

CPE 301 Final Project

Swamp Cooler

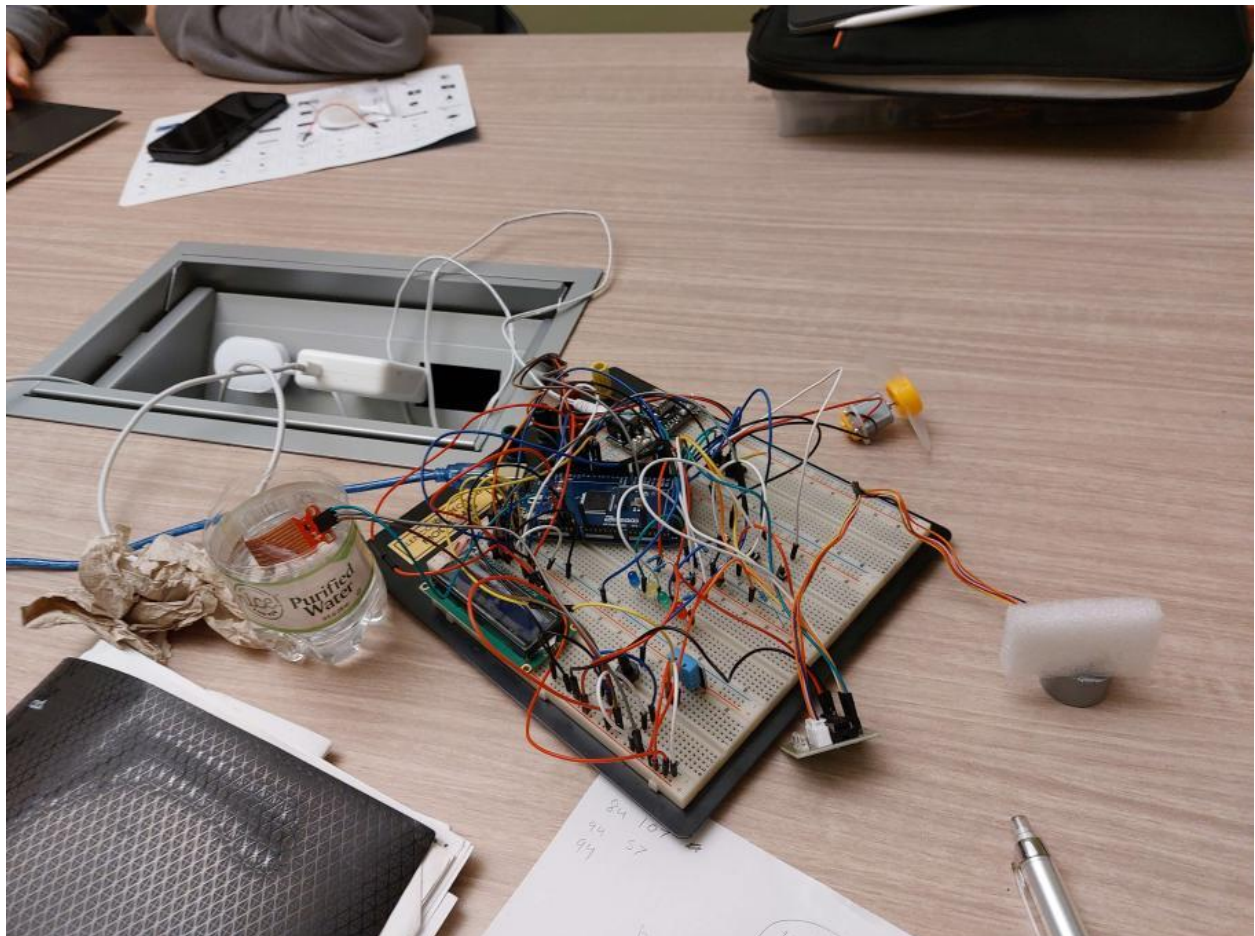
By: Sebastian Andrade, Anthony Goforth, Jose Pacheco, Emanuelle Pelayo

