Final Project Design Document

Team GrassTouchers

# **Functional Overview:**

The goal of our app is to create a tool to monitor and automate processes inside a stand-alone container farm. The project consists of implementing all the desired hardware systems, while our app will both control and monitor them. This app will be primarily targeted to two types of end users: the farm technicians and the fleet managers. Farmer technicians, being onsite workers, tended to the needs of the plants. While the managers, responsibilities would primarily be handling the security of the crates. Each portal/view would be tailored to fit these two users' types needs.

# **Prioritization of features:**

## **Must Develop:**

-We must have two separate views/dashboards: One for the farmer technicians and another for the fleet managers.

-The farmer technician should have a way on their dashboard to view the information relevant to their jobs such as: the temperature, the humidity, soil moisture levels and the state of the fan of the container farm.

-The farmer technicians also should have the ability to control the state of the fans through their dashboards.

-The fleet manager should have a way on their dashboard to view the information relevant to their jobs such as: the GPS location, the pitch, roll, banking levels and the current state of the buzzer in relation to a given container farm.

-The fleet managers also should have the ability to control the state of the buzzer through their dashboards.

## **Would like to develop:**

- Editable grid layout for the dashboard so that users can customize the layout of their dashboard according to their preferences.

- Be able to track multiple containers from one dashboard/user

- Dark mode or Visibility switch

## **Could develop if time permits:**

- Live view of the graphs and data on the dashboard

- Have a server that keeps accounts to be able to login and connect from anywhere

- Automated messaging if any alerts come up by either text or email

## **Likely would not develop because of lack of time or knowledge:**

- Camera feed view that can connect to a camera inside the container to be able to view it remotely.

- 2 Factor authentication for user account to increase security.

- Using a third-party service to login (Google Sign in)

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# **Proposed Implementation Schedule:**

* (Sprint 1) Connecting and reading the data from the hardware
* (Sprint 2) Controlling and manipulating the data and the hardware
* (Sprint 3) Visualization of data
* (Sprint 4) Extra features

# **Potential Showstoppers and Open Questions:**

Our schedules could become a problem, especially when finding times to meet/work together on the app. As most of us are busy with stage, work or personal commitments. Working with new hardware could also cause a few issues and slow down the project, as we have to learn to use these devices, find documentation and pretty much teach ourselves.