

Background

Water is a substantial byproduct in the production of oil and gas. The proper disposal of produced water is important as it contains chemicals and has a salinity level that would harm the environment. The Petroleum Recovery Research Center (PRRC) has developed a system that features hollow fibers with nanometer size cross-holes, acting as a semipermeable membrane, that has shown a promising level of success in desalinating water.

Objectives

The current Covid Restrictions resulted in the following objectives:

- ❖ Create System Flow Diagram
- ❖ Create Wiring Diagram
- ❖ Write two operation Manuals for the bench scale and Centrifuge
- ❖ Redesign CAD models of Bench Scale to fit on 3x5 table

Automatic Backflush System

- ❖ Developed System Flow Diagram
- ❖ Created Wiring Diagram
- ❖ Tested Backflush Code

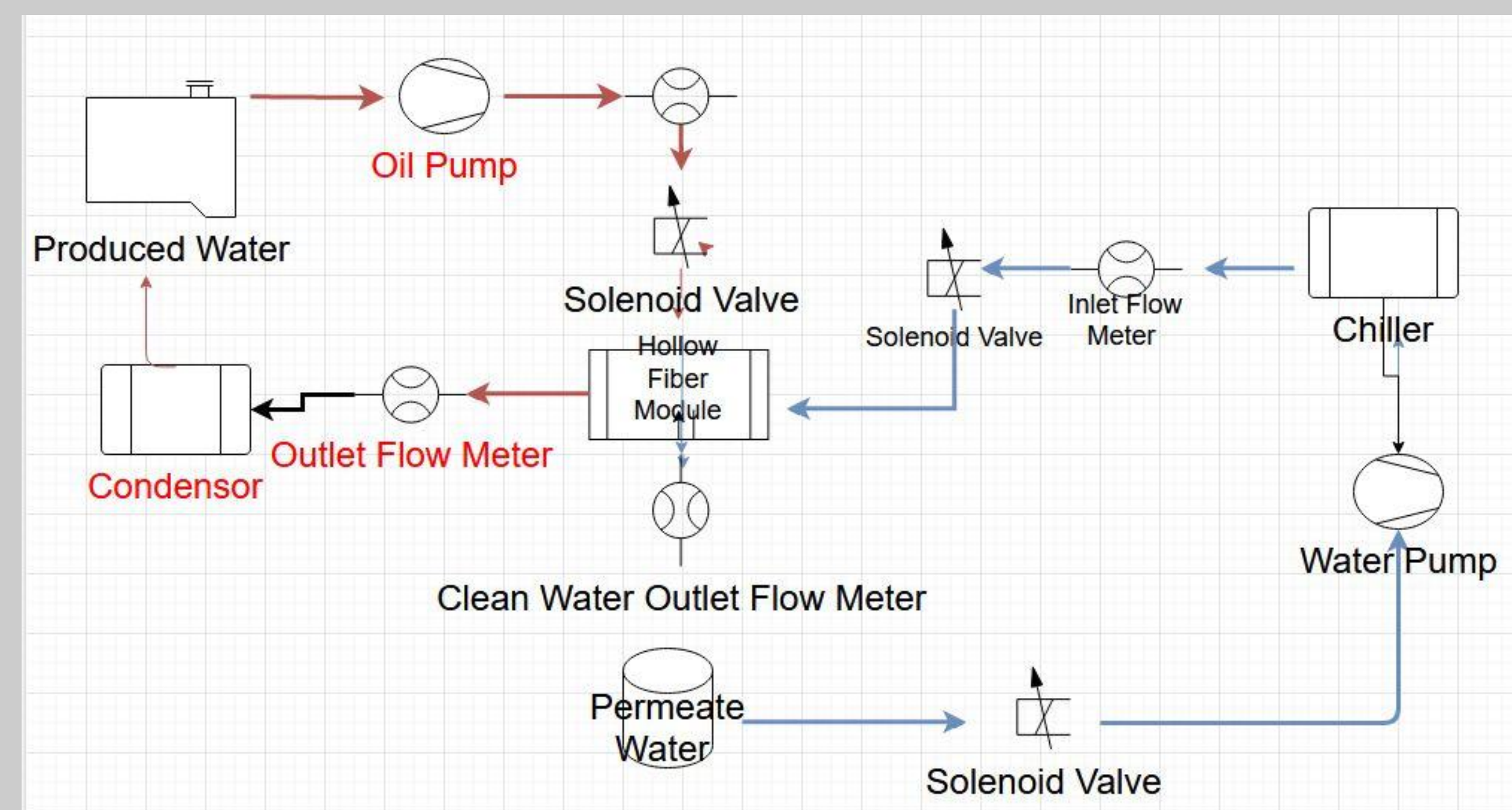


Figure 1: System flow diagram

This diagram shows how the water will be transported in the unit and how it is filtered during the desalination process.

