**Student Name:**

**Student ID:** **Marks:** **/13**

# Assignment: Project Plan

## Background

Now that you have a viable project idea, it’s time to plan how you will execute on the idea. Follow the instructions below to complete your project plan. Please note this is a live document, and it is expected that you will update this plan throughout the remainder of the course.

## Instructions

1. This is a team submission.
2. You will be provided time in class to complete this assignment. However, you will likely need to do work outside of class as well.
3. The submission should include a completed version of the below template, along with a plan for sprint 1 using your chosen project management methodology. Alternatively, you can share this plan for sprint 1 using a third-party tool.
4. For your plan for sprint 1, you are free to choose how tasks will be tracked given your project management methodology. You could use a word document or a third-party project management tool. Regardless, make sure your instructor has access so they can keep track of your progress.
5. Regardless of the project management methodology you choose, all tasks should be written using a SMART goal format.
6. It is expected that you will manage your project using the tool mentioned above on an ongoing basis.
7. Tasks in the provided template can be written at a high level for each team member; however, the high-level tasks should be broken down and detailed in whatever tool you choose to manage your project. In your planning tool for sprint 1, no task should require more than a few hours of effort. If it does, break it down into multiple tasks.

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# Overall Timeline

The Execution Phase has a fixed schedule of 12 weeks comprised of three sprints.

| **Phase** | **Course** | **Weeks** | **Lab hours per week** | **Lab hours in total** |
| --- | --- | --- | --- | --- |
| Execution – Sprint 1 | PROJ 309 | 4 | 5 | 20 |
| Execution – Sprint 2 | PROJ 309 | 4 | 5 | 20 |
| Execution – Sprint 3 | PROJ 309 | 4 | 5 | 20 |
| **Total** |  |  |  | **60** |

# Minimum Viable Product (MVP) Backlog

Listed in the table below are our User Stories that have a Priority of “Must” (not “Should” or “Could”) in our overall Product Backlog. Collectively, these User Stories constitute the feature set required for a Minimum Viable Product for the solution we are proposing.

| **User Story ID** | **As a…** | **I want to be able to…** | **So that…** |
| --- | --- | --- | --- |
| *3* | User | *Have a User-Friendly Interface* | *User can see readings regardless of location* |
| *4* | *User/Administrator* | *Real Time Monitoring* | *Users and Administrator can receive instant feedback on the current air quality and allow them to act if air quality is low* |
| *8* | *Administrator/User* | *Have data security and privacy* | *The data collected may contain sensitive information about the environment or users so it must be protected* |
| *9* | *User* | *Connect air quality monitor to a personal device over Bluetooth or Wi-Fi* | *Access sensor data from phone or web service* |
| *13* | *User* | *Store data on the device* | *When the device does not have internet access, it can store the readings it has gathered.* |

# Deliverables Outside of Minimum Viable Product

Listed in the table below are deliverables you must complete or update for each sprint. These deliverables are deliberately not included with the Minimum Viable Product Backlog (above) as they do not represent features of the product. When you plan for a sprint, ensure to allocate time to completing these deliverables.

|  |  |  |
| --- | --- | --- |
| **#** | **Deliverable** | **Description** |
| (1) | Updated Documentation | Ongoing updates to the business canvas and project plan |
| (2) | Sprint Progress Report | One progress report per sprint |
| (3) | Solution Showcase | One showcase per sprint |

# Project Management Methodology

Use *Activity - Selecting a Project Management Methodology*, found in Brightspace, to choose a project management methodology.

What is the methodology you are choosing?

|  |
| --- |
| Waterfall Methodology |

## Tool

Given your chosen project methodology, what tools will you use to manage your project?

|  |
| --- |
| We will utilize **Microsoft Teams** for effective team communication, real-time collaboration, and seamless file sharing, including sharing meeting minutes and important project documents.  Our team will employ an online project management tool called **Monday** to meticulously track tasks, manage milestones, and ensure the project progresses smoothly between each significant stage.  To maintain an organized project timeline and manage the budget efficiently, we will use **Microsoft Excel** to create and update the Project Gantt Chart and monitor the project budget. |

## Daily/Weekly/Monthly

Given your methodology and tools, how will members use the above project tools on a daily, weekly, and monthly basis?

|  |
| --- |
| **Daily:**  **Monday:** Team members update tasks on Monday. This provides visibility into task statuses, allowing everyone to track progress and stay informed about ongoing activities.  **Microsoft Teams:** Team members use Microsoft Teams for daily communication. Communication logs are recorded, ensuring that important discussions, decisions, and information are documented for reference.  **Weekly:**  **Meetings:** The team holds weekly meetings to discuss the project status, share updates, and brainstorm on any challenges. Meeting minutes are saved on Microsoft Teams, providing a historical record of discussions and decisions.  **Monthly:**  **Budget and Progress Reports**: monthly, the team updates the project stakeholder with budget and progress reports. This ensures that stakeholders are informed about financial aspects and the overall project advancement. |

