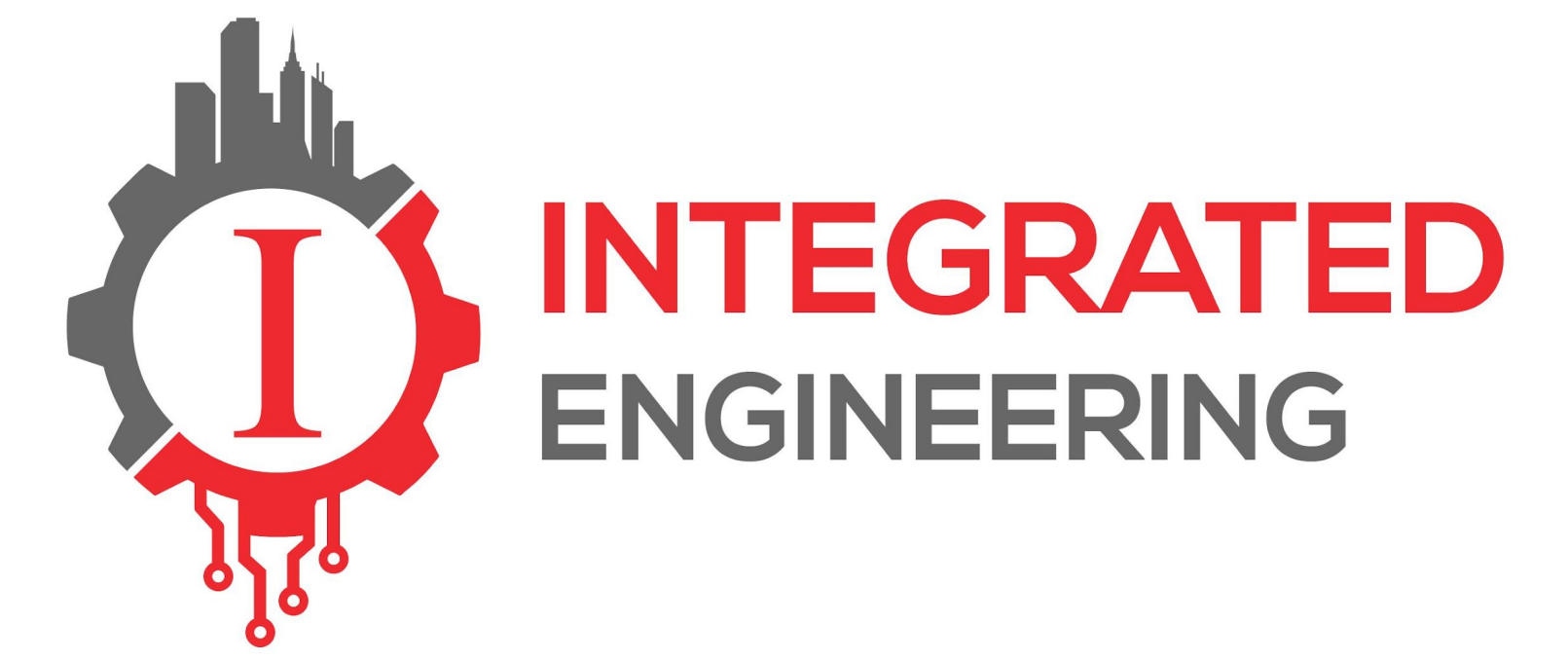




Thermacup

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Introduction

- Battery powered temperature-controlled thermos
- Save time and money
- Always the perfect temperature

