# Approved Proposal

## Executive Summary

As a student in the Computer Engineering Technology program, I will be integrating the knowledge and skills I have learned from our program into this Internet of Things themed capstone project. This proposal requests the approval to build the hardware portion that will connect to a LAMP server via ZeroTier as well as to a mobile device application. The internet connected hardware will include a custom PCB with sensors and actuators for the measuring of humidity, moisture, light, temperature, and water level. The MySQL database will store the data generated from the sensors. The mobile device functionality will include the ability to see the current data and the data from the past. I will be collaborating with Valeria Wuschnakowski, greenhouse technician at Humber. In the winter semester I plan to form a group with the following student, who is also building similar hardware this term Christian Katsabas. The hardware will be completed in CENG 317 Hardware Production Techniques independently and the application will be completed in CENG 319 Software Project. These will be integrated together in the subsequent term in CENG 355 Computer Systems Project as a member of a 2 student group.

## Background

The problem solved by project is that that there is no current system in the greenhouse at Humber to measure the humidity, moisture, light, temperature, and water level which would be needed to ensure that the plants grow. My project will help the technicians in the greenhouse determine under which circumstances the germination process best happens under. By having the monitoring system in place, it will be easy to determine not only if the plants need to be taken care of right now, but also identify at what times of the day the plants needs extra attention. For example, the plants may need to be watered more during the mid-day hours as opposed to the afternoon or night. The germination process is when the plant is growing from a seed.

I have searched for prior art via Humber’s IEEE subscription selecting “My Subscribed Content” and have found and read which provides insight into similar efforts.

## Concluding remarks

This proposal presents a plan for providing a solution for the green house at Humber College. This is an opportunity to integrate the knowledge and skills developed in our program to create a collaborative capstone project demonstrating my ability to learn how to support projects. I request approval of this project.