uOttawa

Before The Pale
B17: Prototype II
GNG1103: Engineering Design

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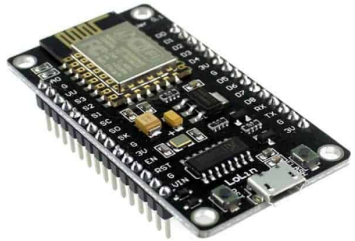
Project Summary

- Fermentation stages of beer
- Specific gravity measurement
- Identification of our client’s needs



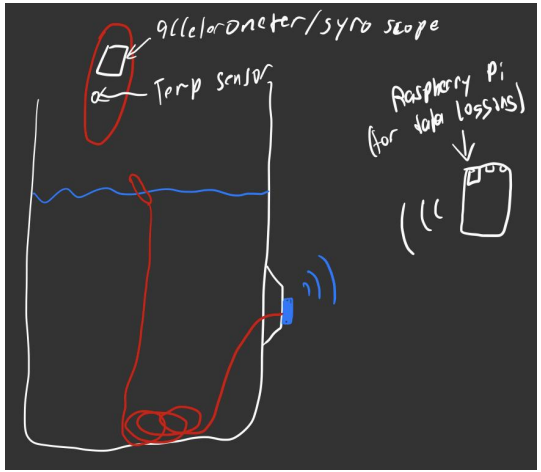
Our goal: Create an easy to use and clean non-free floating device that can remotely and accurately measure specific gravity.

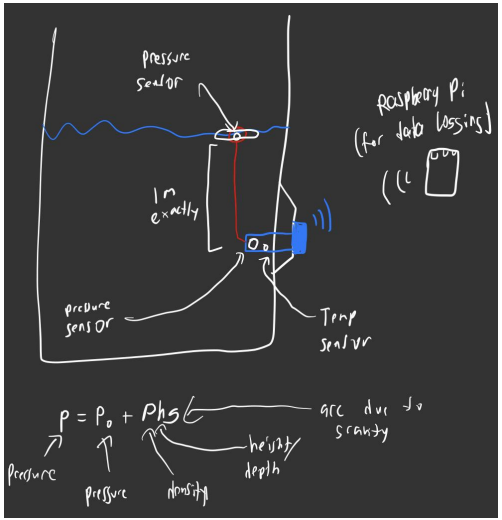
Solutions Explored

1. Optical Sensor System
2. Ultrasound Sensor System
3. Differential Pressure Hydrometer System
4. Tilt Hydrometer System

Solution Chosen:

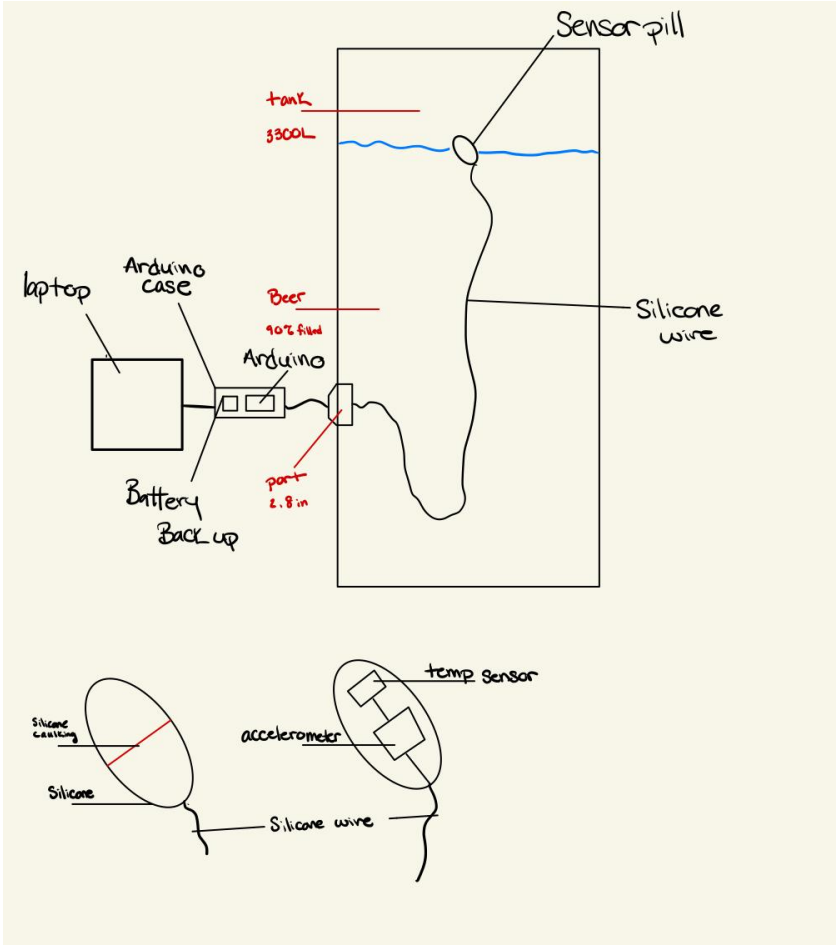
Tilt Hydrometer System





Chosen Solution

- Measures Specific Gravity Using:
  - Accelerometer/Gyroscope Sensor
  - Temperature Sensor
- Non Free Floating
- NodeMCU
  - Calculations
  - Sending Data (Serial or WiFi)
- Port Connector
- NodeMCU Housing



Decisions Made/Process (Aaron)

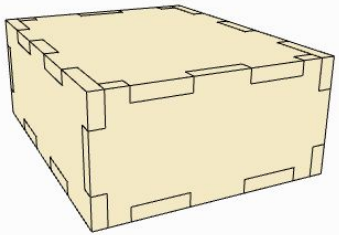
- Port Metal Cap
- Switched from Eye Dropper Bottle for a Preform of a Plastic Bottle
- Issues that we have encountered as a team
- Code to read the temperature and the tilt of the sensors and display it to users to see.
- Uses serial connection to communicate data, and gather data from the attached sensors then display it to the serial monitor and this loop continues

Future Work

- Make sure every part is functioning and is also aesthetically pleasing.
- Have all the code working using Node MCU module
- Keep testing sensors to verify their performance
- Add UI for data to be saved in a aesthetic manner

Reasoning

- This added features will elevate the clients experience with our product



Questions?

Thank you!