# Project Planning Phase

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

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|---|---|
| Date | 22 October 2022 |
| Team ID | PNT2022TMID53555 |
| Project Name | Project – 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, the gas sensor should detect the gas | 8 | High | Ashfaq |
| Sprint-1 | Features | USN-2 | As a system, the gas sensor values should be displayed in a LCD screen | 2 | Low | Deepak |
| 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 | Akilesh |
| 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 | Jagan |
| Sprint-2 | Focus | USN-5 | As a system, it should the send the location where the gas is detected | 8 | High | Ashfaq |
| Sprint-2 | Focus | USN-6 | As a system, it should also send the alerting SMS to the registered phone number | 2 | Low | Akilesh |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| 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 | Jagan |
| 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 | Deepak |
| 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 | Deepak |
| 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 | Ashfaq |
| Sprint-3 | Data Transfer | USN-11 | As a cloud system, the IBM cloud should send the data to NodeRed | 2 | Medium | Akilesh |
| 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 | Akilesh |
| 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 frontend of the mit app. | 8 | High | Jagan |
| Sprint-4 | Registration | USN-14 | As a user, I must first register my email and mobile number in the website | 2 | High | Ashfaq |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-4 | Registration | USN-15 | As a user, I must receive confirmation mail and SMS on registration | 2 | Medium | Akilesh |
| Sprint-4 | Login | USN-16 | As a user, I can login into the web application through email and password. | 3 | High | Deepak |
| Sprint-4 | Dashboard | USN-17 | As a user, I can access the dashboard and make use of available resources. | 2 | Medium | Jagan |
| Sprint-4 | Focus | USN-18 | As a user, I must receive an SMS once the leakage is detected. | 5 | High | Akilesh |
| 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 | Deepak |
| Sprint-4 | Allocation | USN-20 | As an admin, I must allot particular person to look after the leakage in a particular location. | 3 | High | Jagan |

**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**
**https://www.atlassian.com/agile/tutorials/sprints**
**https://www.atlassian.com/agile/project-management/estimation**
**https://www.atlassian.com/agile/tutorials/burndown-charts**