Project Overview

Design Overview

Cooler works in theory, not so much in practice. Design is not entirely complete owing to time constraints. One of the bigger issues faced during development was with buttons behaving strangely. This is an issue some of us have encountered before in the Labs but in those situations a DIP switch was simply used since the buttons continued to behave weirdly even after being replaced. Since we did not have other methods of input available to us at this time (such as DIP switch), we had decided to at least "implement" the buttons in software via the reading from the serial bus. However, we encountered other issues in this approach and thus the final machine does not have state switching (primarily from OFF to IDLE) properly implemented. The same issue with the buttons also made it difficult to implement controls for the stepper motor. Due to this we opted to just have the vent continuously spin to at least demonstrate that it could work.
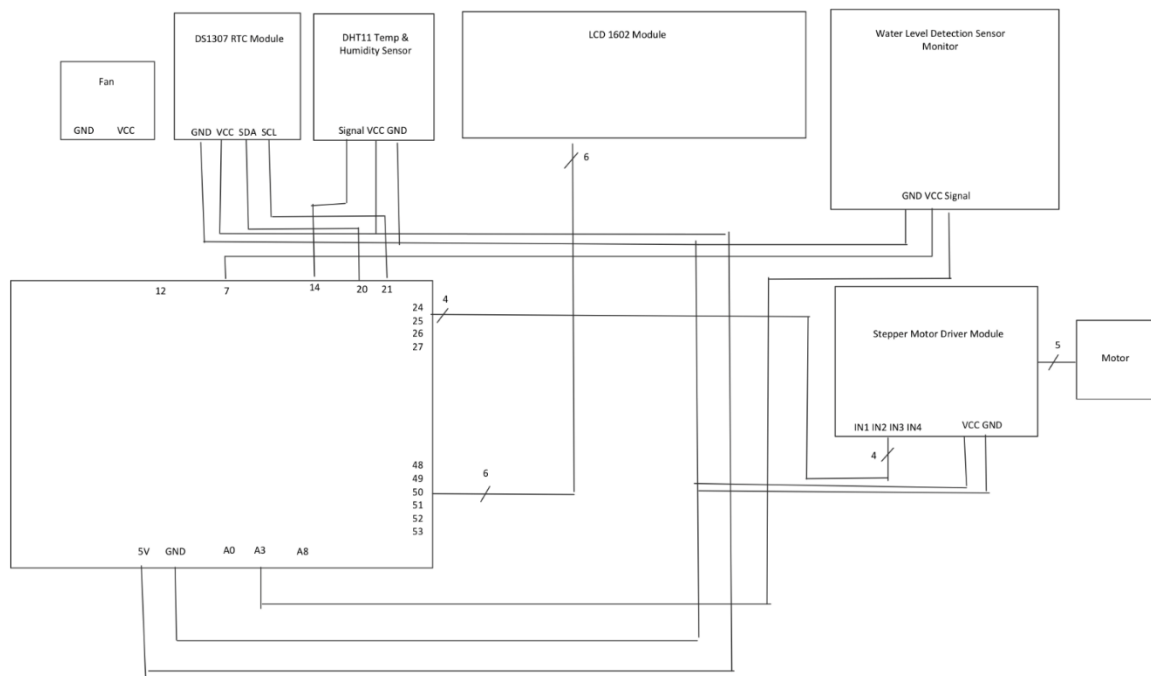
The threshold temperature is 75°F. Power supply is 5V output.

Modules were split among group members and coded in individual files and then later assembled into one file.

GitHub Repository

perezherrera-alexander/CPE301-semester-project (github.com)

Schematic

Specification Sheets

DHT11 Humidity & Temperature Sensor: DHT11 Humidity & Temperature Sensor

DS1307 RTC: [DS1307 RTC](#)

LCD1602: [LCD1602](#)

Water Sensor Module: [Water Sensor Module](#)

Pictures