# Project Planning Phase

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

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|---|---|
| Date | 23 October 2022 |
| Team ID | PNT2022TMID40473 |
| Project Name | Gas leakage Monitoring & Alerting System for Industries |
| Maximum Marks | 8 Marks |

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

Product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint 1 | Data Pre-processing | USN-1 | Required Data to be collected for the project development ( Components, About Simulation tools, Source code) | 8 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 1 | Simulation | USN-2 | Simulation Creation, Connect the Components with the microcontroller (lot gateway device). | 7 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 1 | Debug | USN-3 | Debug the Design circuit | 5 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint 2 | Workflow | USN-4 | Create workflow for Iot devices on Iot Watson, Node RED & Dashboard and on a Cloudant database for the Data Storage. | 4 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 2 | Device Credentials | USN-5 | Create & Generate the Device Credentials for the device to connect with Iot platform. | 6 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 2 | API key Generation | USN-6 | Generate API key for the Sending of sensor data values to the Node RED platform. | 4 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 2 | WEB UI Design | USN-7 | Design the Web UI using the dashboard nodes & connect it to the Sensor data coming from the IOT device through Watson platform. | 6 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Application Design & Test | USN-8 | Design the Model for the Application using the MIT app inventor and Test the App. | 3 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | User-Registration | USN-9 | As a user, I can register in the application by entering mobile number/email, password and confirming my password. | 2 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Verification | USN-10 | As a user, I will have to verify the email, mobile number by entering the received confirmation OTP. | 1 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 4 | Terms & policy | USN-11 | As a user, I have to read and click confirm the Terms & conditions. | 2 | Medium | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint 4 | User Registration | USN-12 | As a user, I can register for the application through Gmail. | 2 | Low | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Login | USN-13 | As a user, I can log into the application by the User Id and password which I have entered/used on the registration process. | 1 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Dashboard | USN-14 | As a user, I have to enter my details on the User account and can able to customize my account. | 2 | Medium | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 4 | Menu | USN-15 | As a user, Explore the app and know about the features using the instructions, Tutorials on the app. | 3 | Medium | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Configuration Tab | USN-16 | Configure the Sensors and other features related to your application using the Configure Section on the app. | 2 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Home ( Main page) | USN-17 | As a User, I can view the Sensor data Values and the Statistical Diagrams of the data Values. | 1 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Sensor parameter | USN-18 | As a User, I can able to view the Sensor parameters on the application with the help of Sensor parameter details on the Home page. | 2 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 4 | Menu | USN-19 | As a User, I can Give Feedback & able to get help & support from the Application | 3 | Medium | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 4 | Notification | USN-20 | As a User I can see app related notifications that will come on the Notification Icon | 2 | Low | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint 4 | Search | USN-21 | As User I can search the features, Data, Reports on the app. | 2 | Medium | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Manage Data | USN-22 | As a User, I can view the history of data and able to Store and export data form the application. | 2 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 3 | Sensor Data Alert | USN-23 | As a User, In case of Emergency I have to get alert notification along with the location and able to Use necessary command function on the application to reduce the chance of Explosion due to the leak. | 4 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |
| Sprint 4 | APP Deployment<br>(To make the User Interact with Software) | USN-24 | As a User, I Connected with the cloud and the Gas leakage detector. | 6 | High | Vinoth kumar B<br>Anish B<br>Maheshkumar S<br>Senthamizarasu M |

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

**Velocity:**

We have a 6-day duration for each sprint, 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)

Average Velocity = Sprint Backlog/Velocity = 20/6= 3.333

I.e.) AV = 3-4 Story points per day for each sprint

**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.

| Sprint - User Stories | Day 0 | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 |
|---|---|---|---|---|---|---|---|
| Sprint 1(24-29 Oct) | 20 | 2 | 4 | 2 | 2 | 3 | 4 |
| Sprint 2(31 Oct-05 Nov) | 20 | 3 | 2 | 2 | 0 | 4 | 9 |
| Sprint 3(07-12 Nov) | 20 | 4 | 1 | 1 | 5 | 2 | 7 |
| Sprint 4(14-19 Nov) | 20 | 2 | 0 | 4 | 5 | 3 | 6 |
| Remaining Effort | 80 | 69 | 62 | 53 | 41 | 29 | 3 |
| Ideal Effort Plan | 80 | 66.66667 | 53.33333 | 40 | 26.66667 | 13.33333 | 0 |