Austin Ah Mau
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CPE 301

CPE 301 Final Project

The design of this project is to create an evaporation cooling system using the Arduino Mega 2560 kit which continuously loops through different states depending on current measurements of the environment; temperature, humidity, and water level; and responds to user's actions such as the on and off button or changing the angle of the vent.

Some constraints I faced while building the circuit were allotted space, temperature control of certain parts, and power supply. Given all the components used for the project, finding a way to make everything fit while still being accessible to changes without taking other things apart was a challenge. When left running for too long, the fan motor and water level sensor's temperature started to rise so the system could not run for long periods of time. I noticed my LCD began to dim when a new component was added to the system so I assumed that there was not enough power in the given power supply to have everything run at its fullest capability.

GitHub Repository:
https://github.com/austinahmau/CPE-301-final-project.git

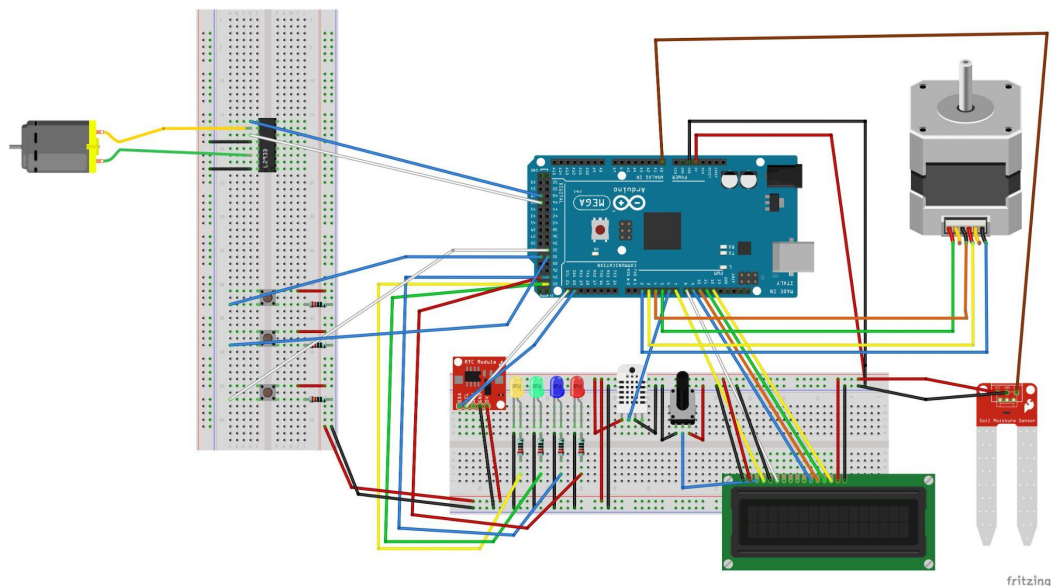Video of the system in operation:
https://youtu.be/NdwQzoWuaCw

Resources used:
http://ww1.microchip.com/downloads/en/DeviceDoc/Atmel-2549-8-bit-AVR-Microcontroller-ATmega640-1280-1281-2560-2561_datasheet.pdf
https://www.electronicshub.org/wp-content/uploads/2021/01/Arduino-Mega-Pinout.jpg

Circuit Schematic

Some Components of the circuit were available in the schematic software.

Circuit Pictures