Structure

We embedded all the electrical elements inside our 3D-printed outer shell

Mechanical

- Inner cup
- Insulating layer
- Outer shell

Electrical

- Temperature sensor
- Heating rod
- LCD Screen
- Buttons
- Battery & Arduino

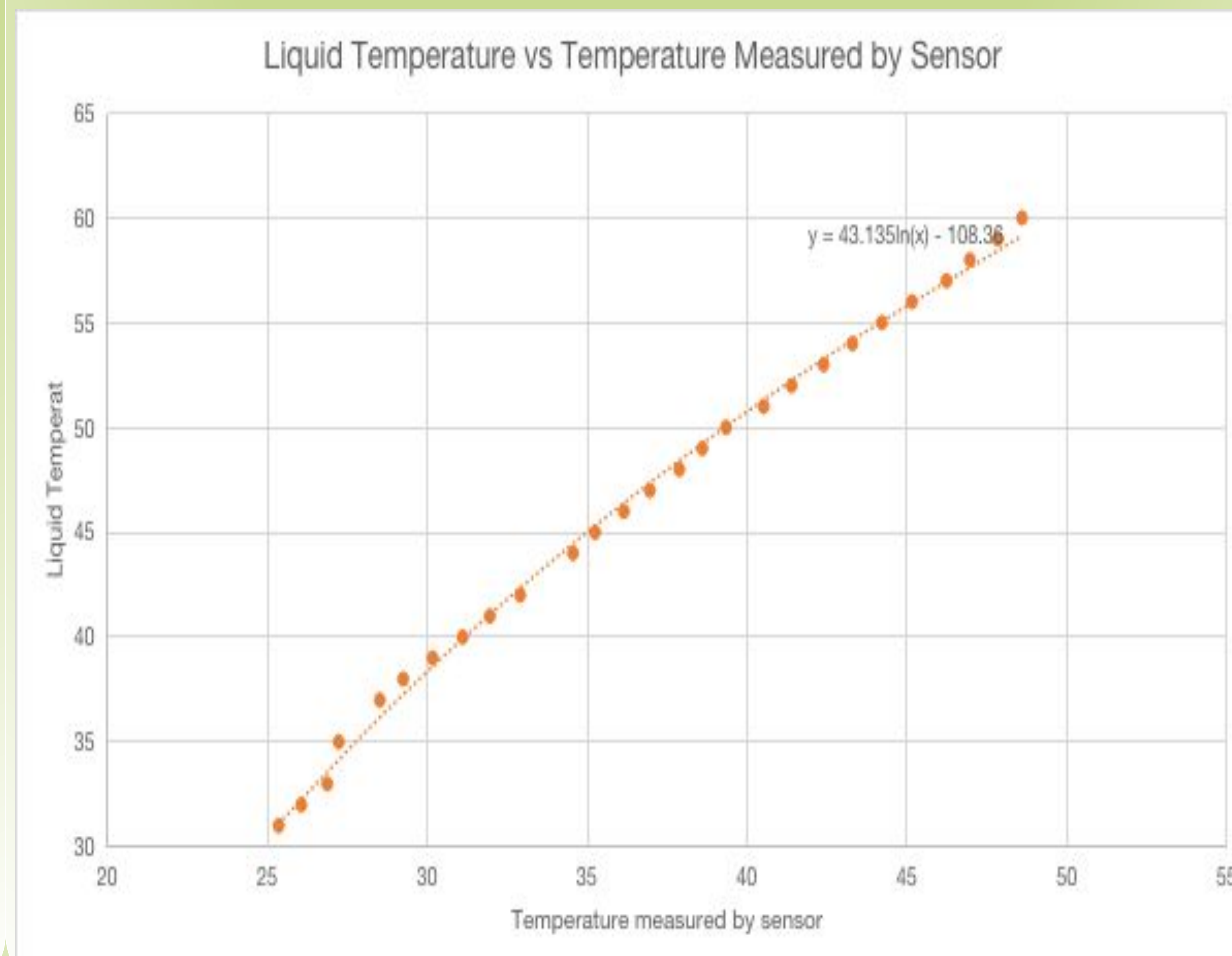
Working Principle

