

# ***EWH Aspirator***

*Client: Dr. John Webster*

*Team Members: Lucas Vitzthum (Leader)  
Tyler Lark (BSAC)  
Nick Harrison (Communications)  
Fan Wu (BWIG)*

*April 28<sup>th</sup> – May 3<sup>rd</sup>*

*Progress Report #13*

## **Problem Statement**

The objective of this project is to design a suction machine that can be manufactured from locally available materials with the ability to run off batteries, electrical power (when available) or human power. This device should provide the broadest range of possible applications while still remaining under the 100\$ price limit.

## **Last Week's Goals**

- Test pressure/ flow rate with Jim Maynard on Monday
- Mount aspirator on Friday at 2:00
- Write and print poster by Tuesday next week

## **Summary of Accomplishments**

Used 2x4's and wood screws to mount aspirator on Friday. Found optimal resistance to run motor (2 ohms)

Optimized design and vacuum, used plastic syringe to control linear motion of string. Refitted check valves to maximize flow rates.

Tested flow rates using markings on water bottle. Obtained a monometer from Jim Maynard to test vacuum.

Met at Wendt to finish poster Tuesday night. Sent to College library for printing.

Met Thursday night to practice presentation

## **This week's Goals**

- Give presentation on Friday
- Write individual sections of paper

- Meet on Monday to edit and finish paper

### Project Timeline

1/26	Form team, contact client, assign team roles, set up client meeting
2/2	Literature search, create problem statement, begin PDS,
2/9	PDS, brainstorming, begin developing designs
2/16	Brainstorming
2/23	Decide on 3 design alternatives, prepare for mid-semester presentation
3/2	Finish Mid-Semester Presentation
3/9	Present, work on written report
3/16	Hand in written report/PDS/ design notebooks. Decide on final design
3/23	Work on final design
3/30	Work on final design
4/6	Spring Break Start EWH proposal
4/13	Work on final design/ Begin testing Send EWH proposal to client and advisor
4/20	Test prototype Finish EWH proposal
4/27	Finish Testing prototype, begin preparing poster and paper
5/4	Final Poster Presentation
5/9	Hand in final written report and notebooks
5/11	Final meeting with advisors

### Activities

Lucas:

- Met with group on Friday to mount and finish prototype (7 hrs)
- Finalized optimizing design (4 hrs)
- Met with group for weekly meeting at Wendt, finished poster (6 hrs)
- Practiced poster presentation (3 hrs)
- Total: 20 hours**

Fan:

- Met with group on Friday to mount and finish prototype (7 hrs)
- Finalized optimizing design (3 hrs)
- Met with group for weekly meeting at Wendt, finished poster (5 hrs)

Practiced poster presentation (3 hrs)

**Total: 18 hours**

Tyler:

Met with group on Friday to mount and finish prototype (7 hrs)

Finalized optimizing design (2 hrs)

Created poster template (2 hrs)

Met with group for weekly meeting at Wendt, finished poster (4 hrs)

Practiced poster presentation (3 hrs)

**Total: 18 hours**

Nick

Met with group on Friday to mount and finish prototype (7 hrs)

Finalized optimizing design (3 hrs)

Met with group for weekly meeting at Wendt, finished poster (6 hrs)

Practiced poster presentation (3 hrs)

**Total: 19 hours**