

TO: Dr. Winikus

FROM: Kyle Lemma

Subject: Midpoint Progress Memo for CSE Project 3 Midpoint

Date: 11/17/2022

SUMMARY/INTRODUCTION:

The purpose of this memo is to outline the progress made on Project 3 so far. The project plan that has been created was a Fridge Monitoring System that will monitor the fridge's internal temperature and humidity. This system will monitor these metrics and alert the user when the area has come either above or below the recommended range for temperature or humidity. This system will utilize the DHT11 to record temperature and humidity levels, a 1602 LCD Screen to display those measurements, a Buzzer Alarm to alert the user when the temperature or humidity levels are outside of the designated range, a matrix keypad to engage and disengage the device and finally a Red and Green LED to display the current state of the device, being engaged or disengaged. There is a constraint with, once the matrix keypad button is pressed to engage the system the Green LED must light up, and the opposite for when the disengage button is pressed. There also is a constraint that the program must run forever and the DHT11 will constantly monitor temperature and humidity levels no matter whether the system is engaged or disengaged.

UPDATE ON PROGRESS:

I first started by reading the documentation for the DHT11 and the Buzzer Alarm to learn what I need to do to use them in this system. I also went through the drivers made for the DHT11 to understand the functionality of the DHT11 and what functions correspond to the device. I have been able to develop a device that constantly reads in the temperature and humidity and displays them on the 1602 LCD. I have also set up the LEDs to display whether the buzzer system is engaged or not to be checking whether the read in temperature and humidity falls within the recommended range.

CONCERNS:

My only concern so far has been getting the buzzer alarm to work correctly. I have run into a bit of trouble with the device and plan to spend more time learning about it.

RECOMMENDATION:

In the upcoming week I plan to do some more research on the buzzer alarm to get that part of the system working. I also plan on implementing the matrix keypad to engage and disengage the system along with implementing the check of the ideal range for temperature and humidity.