Users: Press the button to modify the target temperature

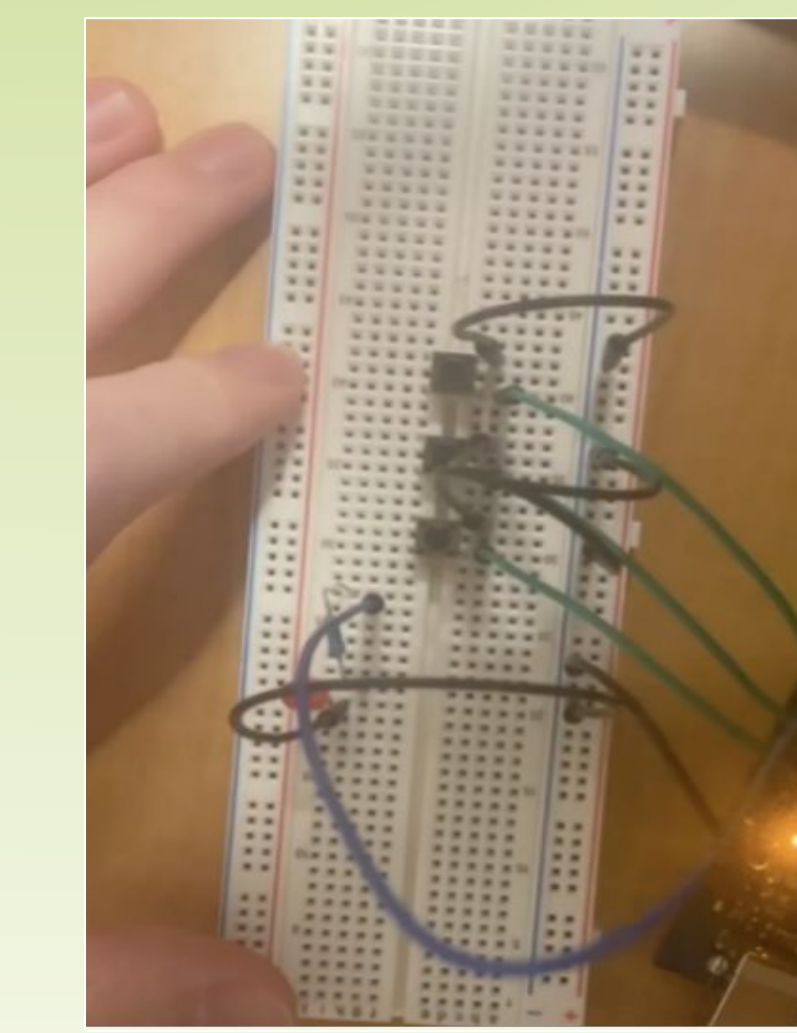
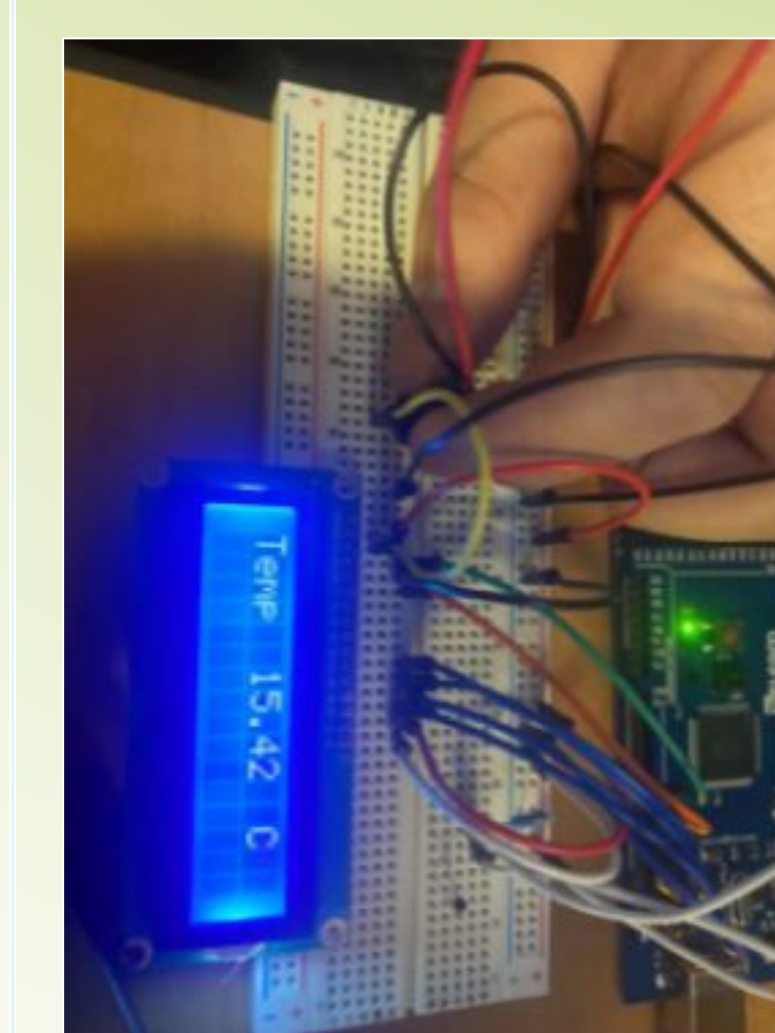
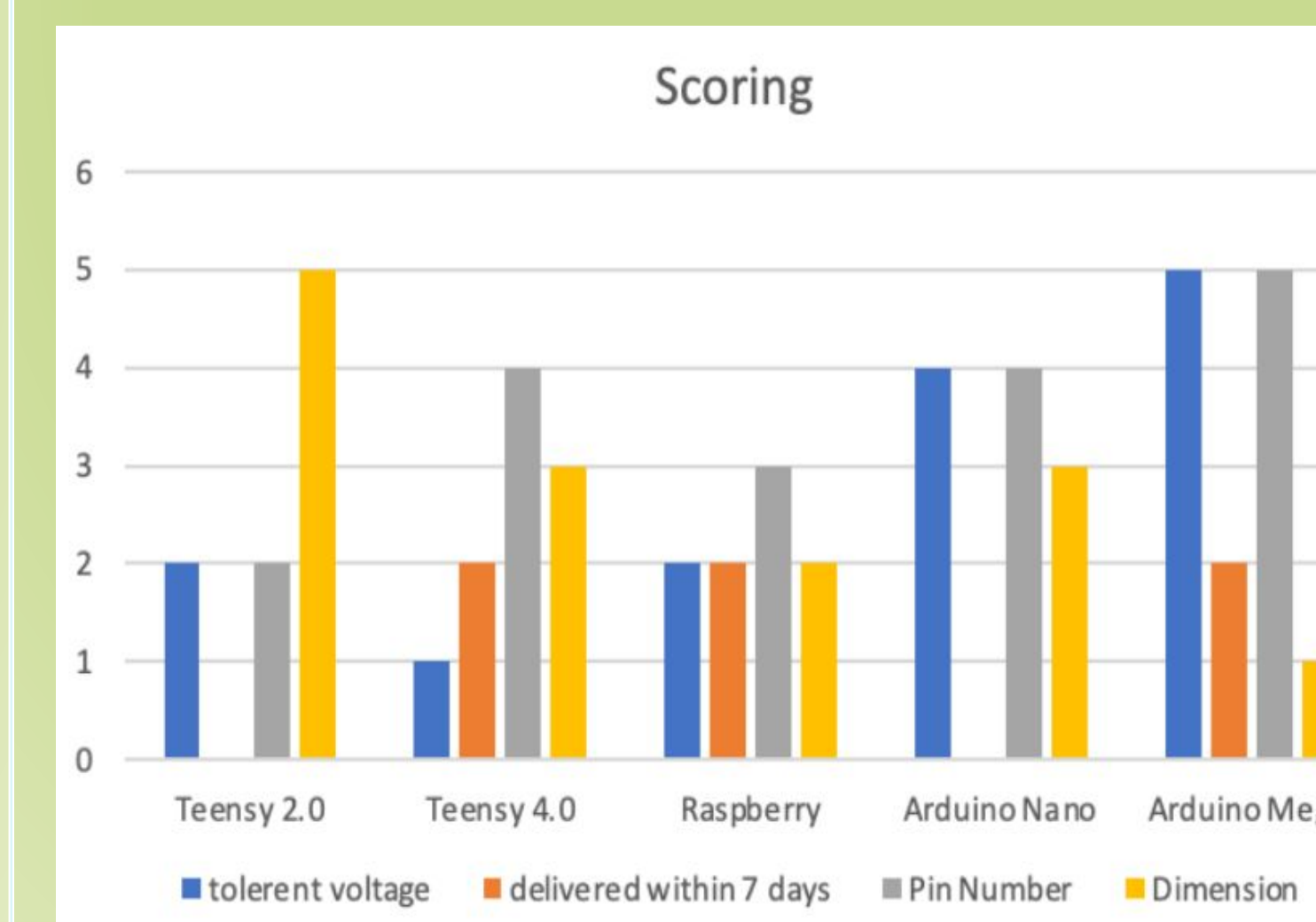
