Hardware Review #1

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What was discussed:

- Talk with Dr. Ciocanel about which sensors he will be approving and give him a list of options with varying price points
- Inform Dr. Oman about his decision
- A block diagram needs to be made for LabView integration
- A lot of work needs to be done on the project
- Purchase items from Home Depot or other physical store to make it easier to return items

What was done up until this point:

- Keith:
    - Led Deconstruction of the old design
    - Ran simulations for final pump
    - Did research and fitting selection for the SharkBite fittings
    - Continued work on the Website
    - Developed effective lengths for each fitting to know where each section of pipe needed to be cut

- Cole:
    - Set up meetings with client
    - Made slides for progress report.
    - Researched Sharkbite fittings
    - Cut sections of pipe for hardware review 1, and attached pieces as needed
    - Helped formulate a build plan for the semester
    - Helped with deconstruction of old experiment

- Mark:
    - Researched flow sensors
    - Rewrote my sections on the final proposal rewrite
    - Created presentation slides
    - Helped deconstruct old design
    - Built parts of the “prototype” for Hardware Review 1
    - Purchased all materials

- Michael:
    - Helped with design and construction of pipe system (Non-shop-certified tasks).
    - Assisted with initial construction of system.

    - Updated the 3D Model CAD with the new pump and Shark Bite fittings.
    - Kept track of previous Team, Client, and Staff meeting minutes.
    - Updated Gantt chart as needed.

Action Items each will do until Hardware Review 2:

- Keith:
    - Cavitation analysis for the individual analysis
    - Focus on the midterm report and other reports and write ups
    - Assist with constructing parts of the design that do not require shop certification
    - Continued updating the website with the latest developments of the project
    - Begin and possibly finish the LabView VI block diagram for the design.

- Cole:
    - Individual Analysis of length needed to have accurate cut length and spacing for final product
    - Write sections of midpoint report
    - Continue to construct experiment table
    - Plan out ways to mount the pump and reservoir to the existing table frame
    - Work with team to create a LabView VI block diagram

- Mark:
    - Individual analytical analysis on LabView integration
    - Make slides for midpoint presentation
    - Write sections on Midpoint Report
    - Construct rest of system
    - Purchase rest of materials
    - Set up LabView program

- Michael:
    - Individual analytical analysis on pump noise reduction and insulation.
    - Assist with construction of rest of system.
    - Responsible for the final 3D Model CAD.
    - Keep track of future Team, Client, and Staff meeting minutes.
    - Provide more Gantt chart updates for future due dates.

Appendix

Figure 1: Top View of Current Pipe System.

Figure 2: Front View of Current Pipe System.

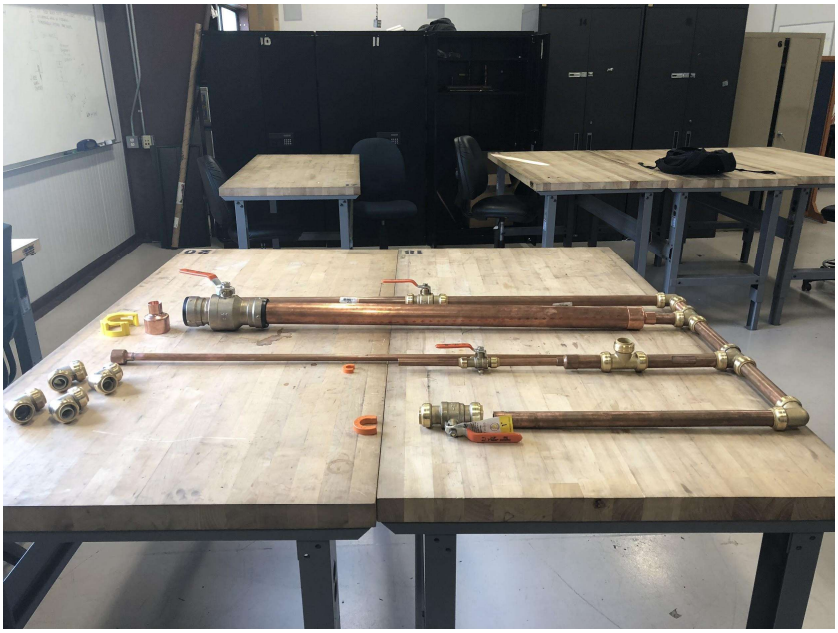

Figure 3: Side View of Current Pipe System.

Figure 4: Back View of Current Pipe System.