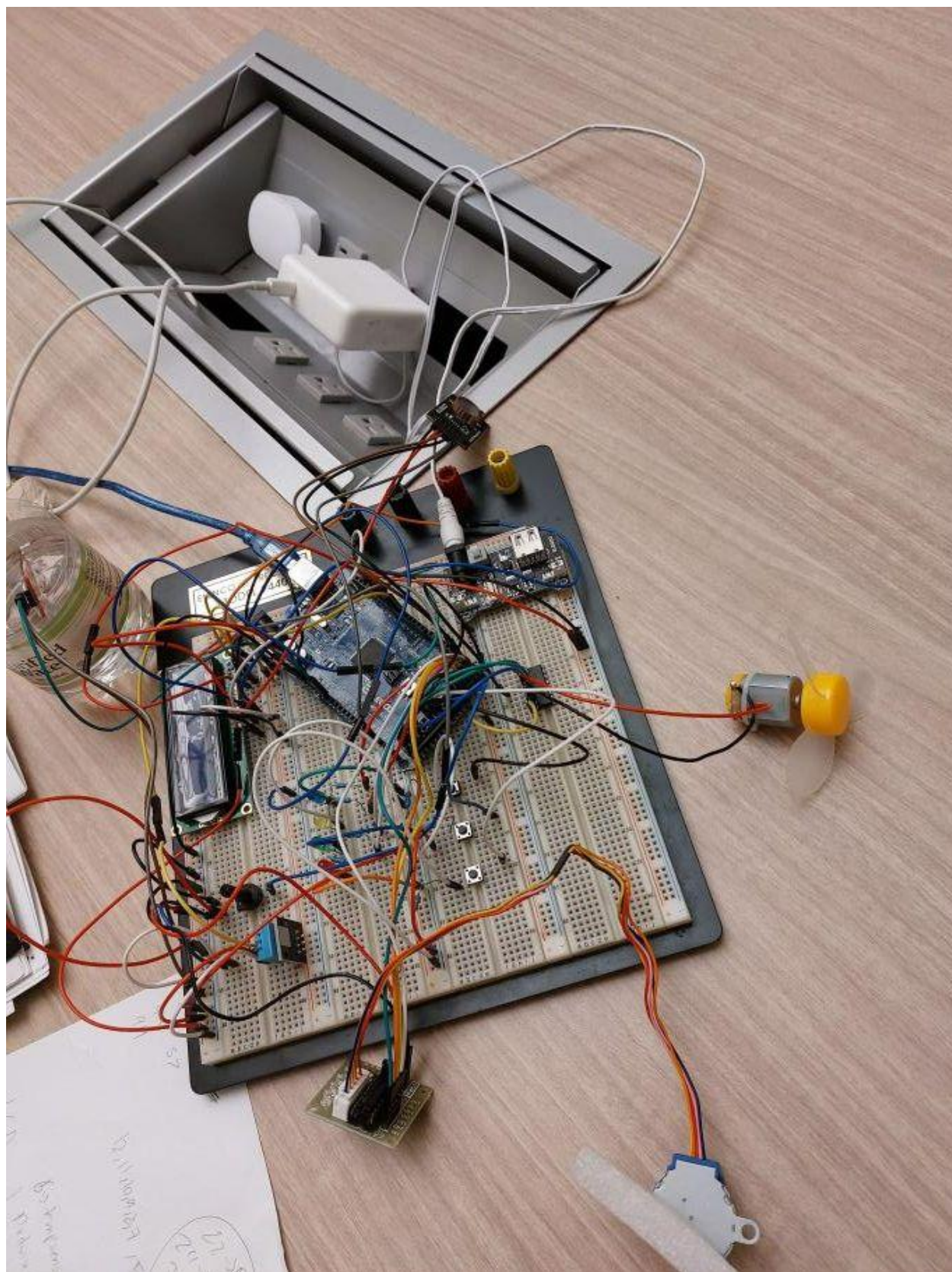
May 9th, 2023

Constraints:

