CPE 301 Final Project

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Design

The design of the system implements each component conveniently placed so that every sensor or motor has enough room to function properly. An addition of a mini breadboard allows us to have the state descriptions separate from the crowded wiring for easy visibility. For easy accessibility, the buttons for the stepper motor are also on a separate mini breadboard

Constraints

We started off the project using serial library functions and the ADC library for the sampling on the water level monitoring. We did this just so we could make sure the project worked properly before getting rid of the functions

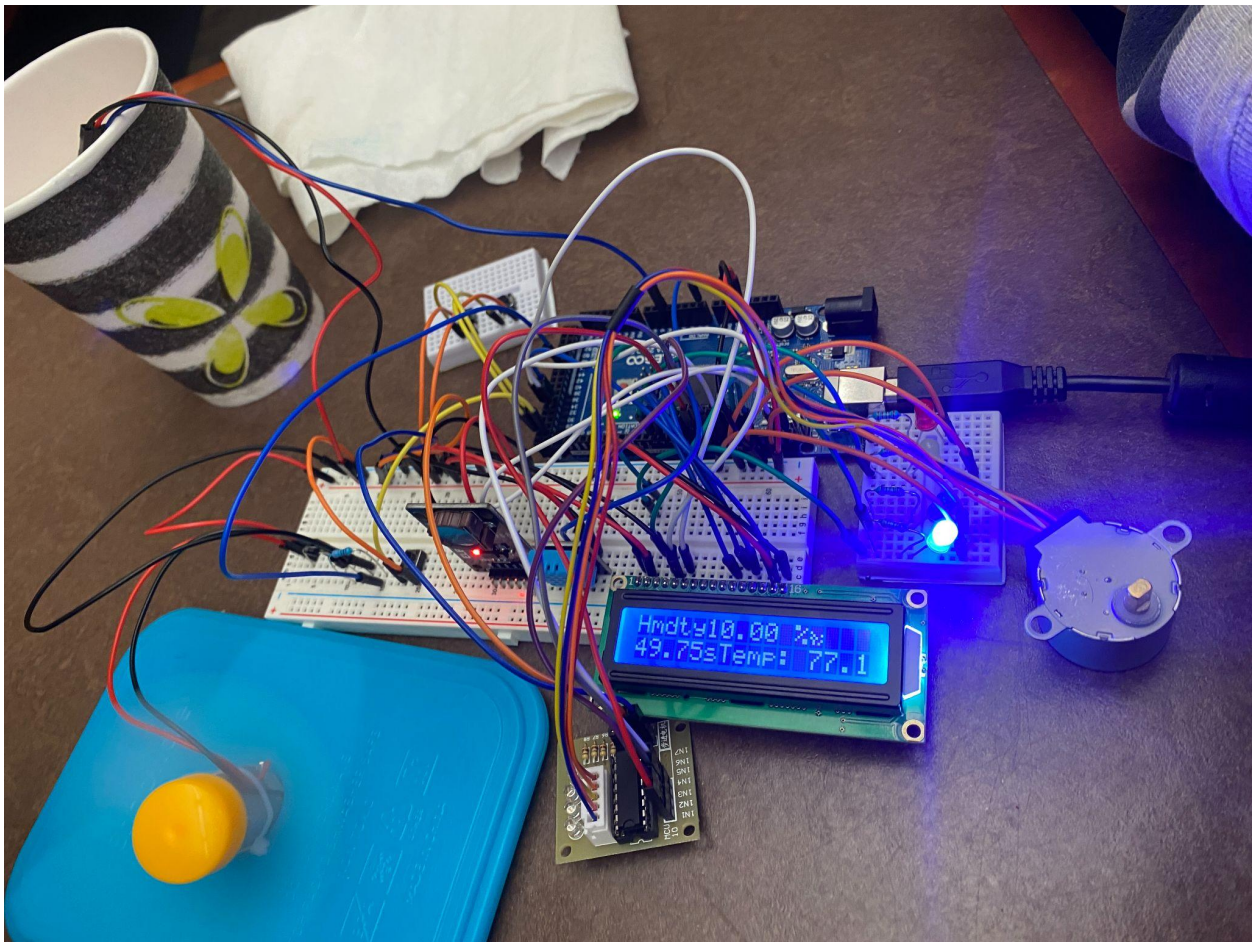
The original schematic that we had needed to be adjusted so once it was built because some placements of the components were not placed conveniently