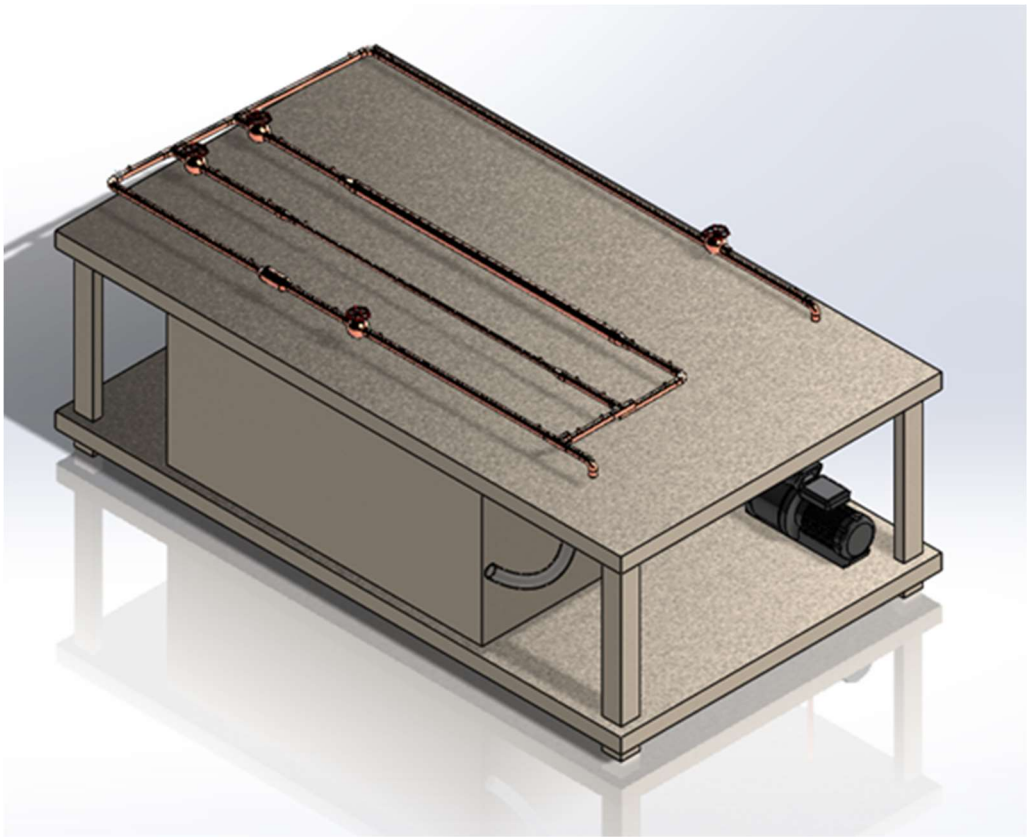

Figure 5: Isometric View of Current Pipe System 3D Model.

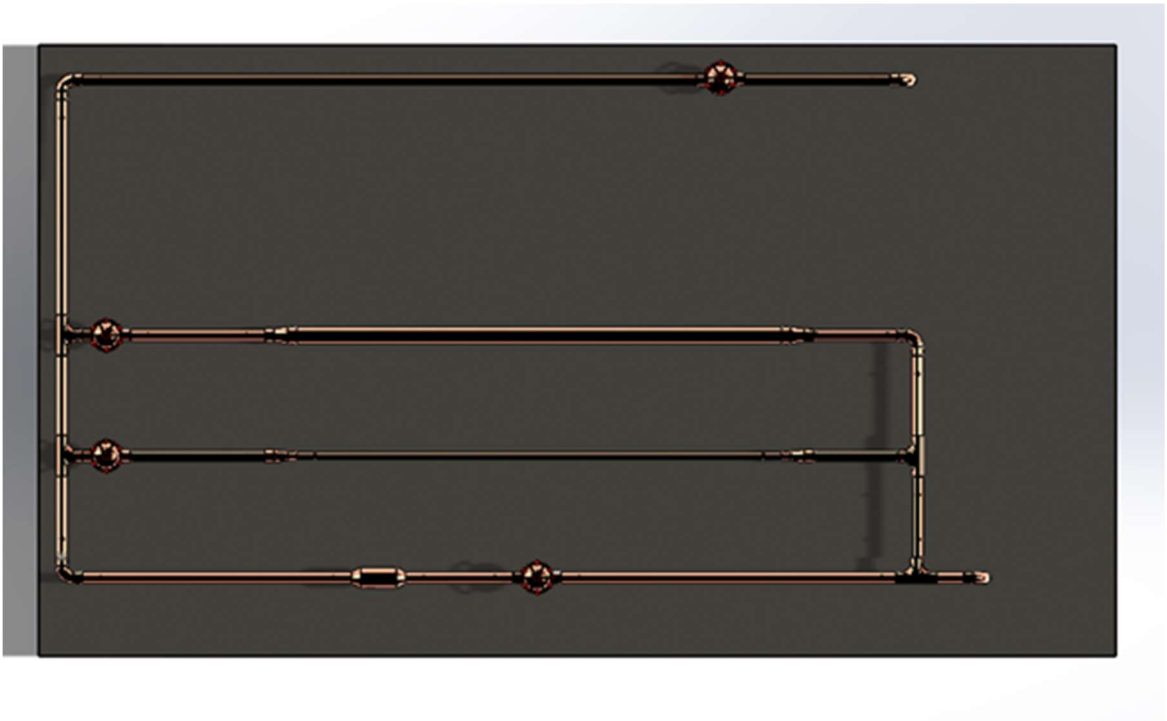

Figure 6: Top View of Current Pipe System 3D Model.

Table 1: Bill Of Materials

Item	Quantity	Amount ($)
1in x 10ft Copper Pipe	3	107.79
½in x 5ft Copper Pipe	1	6.84
2in x 3ft Copper Pipe	1	44.15
1in x ½in Copper Reducer	2	9.02
2in x 1in Copper reducer	2	29.98
1in Sharkbite Copper Elbow Joint 90^0	6	98.82
1in Sharkbite Copper T-joint	4	76.96
1in Sharkbite Ball Valve	4	97.72
½in Sharkbite Ball Valve	1	16.78
2in Sharkbite Ball Valve	1	88.77
2in x 2in x 1in Sharkbite Reducer T-joint	2	93.94
½in x ½in x ½in Sharkbite Reducer T-joint	2	21.94
1in x 1in x ¾in Sharkbite Reducer T-joint	8	146.56
Centrifugal pump	1	1,291.15
Hydraulic Reservoir	1	370.50
Table	1	118.54
Total		**2,619.46**

Items in yellow are purchased