# Sprint 1 Plan on a Page

## Sprint 1 Goal

**What are we trying to accomplish?**

By the end of Sprint 1, we want to have accomplished these things:

|  |  |
| --- | --- |
|  | **Goal** |
| 1 | Configuration of the Raspberry Pi to read the environment |
| 2 | Making sure the sensors are functioning |
| 3 | Have database created and ready to store readings of air sensor |
| 4 | Make sure the PI can make proper connection to Wi-Fi |
| 5 | Figure out a way to add a battery module to the system (even if in theory) |
| 6 | Finalized design of raspberry Pi and attached Sensors |

## Sprint 1 Backlog

**What product backlog stories will we complete?**

To achieve the Sprint Goal, these stories must be completed:

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story ID** | **As a…** | **I want to be able to…** | **So that…** |
| 4 | User/Administrator | *Have Real-Time Monitoring* | Users and administrators can have instant feedback on the current air quality |
| 10 | Administrator | *Calibrate and maintain the device* | *The data on the device can be verified to be correct and if not, it can be corrected* |
| 8 | User/Administrator | *Have data security and privacy* | Sensitive information about the environment or its occupants is encrypted and secured |
| 13 | *User* | Store data on the device | *When the device does not have internet access, it can store what it has gathered. Once the internet connection is restored the device will sync its local storage to the cloud database* |

## Sprint 1 Resource Plan

**Who will do what to accomplish our goal?**

|  |  |  |
| --- | --- | --- |
| **#** | **Team Member** | **What tasks the Team Member will commit to work on** |
| 1 | *Sam Nixon* | *Source Additional Sensor and Finalize Paperwork Submissions* |
| 2 | Jordan Caraiman | *Creation of a user registration page for the website* |
| 3 | Curtis Ellenton | Procure a Raspberry Pi as the base of the product |
| 4 | John Narte | Source main module for the sensor and start working on necessary code for sensors. |
| 5 | Wai Frankie Ha | *Creating the basis of the website needed for the project* |
| 6 | Nathon Anderson | *Creating the Website Design* |

## 

## Sprint 1 Stakeholder Communication Plan

**How will we communicate with our stakeholders?**

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Stakeholder** | **What do they need to know** | **Frequency** |
| 1 | Dave Smith | How much progress has been made so far on the project.  Any roadblocks that stop the team from progressing should also be communicated.  Questions about the required documentation should also be handled during these meetings. | *Weekly During Course Time* |
| 2 | *Innovative Student Project Fund* | If the budget for this project becomes too high, we will contact the Innovative Student Project Fund to gain additional funding for our project. They will require an innovative plan with clear explanation and financials to approve additional funding. | *Once during the initial assessment of the plan* |

# Sprint 2 Plan on a Page

## Sprint 2 Goal

**What are we trying to accomplish?**

By the end of Sprint 2, we want to have accomplished these things:

|  |  |
| --- | --- |
|  | **Goal** |
| 1 | Have working code the utilizes the necessary sensors we want to gather data from |
| 2 | Test the data transmission from the Pi to the database |
| 3 | Develop a webpage that is mobile compatible |
| 4 | Data from the database is displaying correctly for the intended user |
| 5 | Begin case housing design |

## Sprint 2 Backlog

**What product backlog stories will we complete?**

To achieve the Sprint Goal, these stories must be completed to achieve the sprint goal:

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story ID** | **As a…** | **I want to be able to…** | **So that…** |
| 3 | *User* | *User-Friendly Interface* | *User can see readings regardless of location in a well throughout format* |
| 9 | *User* | *Connect to a personal device over Bluetooth or Wi-Fi* | *I can access sensor data from phone or web service* |
| 1 | User/Administrator | *Geolocation* | *The Users location can provide personalized information that can influence a user’s decision of where to go* |
| *7* | *User/Administrator* | Indoor and Outdoor Monitoring | *Users and administrator would be able to use the same device to monitor anywhere they need* |
| *16* | User | Ability to opt in or out of data sharing. | Allows user to opt out of having their data shared to community projects. |

## Sprint 2 Resource Plan

**Who will do what to accomplish our goal?**

|  |  |  |
| --- | --- | --- |
| **#** | **Team Member** | **What tasks the Team Member will commit to work on** |
| 1 | *Sam Nixon* | *Connectivity of air quality monitor to database* |
| 2 | Jordan Caraiman | *Work on mobile display of website* |
| 3 | Curtis Ellenton | *Location testing on the air quality monitor* |
| 4 | John Narte | *Test sending collected data from sensors to database* |
| 5 | Wai Frankie Ha | *Connectivity of air quality monitor to database* |
| 6 | Nathon Anderson | *Work on user interface of website* |