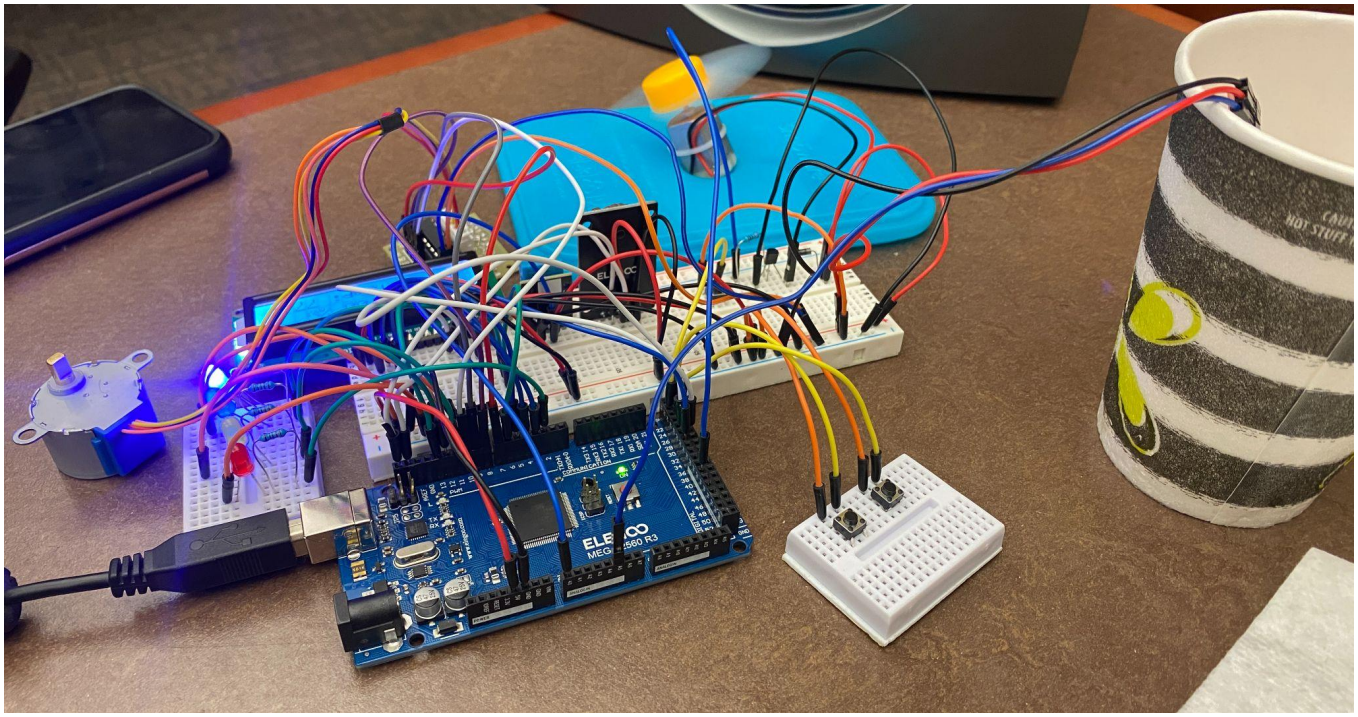
Figuring out how to configure the power supply module to work properly with the breadboard and arduino was an obstacle when implementing the dc motor

