The high-level aim of the project was to create an IoT device that would collect environmental data on a plant and place that data into a database. This data would then be used by a web interface to inform the user of their plant’s current health. The data would be visualised by incorporating them into graphs and charts that would display the appropriate information depending on the time increments the user had selected.

In order achieve this an extensive list of requirements (functional and non-functional) was created and would be consulted during the process of building the system in order to make sure that the final product performs as is required. Each or requirement was seen as an objective that needed to be completed to achieve the final product. Some objective outlined in this section however did not have any direct relation to these requirements but rather were derived or assumed from the work that was done.

General Objectives of project:

* Create a website that houses all the tools needed to monitor a plants health based on collected data
* Develop a device that collects data on the plants health and potentially react to this data input
* Create and manage a database that holds the data on devices and separates the data based on type and device

Work that was completed not directly related to the requirements:

* Connect the wemos and the Arduino and allow for communication between the devices
* Place and align the elements of the website in such away that they look presentable to a client
* Install and use plugins that allow the developer to create graphs of the data

Functional Requirements:

* Wemos device connects to the database
* Gather data on plants (Temperature, Light, Moisture, Humidity)
* Put this Data into a database
* Present the data in a graphical manner on website
* Feature in place on website to register device
* Feature in place for users to register
* Feature in place for users to login
* Require device-account registration
* Require registering on the website before utilising any of the services
* Require login on the website before allowing the viewing of data
* Present current status on device itself
* Section of website accessible to all users with information on the Clients company
* Section of website accessible to all users with information on the functionality of the device
* Section of website accessible to all users with information on the system as a whole
* Section of website accessible to all users with contact information of the clients company
* The website will give users the option to select the time period they want to view the data on (such as a month, week, day)
* Email user when status of plant is low in any of the measurements
* Website must be responsive
* Users should be able to clear data pertaining to them

Non-Functional Requirements:

* Website should be accessible to all users
* Website and database should be able to be scalable to user size
* Device should be easy to setup for users
* Device should be able to be produced on a commercial scale
* Website should be user friendly
* Device should be reliable in terms of data handling and performance
* System as a whole should be available with as little interruption as possible
* Website should be easily maintainable after it is delivered to the user
* Websites login and register features should be secure to malicious attacks or tampering
* Data collected and stored in a manner that is compliant with the relevant laws of the region of operation
* The data’s integrity should be preserved throughout its life-cycle
* Database should be secure and non-accessible to users
* Device has some functionality in place to ensure that data loss is minimal