Team Name:

Kong

Members:

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Description:

We are trying to produce a product to monitor and communicate useful data within a greenhouse environment in order better maintain ideal growing conditions. The product will use a webpage to display real-time and historical data in order to facilitate a healthy growing environment and better manage resources. The program will utilize arduino hardware to monitor current conditions within the greenhouse which the user can view from the webpage. Additionally, historic data will be stored in a database so that trends within the growing environment can be analyzed. The hardware will communicate with the database through Wifi or bluetooth connectivity.

Vision Statement:

KONG-GROW will be the premiere temperature and humidity monitoring software accessible to amature and professional growers. Its web-based design will provide an affordable and user friendly approach to maintaining and optimizing greenhouse environments as well as maximizing profits through efficient resource management.

Motivation:

To help individuals with greenhouses to accurately monitor greenhouse data to maximize yield.

Risks:

1. Inaccurate measure of temperature and humidity.
2. Potential timing issues with reading and storing data.
3. Running out of time.

Risk Mitigation Plan:

1. In the case of inaccurate measure of temperature and humidity we can calibrate and correct biases in data. In the event of poorly recorded data resulting in outliers, we can eliminate the outlier and re-collect data to ensure clean data.

2. We would need to use an appropriate communication protocol such as wifi or bluetooth in order to ensure we are always recording and sending data to our database and website.
3. We will limit our scope to include strictly temperature and humidity so we are not overwhelmed with small technical issues throughout the project. We can use a gantt chart such as Trello, to manage tasks and time frames associated with each part of the development process.

Version Control:

GitHub - a web-based hosting service for version control using Git

Development Method:

Agile - meeting minute, gantt chart , form of communication, git

Collaboration Tool:

Slack - technical work communication

Google Docs - multi user word processor

Trello - Task management (gantt chart) used for planning

Proposed Architecture:

Front-end - HTML/CSS will be used to develop a user website and stylings associated with the website.

Middle-layer - Node.js will be used to link the front-end to the back-end.

Back-end - MySQL to store relational data such that we can queue the information for our front end.