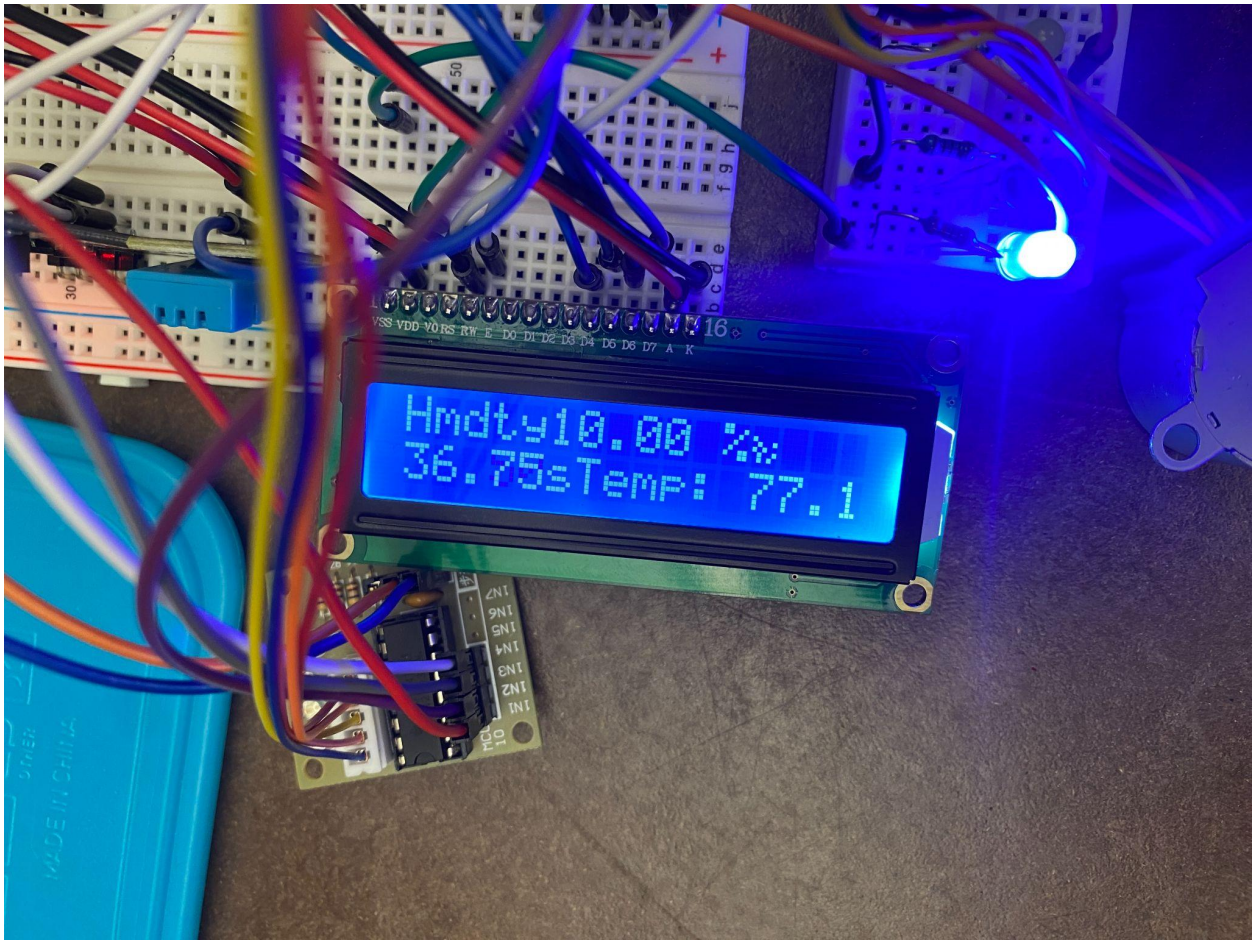
Initially the logic for disabling the system was a while loop that the entire program would run in and a button that would end the loop and cause the system to disable. This was a problem because the loop would get stuck. This was solved by having the program work in if/else statements that the button would work with.

The constraints set for this device limit the idle state to temperature ranges below seventy three degrees, while the device error state triggers whenever the water level sensor reads a value below four-hundred.