# Sprint 3 Plan on a Page

## Sprint 3 Goal

**What are we trying to accomplish?**

By the end of Sprint 3 we want to have accomplished these things:

|  |  |
| --- | --- |
|  | **Goal** |
| 1 | Run trials on the data collected in the database to |
| 2 | Create a user manual with how to use the air quality monitor |
| 3 | Refined the webpage for a great user experience |

## Sprint 3 Backlog

**What product backlog stories will we complete?**

To achieve the Sprint Goal, these stories must be completed to achieve the sprint goal:

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story ID** | **As a…** | **I want to be able to…** | **So that…** |
| 15 | *Administrator* | *Upload Sensor data to community sensor data project* | *We can contribute essential sensor data to open-source projects* |
| 17 | *User* | *Customize their data dashboard* | *Allow user to see only the data that they care about* |
| 11 | *Administrator* | *Push Firmware updates via WebApp* | *Easier time for user to maintain dive updates* |
| *14* | *User/Administrator* | *Customize alerting and notifications* | *The notifications and alerts can be customized according to a user’s needs* |
| *2* | *User* | Integration with smart home systems | Air quality monitors that can integrate with existing smart home systems or voice assistants. |
| *5* | *Administrator* | Multi-Device Integration | Administrators should be able to monitor multiple locations and devices from one centralized system. |
| *12* | *User* | Battery life to last a week depending on usage | Allows user to use device without worrying about charging |

## Sprint 3 Resource Plan

**Who will do what to accomplish our goal?**

|  |  |  |
| --- | --- | --- |
| **#** | **Team Member** | **Significant tasks Team Member will commit to work on** |
| 1 | *Sam Nixon* | *Make sure updates are pushing to air quality monitor* |
| 2 | Jordan Caraiman | *Work on data dashboard for users* |
| 3 | Curtis Ellenton | *Uploading sensor data to community project* |
| 4 | John Narte | *Finalize working code for sensors and main code that will gather and send data.* |
| 5 | Wai Frankie Ha | *Perform Functional Test for the Website* |
| 6 | Nathon Anderson | *Work on security of the database and website* |

## Sprint 2 Plan

Using the chosen project methodology and any relevant tools, plan out your first sprint. Please refer to the rubric for details. It is likely that you will use third party tools or other documents to track this. For your submission, please provide relevant URLs or copies of those documents. If unsure, consult your instructor.

|  |
| --- |
| Monday Project Management Schedule has been given to Dave Smith for the project.  https://fankiha.monday.com/ |

# Marking Criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **4** | **3** | **2** | **0** |
| Minimum Viable Product | The stories chosen from the product backlog form a clear minimum viable product that solves a compelling problem. Enough stories are chosen for adequate complexity, however few enough that the goal is clear. | The stories chosen from the product backlog form a minimum viable product that solves a problem. Enough stories are chosen for adequate complexity, however few enough that the goal is reasonably clear. | The stories chosen from the product backlog could form a minimum viable product that solves a problem. | There is no minimum viable product, or the stories chosen could not form a minimum viable product. |
| Project Management Methodology | Adequate research was put into choosing the project methodology, and there are clear expectations set for how procedures will be managed on a daily, weekly, and monthly basis. | Adequate research was put into choosing the project methodology, and there are expectations set for how procedures will be managed on a daily, weekly, and monthly basis. | A project methodology was chosen, and how the project will be managed is described, although clarification may be required. | A project methodology was not chosen, or it is unclear how the project will be managed. |
| **Criteria** | **3** | **2.25** | **1.75** | **0** |
| Sprint Plans | There is clear thought behind the stories the team intends to complete each sprint, and a mixture of must do and should do items for each sprint. Each team member has a number of key objectives. It is very clear who the stakeholders involved with each sprint are and how they will be communicated with. | There is thought behind the stories the team intends to complete each sprint, and a mixture of must do and should do items for each sprint. Each team member has a number of key objectives. It is clear who the stakeholders involved with each sprint are and how they will be communicated with. | There is thought behind the stories the team intends to complete each sprint. Most team members have a number of key objectives. Most stakeholders involved with each sprint are listed. | The sprint planning is unclear, not all members have stories assigned, or stakeholders are not correctly identified. |
| **Criteria** | **6** | **4.5** | **3** | **0** |
| Plan for Upcoming Sprint | Using the proposed project methodology, the team has planned tasks that will ensure each team member has at least 30 hours of work for the next sprint. Tasks are written in a SMART format. Larger tasks are broken down into smaller sub-tasks. It is clear what members plan to do on a week by week basis. | Using the proposed project methodology, the team has planned tasks that will ensure each team member has at least 25 hours of work for the sprint ahead. Tasks are written in a SMART format. Larger tasks are broken down into smaller sub-tasks. It is clear what members plan to do during the next sprint. | Using the proposed project methodology, the team has planned tasks that will ensure each team member has at least 20 hours of work for the next sprint. | A plan was not completing using the chosen methodology, or there is less than 20 hours per team member for the next sprint. |