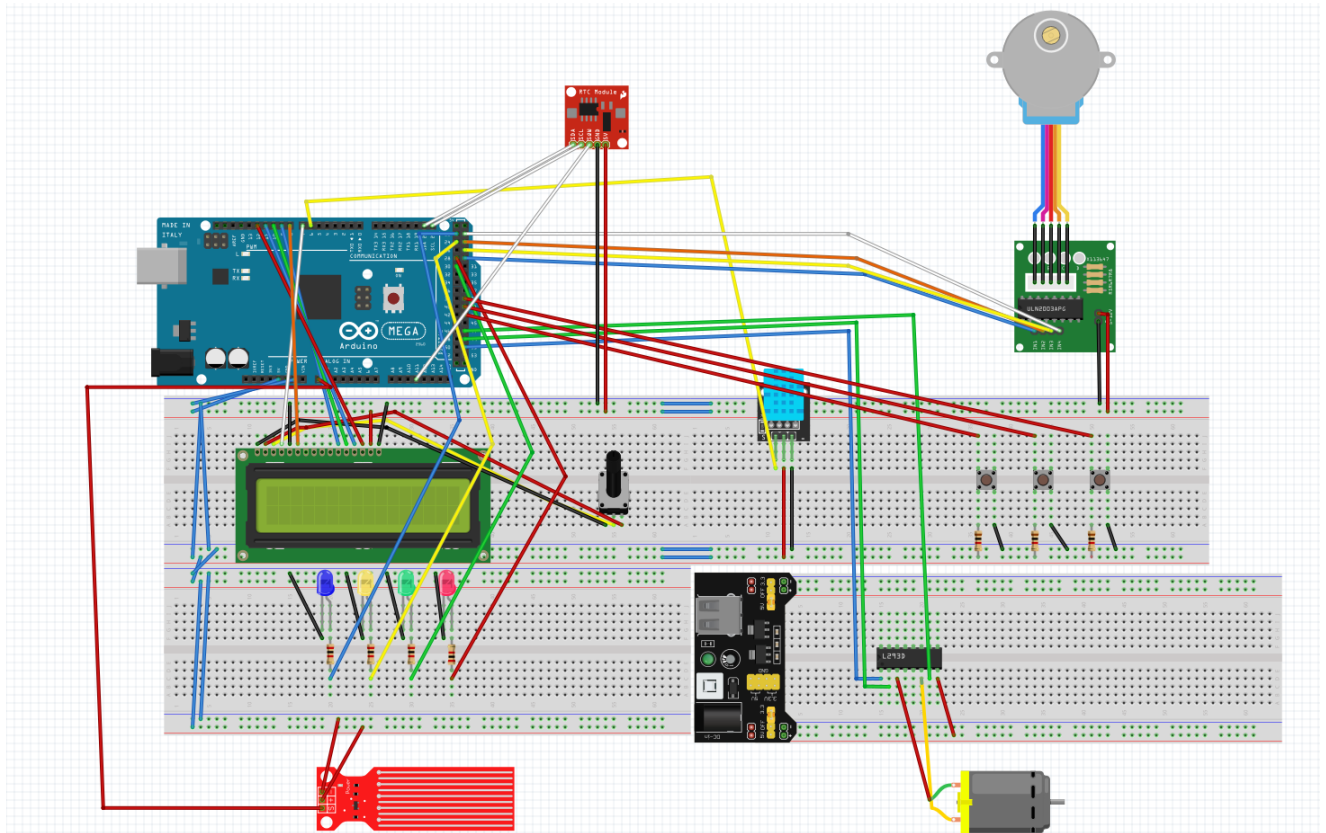
- Threshold for the water sensor only goes as low as 150 since the water sensor reads a level of 150 when it is completely dry.
- Fan is on if the temperature is above 76 degrees Fahrenheit, off when the temperature is below 76 degrees (70 degrees in the demonstration).
- The system takes a maximum of 5 Volts of power.

Pictures:

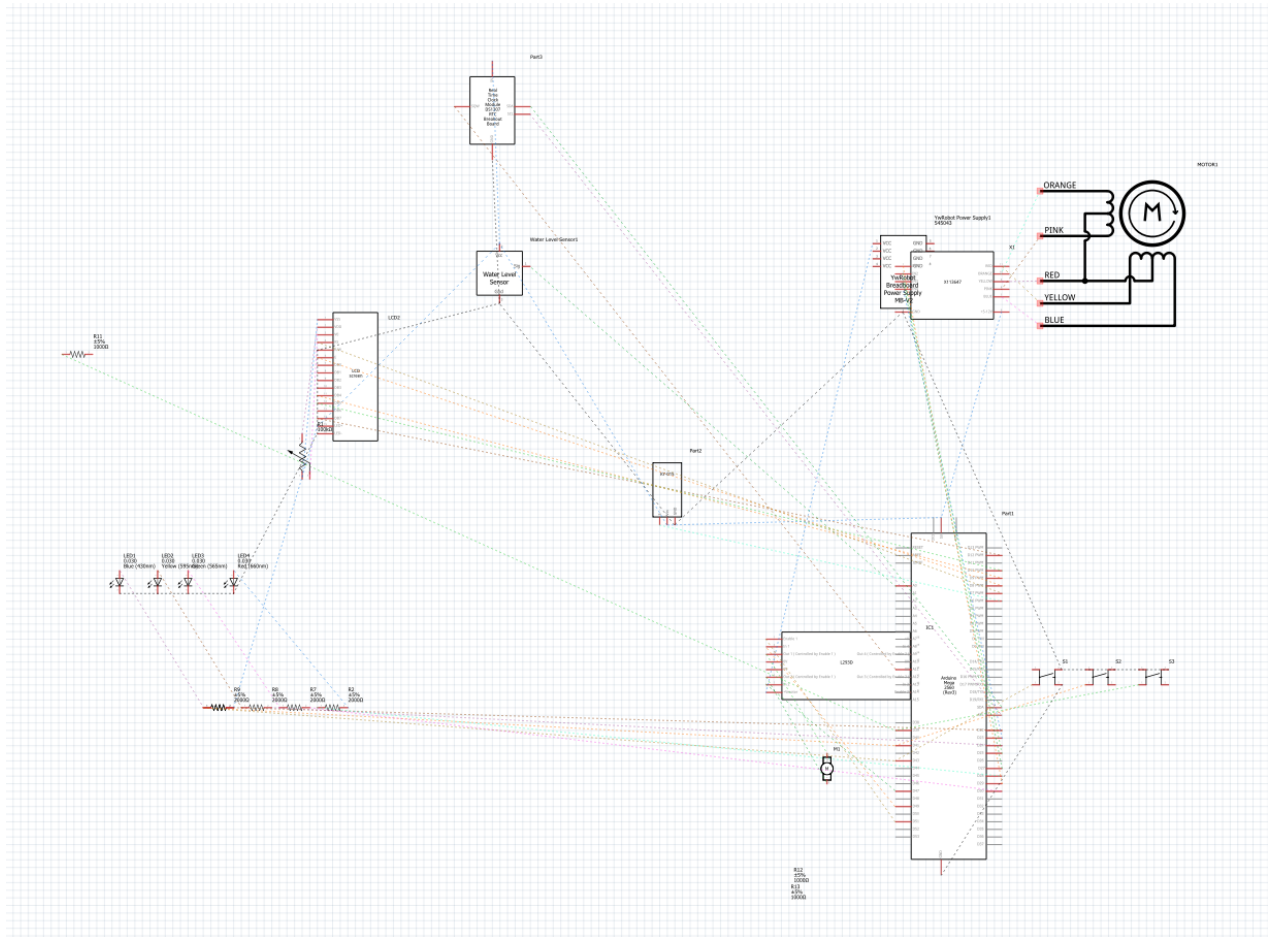




Circuit:



Schematic:



Video of Demonstration: <https://youtu.be/aPLeDOnwAaY>

GitHub Link: <https://github.com/Pelayo-Emanuelle/CPE-301-Final-Project-.git>

NOTE: WE only had two computers... so commits may show only two names, please check for names within the commit notes. Everyone contributed. We put people's names after their commit messages.

Specification Sheets:

Arduino Mega 2560:

http://ww1.microchip.com/downloads/en/DeviceDoc/Atmel-2549-8-bit-AVR-Microcontroller-ATmega640-1280-1281-2560-2561_datasheet.pdf

LCD: <https://images-na.ssl-images-amazon.com/images/I/D1oC-c3G5TS.pdf> (Pages 152 through 155)

Water Sensor:

https://curtocircuito.com.br/datasheet/sensor/nivel_de_agua_analogico.pdf

Temperature & Humidity Sensor:

<https://www.mouser.com/datasheet/2/758/DHT11-Technical-Data-Sheet-Translated-Version-1143054.pdf>

Fan motor:

<https://arduinogetstarted.com/tutorials/arduino-dc-motor>

Stepper Motor driver:

<https://www.electronicoscaldas.com/datasheet/ULN2003A-PCB.pdf>

Stepper Motor:

<https://www.mouser.com/datasheet/2/758/stepd-01-data-sheet-1143075.pdf>

Power Supply:

<http://www.handsontec.com/dataspecs/mb102-ps.pdf>

L293D IC:

<https://www.ti.com/lit/ds/symlink/l293.pdf>

Clock:

<https://www.sparkfun.com/datasheets/Components/DS1307.pdf>

Button:

<https://www.arduino.cc/documents/datasheets/Button.pdf>

Potentiometer 10k:

https://www.arduino.cc/documents/datasheets/ACP_potentiometers.pdf

LED:

<https://www.arduino.cc/documents/datasheets/LEDY-L-7113YT.pdf>