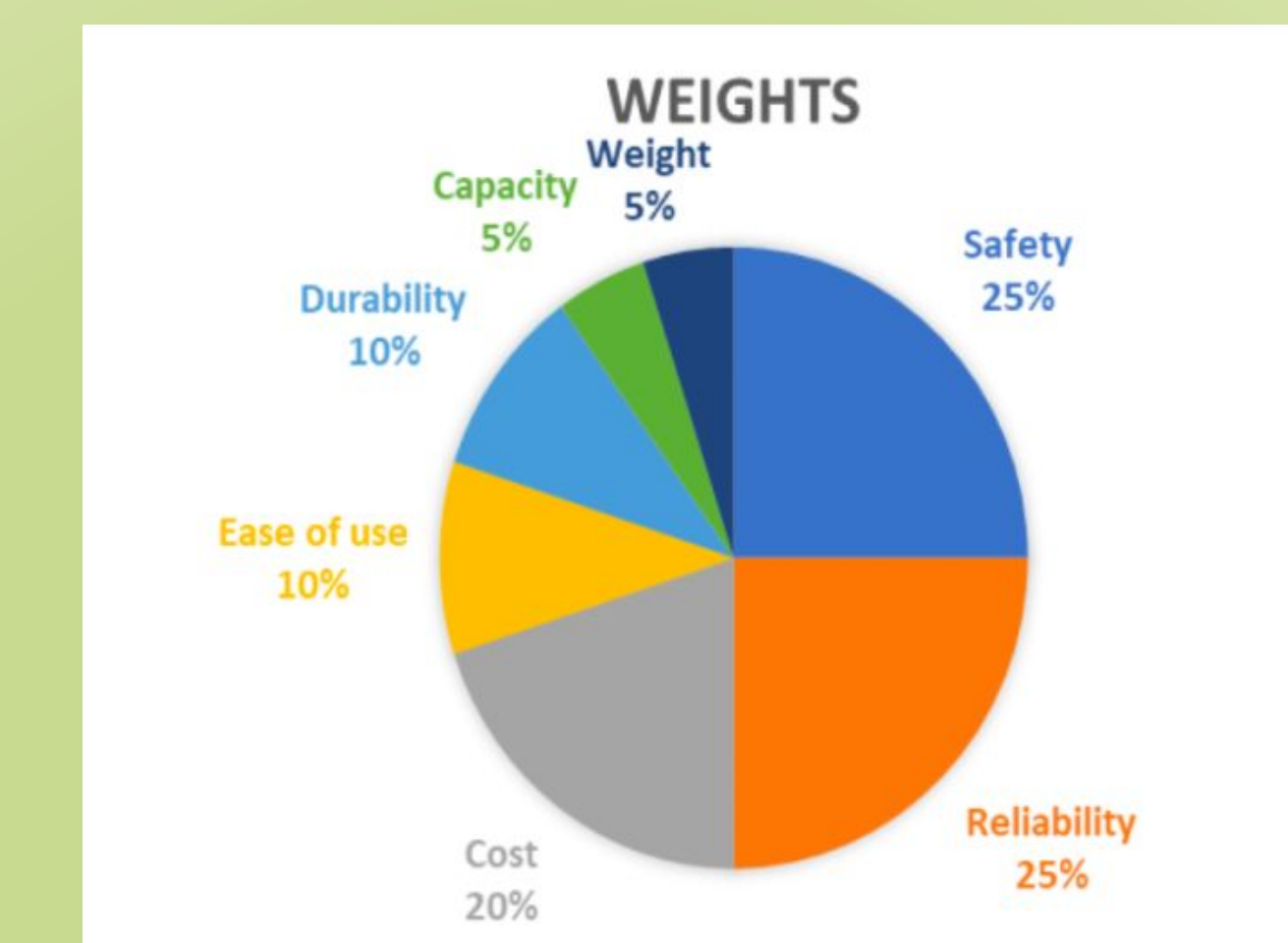
System: Heating element is activated until the liquid, measured by temperature sensor is reached

