CPE 301 Semester Project, Spring 2022

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Overview:

Design incorporates all project requirements including: Monitoring of water levels and of temperature on a LCD screen, User control of vent angle, User control of enabling/disabling system, automatic fan activation according to temperature threshold, and finally the logging of time and date for each state transition.

Constraints include: Water level threshold = 100

Temperature threshold = 15

Power requirements = 5v for fan/lcd operation

3v for rest of system

Final System Picture:

Final System Video:

Schematic:

Specification sheets:

Arduino Mega 2560: <https://store-usa.arduino.cc/products/arduino-mega-2560-rev3?selectedStore=us>

LCD component: <https://cdn-shop.adafruit.com/product-files/181/p181.pdf>

Real Time Clock component: <https://learn.adafruit.com/ds1307-real-time-clock-breakout-board-kit>

Water sensor component: <https://www.rhydolabz.com/sensors-other-sensors-c-137_148/high-sensitivity-water-sensor-arduino-compatible-p-1768.html#:~:text=Width%20of%20detection%3A%2040mm%C3%97,65mm%C3%9720mm%C3%978mm>

Humidity/Temperature sensor component: <https://learn.adafruit.com/dht>

DC motor: <https://www.arduino.cc/documents/datasheets/DCmotor6_9V.pdf>

Stepper motor: <https://www.adafruit.com/product/858>

Github Repository: <https://github.com/unr-s22/semester-project-ja-perez>