EWH Aspirator
Client: Dr. John Webster
*Team Members:  Lucas Vitzthum (Leader)
    Tyler Lark (BSAC)
    Nick Harrison (Communications)
    Fan Wu (BWIG)
*(Tentative roles as we try to schedule around BSAC)
Feb 9-16

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
• Decide project on Friday group meeting
• Meet on Sunday 7pm in discuss new project
• Come up with new PDS for project

Summary of Accomplishments
Met on Sunday and brainstormed possible design ideas. Decided on three general routes for the project: foot pedal, electric motor run off car battery, and liquid apparatus with venturi pipe.

Formulated general PDS for new project, contacted EWH employee to further specify design requirements.

Individually researched one possible design alternative to report to group on next weekly meeting.

Took apart an old aspirator obtained from the hospital to further research mechanics of current aspirators.

This week’s Goals
• Type up formal PDS
• Meet Sunday at Wendt and report on this weeks research
• Decide on 3 design possibilities
• Research cost of necessary parts (e.g. electrical motors, valves…)
• Assign roles and begin working on mid-semester PowerPoint

**Project Timeline**

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

**Lucas:**
- Contacted various campus/hospital resources for old aspirator(2hrs)
- Weekly meeting (1hr)
- Met with advisor/attended lecture (1hr)
- Disassembled and reassembled old vacuum pump (1hr)

**Total: 5 hours**

**Fan:**
- Met with Client (1hr)
- Met with advisor/attended lecture (1hr)
Researched electric motors (2 hr)
**Total: 4 hours**

Tyler:
- Weekly meeting (1 hr)
- Researched mechanical vacuum pumps (3 hr)
- Met with advisor/attended lecture (1 hr)
**Total: 5 hours**

Nick
- Weekly meeting (1 hr)
- Met with advisor/attended lecture (1 hr)
- Researched venture effect and fluids (2 hr)
**Total: 4 hours**