Inspiratory and expiratory flow meter

Client: Christopher Green, M.D.

Team Members: Andrew Eley (Leader)
Sarah Offutt (Communicator)
Darshan Patel (BSAC)
Eric Bader (BWIG)

October 21 to October 27, 2005

Problem Statement

Our client desires a peak inspiratory and peak expiratory flow meter in a single device to monitor for symptoms of asthma and vocal cord dysfunction. It should measure flows up to about 700 liters per second for adults, be cheap, durable, and easy to use with clear measurement readings.

Last Week’s Goals

• Look into ways of building a prototype, what can we use
• Find parts either online, in hardware store, or other source.

Summary of Accomplishments

• Our team met on Friday, we viewed the feedback on our presentation and exam. We brainstormed on what parts we could use, and how could we make this. Where will we get a spring.
• We concluded that we’d cannibalize other peak flow meters.
• We met with Dr. Green on Wednesday at the UW Hospital where we discussed our current design option and how we plan to build it. Discussed the parts we’ll need and testing.

This Weeks Goals

• Start building the prototype with our parts.
• Test and calibrate peak flow meter.
• Look into other ways of building a distinctive prototype, possibly with clear plastics

Difficulties

none

Activities

<table>
<thead>
<tr>
<th>Team</th>
<th>Hours</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Team</td>
<td>1.5</td>
<td>Team Meeting on Friday</td>
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<tr>
<td>Team</td>
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<td>Met on Wednesday with Dr. Green.</td>
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<tr>
<td>Sarah Offutt</td>
<td>0.75</td>
<td>Independent research, notebook</td>
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<tr>
<td>Andrew Eley</td>
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<td>Independent research, notebook, wrote progress report</td>
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<tr>
<td>Darshan Patel</td>
<td>0.75</td>
<td>Independent research, notebook, attended BSAC</td>
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<tr>
<td>Eric Bader</td>
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<td>Independent research, notebook, update website</td>
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**Project Timeline**

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<th>November</th>
<th>December</th>
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<td>7 14 21 28</td>
<td>4 11 18 25</td>
<td>2 9 16 23 30</td>
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**Preliminary Designs**

- Meeting with client
- Design brainstorming
- Presentation preparation
- Mid semester Paper preparation
- Final Paper preparation
- Friday Team meetings

**Solid Works Design**

**Deliverables**

- Progress Report
- Mid semester Presentation
- Mid semester paper
- End Semester Presentation
- End Semester Paper
- Web site
- Semester Wrap-up with Advisor

**Prototyping**

- Accounting/budgeting
- Final design developments
- Rapid prototyping
- Analysis/testing
- Final prototype manufacturing
- Final Testing

**Expenses** none