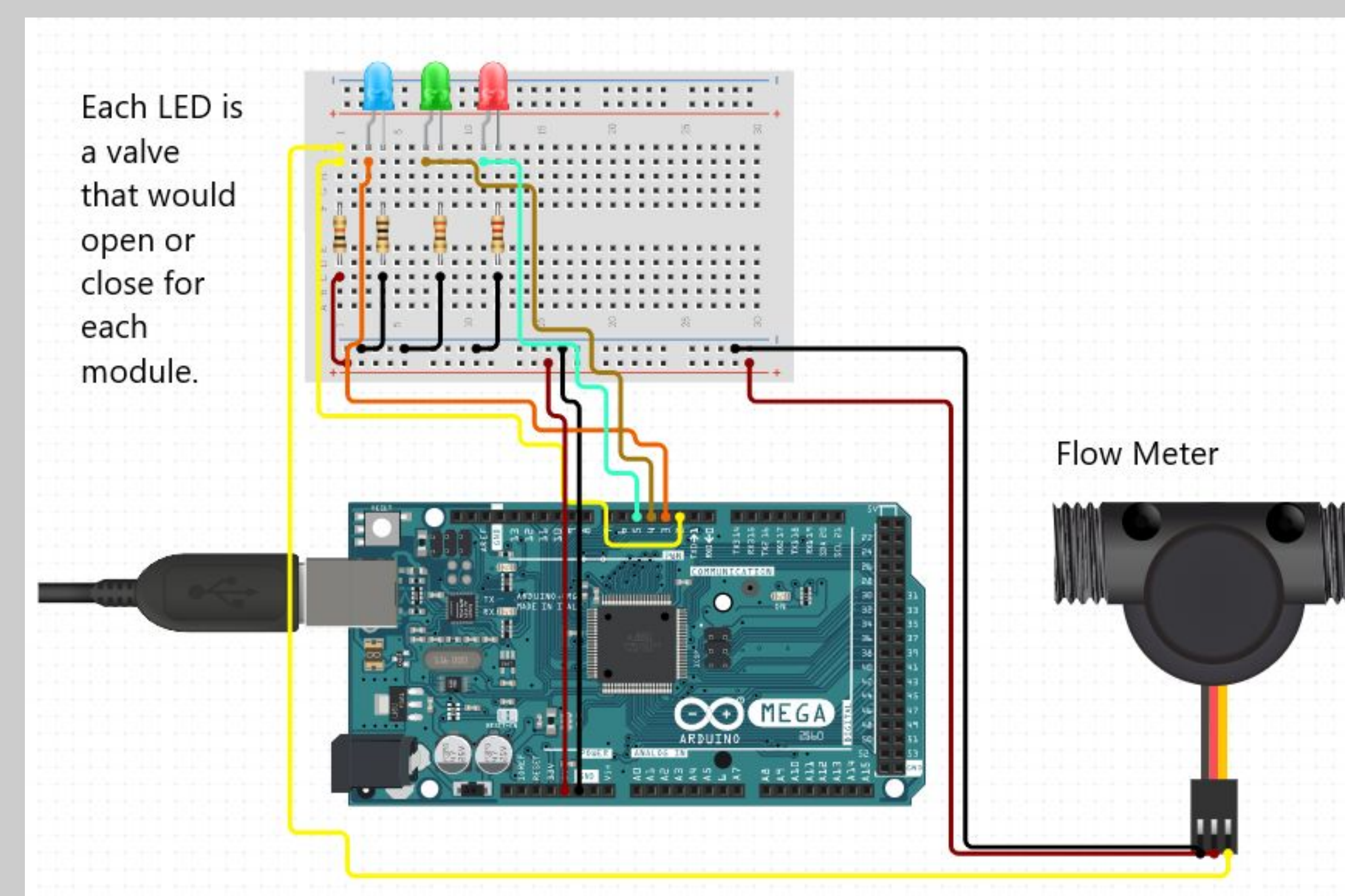


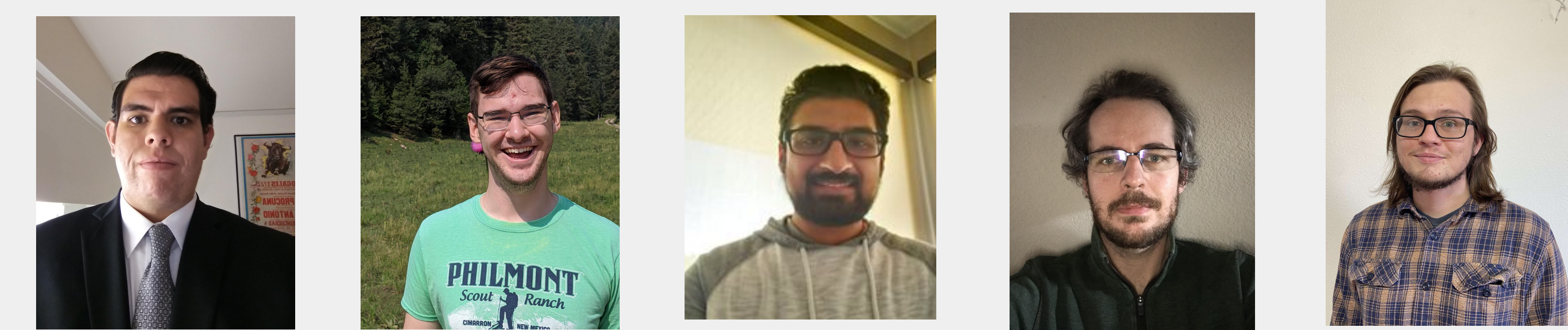
Figure 2: Wiring diagram.

Operation Manuals

- ❖ Initially constructed Operation Manuals
- ❖ Team researched and established necessary contents
- ❖ In addition determined a list of materials to be used



Fall 2020 Team



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