|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Problem Statement** | | **Solution Statement** | | **End Users** | | **Other Stakeholders** | |
| *With the recent increase in forest fires, the covid pandemic, and aging HVAC systems the public has become more conscious knowing which pollutants are in the air and affecting their overall health.* | | *The high-level solution to our problem statement is a portable air quality monitoring system that offers real-time measurement and monitoring of various air pollutants, with a user-friendly data virtualization via a website that we developed, connectivity via Wi-Fi or Bluetooth, and data storage for air quality that will be used for research and environmental studies. This solution will help individuals with accurate and an accessible air quality information around their general area and contribute to improving air quality in their surroundings.* | | *People with health concerns, restaurant owners who are concerned about air quality in their kitchens, environmental researchers, large manufacturing facilities.* | | *Environmental agencies and health organizations.*  *Dave Smith* | |
|  | | | | | | | |
| **Competitive Analysis** | | **Differentiator** | | **Elevator Pitch** | | **Assumptions** | |
| *IQAir – IQAir offers a device which will measure particulate matter in the air along with other harmful gases and then displays the data on an easy-to-read map.*  *PurpleAir – PurpleAir also makes sensors which measure particulate matter and presents the data on a world map.* | | *While most competitors have a price point of over $250.00, a basic sensor with just particulate matter can be purchased by us for a cost of around $60.00 which will allow us to undercut the competition. More features can be added that can measure harmful gases and temperature, however the cost will increase to around $140.00.* | | We are Smark Air, and we are creating an innovative portable air quality monitor. Since the recent COVID pandemic and growing global concern due to recent air quality issues worldwide, knowledge about the current air quality has become more important than ever. We have created a portable yet powerful air quality monitor that gives its users the power to make an informed decision regarding their health. Whether and individual is facing unique health issues that require more direct monitoring, changes to the environment such as wildfire smoke has negatively affected your health, or you simply want to ensure the air your breathing is pure this product is for you. With our air quality monitor, you gain the ability to make informed decisions about your health and filtration systems allowing you to breathe a little easier. | | *The team will remain together for the rest of the project.*  *Availability of parts and being delivered on time.*  *The materials needed for the project will not be overly expensive as we are trying to create a cheaper alternative than the rest of the competition.* | |
|  | | | | | | | |
| **Major Milestones** | **Technical Skills Requested** | | **Business Skills Required** | | **Professional Skills required** | | **Constraints** |
| *Creation of a database and website.*  *Communication established between the sensor and database.*  *Creation of a user-friendly interface to view data.*  *Testing and monitoring of the device in real world situations.*  *Developed analytical tools for reporting and analysis.* | *Web development (html)*  *Database programming/management (php)*  *Networking*  *IT Security*  *Hardware creation and troubleshooting*  *Python Coding* | | *Customer Support/Service*  *Marketing*  *Market Research*  *Ad campaign creation* | | *Teamwork and Collaboration*  *Attention to Details*  *Communication Skills*  *Emotional Intelligence*  *Time Management* | | *Full prototype and web interface to be functional in next couple of months.*  *Limitation of funds and resources.* |

## Part One: The Template

## Part Two: Product Backlog

Complete the product backlog based on the end users and stakeholders identified in Part One. Anything with priority status must be part of your minimum viable product.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **User Story ID** | **As a…** | **I want to be able to…** | **So that…** | **Priority** | **Sprint** | **Status** |
| 1 | User/Administrator | Geolocation | Geolocation can provide personalized information specific to a user’s location. Air quality can change between different locations which can influence a users decision of where to go. | Should | 2 | GPS Sensor purchased |
| 2 | User | Integration with smart home systems | Air quality monitors that can integrate with existing smart home systems or voice assistants. | Could | 3 | Not Started |
| 3 | User | User-Friendly Interface | Information collected by sensor should be easily read and understood by the user. | Must | 2 | In Progress |
| 4 | User/Administrator | Real Time Monitoring | Users and Administrators want instant feedback on the current air quality to allow them to take action if there is poor air quality | Must | 1 | In progress |
| 5 | Administrator | Multi-Device Integration | Administrators should be able to monitor multiple locations and devices from one centralized system | Should | 3 | Not Started |
| 6 | Administrator | Remote Monitoring and Control | Users who are synced to the device are able to monitor and control sensors on the device to save battery. | Should | 1 | In Progress |
| 7 | User | Indoor and Outdoor Monitoring | User would be able to use the same device to monitor anywhere they need | Should | 1 | In Progress |
| 8 | Administrator/User | Have data security and privacy. | The data which may contain sensitive information about the environment or its occupants can be encrypted and secured | Must | 1 | Not Started |
| 9 | User | Connect to a personal device over Bluetooth or WiFi | I can access sensor data from phone or web service | Must | 2 | Not Started |
| 10 | User | Calibrate and maintain the device. | Device Sensors should be able to be collaborated without the use of advanced tools through use of a simple GUI . | Should | 1 | Not Started |
| 11 | Administrator | Push Firmware update via WebApp | Easier time for end user maintaining device updates | Should | 3 | Not Started |
| 12 | User | Battery life to last a week depending on usage | Allows user to use device without worrying about charging | Should | 3 | In Progress(Just need a big enough battery) |
| 13 | User | Store data on the device | When the device does not have internet access, it can store what is has gathered. Once the internet connection is restored the device will sync its local storage to the cloud database. | Must | 1 | In progress |
| 14 | Administrator/User | Customize alerting and notifications | The notifications and alerts can be customized according to a users needs | Should | 3 | Not Started |
| 15 | Administrator | Upload Sensor Data to Community Sensor Data projects | Contributes essential sensor data to open source projects | Could | 3 | Not Started |
| 16 | User | Ability to opt in or out of data sharing | Allows user to opt out of having their data shared to community projects | Should | 2 | Not Started |
| 17 | User | Customizing their own data dashboard | Allows User to See only the Data that they care about. | Could | 3 | Not Started |