particular location. | 3 | High | SANTHOSH V, SHARANSRINIVAS DS VISHVAA S.V, GOKUL NATH V. |

**Project Tracker, Velocity & Burndown Chart:**

| 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 | 20 | 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)

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