Pictures of Final System



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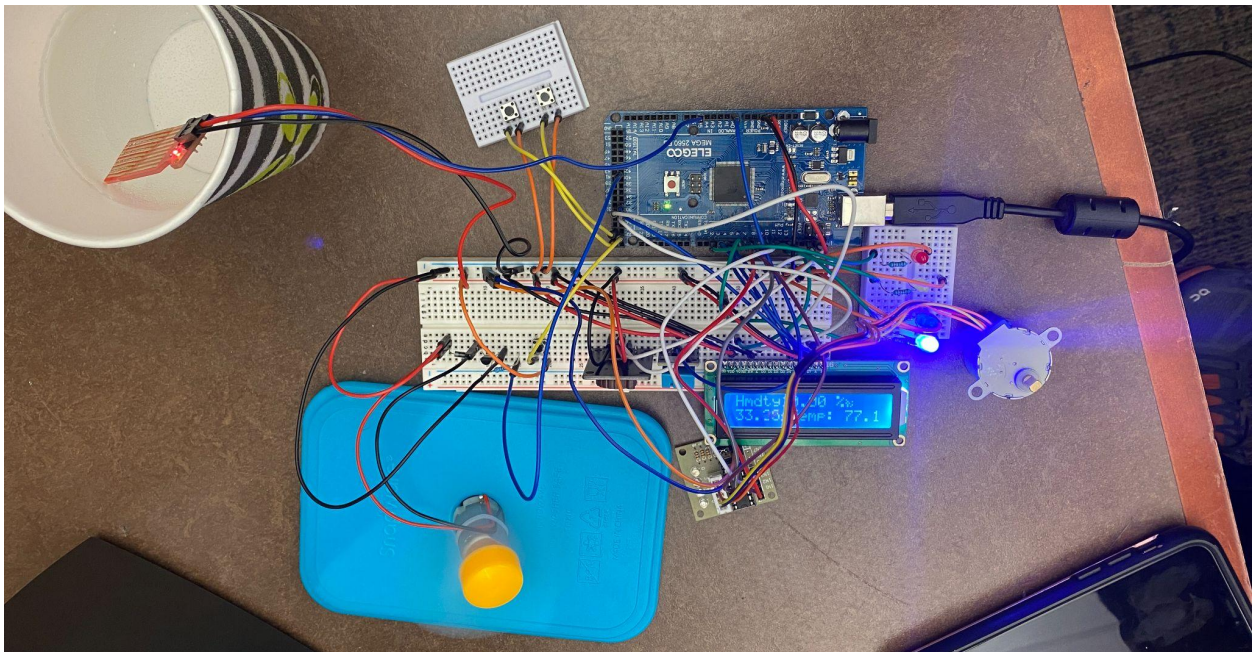
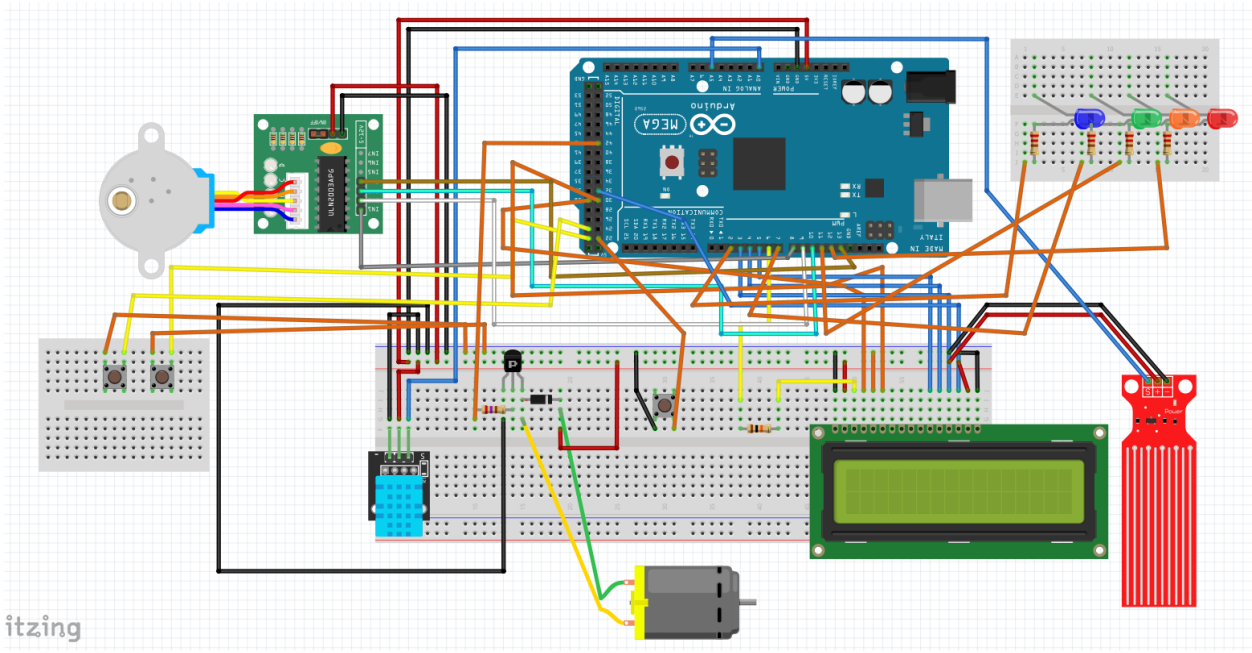


Video of the System in Operation

https://youtu.be/VLBiUF9Lgc8

Schematic



Link to the Github Repository

https://github.com/Buslon-Brian/BrianB-MoisesM-CPE301-Final