Technical Difficulty: Temperature sensor doesn't directly contact with water - temperature is not accurate

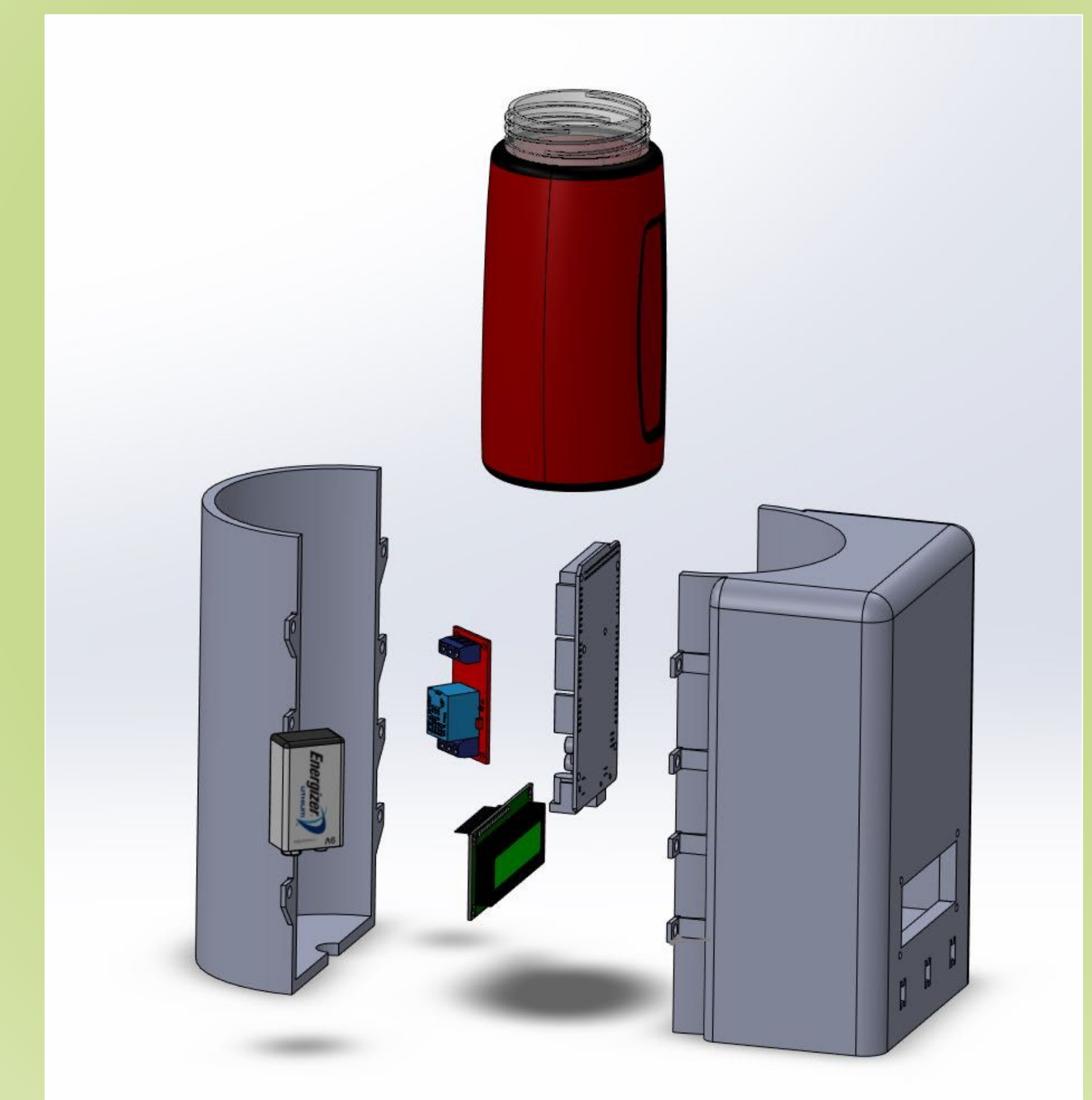
Resolve: Create an equation to model the temperature data collected and adjust the start up and cut off appropriately



Design Process



Final Product



Future Work

- Portable
- Rechargeable Battery
- Smaller Size
- Lighter Build