Kong: Requirement Specification

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Date	Revision	Revision By	Changes Made
06/11/18	1.0	Bader Albader	Document created
06/18/18	2.0	Bader Albader	Wrote down requirements discussed in meeting into this document.

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1. Introduction

1.1 Purpose

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 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.

1.2 Scope

KONG-GROW will be the premiere temperature and humidity monitoring software accessible to amateur 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.

2. Overall Description

2.1 Product perspective

System Interfaces:

System Requirement	Input	Software Transformation	Output
Hardware connectivity to wifi	Microcontroller.	C, Python	Wifi connectivity.
Data transmitted to database.	Sensor data	SQL, NodeJS	Data stored in database.

Data displayed on front end website.	Database information.	HTML, CSS	Data shown in frontend.

User interfaces :

Interface	Display Lay-out	Description	Constraints
Front end	Website	Will contain a login system and data from temperature and humidity sensor.	Locations to test project.
Backend + Middle Layer	SQL, NodeJS	Will store data information of login information and temperature + humidity information.	Size of database and speed to data acquisition.
Hardware	No display	Will track and manage data and send the data over wifi to the database.	Testing and accuracy of data acquisition.

2.2 Product functions

Priority Level	Function
HIGH	Hardware connectivity to wifi.
	Hardware data acquisition.
	Database
MEDIUM	Front end website functionalities.

LOW	Website looking pretty.

3. User Stories (Lab 1, Part 3)

3.1 User Story 1

Farmer wants to monitor the temperature of his greenhouse in real time to minimize losses due to under-managed temperatures

Ranking among stories: 1 (for first round) changed to 2 after debate

3.2 User Story 2:

Systems admin who wants a way to encrypt a password database

Ranking among stories: 2 (for first round) changed to 1 after debate
- Reached a consensus after it was pointed out that public algorithms can be used.

3.3 User Story 3:

Computer science professor who wants a way to check to see if students are submitting plagiarized code.

Ranking among stories: 3