**GrowBro**

# Software Requirement Specification

1. Introduction
   1. The GrowBro ™ is an environment monitoring device that monitors the cultivation of plants. The goal of this system is to provide a reliable and scalable solution to cover the bases of home growers to grow centers. In addition to the main GrowBro ™, there will be a line of wireless sensors that connect to the hub via bluetooth.
2. Software Requirements
   1. GrowBro (Hub)
      1. WiFi Connectivity
         1. The software shall connect to the wireless network.
         2. The software shall try to automatically reconnect after a wireless network drop.
         3. The software shall send data to the external user interfaces.
      2. Bluetooth Connectivity
         1. The software shall send messages to the sensors containing commands for them to wake up and take a reading.
         2. The software shall receive messages from sensors containing sensor data.
      3. Functionality
         1. The software shall receive sensor data every five minutes.
         2. Upon receipt of sensor data, the software shall push that data to the cloud.
         3. The software shall send bluetooth messages to the sensors every five minutes.
   2. Wireless Temperature/Humidity
      1. Bluetooth Connectivity
         1. The software shall receive bluetooth messages from the main hub that contains information notifying the sensor to take a reading.
         2. The software shall send bluetooth messages to the main hub that contains temperature and humidity data in it.
      2. Sensor Reading
         1. The software shall read the temperature from the sensor.
         2. The software shall read the humidity from the sensor.
   3. Wireless Moisture Sensor
      1. Bluetooth Connectivity
         1. The software shall receive bluetooth messages from the main hub that contains information notifying the sensor to take a reading.
         2. The software shall send bluetooth messages to the main hub that contains temperature and humidity data in it.
   4. Phone Application
      1. Application Functionality
         1. The software shall gather information from the cloud.
         2. The software shall
      2. GUI
         1. Main Display
            1. The software shall display temperature, humidity, and moisture sensor data as the main focal point.
         2. Tabbed Interface
            1. Settings
            2. Connect/Disconnect

The software shall add a new bluetooth device.

The software shall remove a bluetooth device.

* + - * 1. Charts

The software shall display 6 month, 1 month, 1 week, and 1 day options.

Upon selection of options, must query the database on the cloud for the data and neatly print a line chart.

* + 1. WiFi Connectivity
  1. Website Interface
     1. Application Functionality
     2. GUI