**Fine Needle Aspiration, Project 23**

**Client:** Dr. Frederick Kelcz  
**Team Members:**  
- Kristen Seashore (Leader)  
- Tu Hoang Anh Mai (Communicator)  
- Chris Goplen (BWIG)  
- Jason Tham (BSAC)  

**Date:** 10/20/06 to 10/26/06

**Problem Statement:** Fine needle aspiration is a biopsy method of collecting tissue samples. The procedure is currently manual and requires repetitive low yield sampling to collect enough cells for testing. The goal of our project is to maximize tissue sample size in a single, timely procedure. We propose to develop a device that automates the current biopsy procedure using precise needle oscillation and vacuum techniques. The automation of the device will reduce operating time, cost and discomfort for the patient.

Restatement of Team Goals: Finish working on paper, begin researching design materials, send PowerPoint to client for review, and revise final design.

**Individual Goals for Next Week:**
- Kristen Seashore: Review designs with client, finalize prototype design, brainstorm alternate power methods.  
- Tu Mai: Brainstorm and research prototype materials.  
- Chris Goplen: Finalize final design, research prototype parts.  
- Jason Tham: Find good alternative to vacuum mechanism.

**Summary of Accomplishments:**
- The team presented their Mid-semester work in class on Friday.  
- Each team member wrote parts of the Mid-semester paper and sent them to Kristen to be compiled.  
- The team met Tuesday night in CAE to finish writing and editing the Mid-semester paper. We also discussed our final design idea and how to change it to become more appealing to our client.  
- Each team member updating their notebooks for submission on Wednesday.

**Statement of Team Goals:** Present design ideas to client, review design specifications, finalize final design, begin ordering materials.

**Project Schedule:** This week we will send our Mid-semester presentation and paper to our client for review. We will also set up a client meeting to make sure that our final design correlates to all his design specifications. After the meeting, we will finalize our prototype design and begin researching and ordering materials for construction.

**Difficulties:** No difficulties this week.
Activities:

10.19.06 Team met at Qdoba and EH to finalize, edit, and practice Mid-semester presentation 5.5 hrs
10.20.06 Team had Mid-semester presentation in class 15 min
10.20.06 Jason: BSAC meeting 30 min
10.22.06 Chou: Updated notebook 1 hr
10.22.06 Chris: Wrote alternate designs paper sections 1.25 hr
10.22.06 Chris: Developed final design 1 hr
10.24.06 Jason: Wrote constraints and design paper sections 1 hr
10.24.06 Kristen: Compiled paper and wrote current design sections 1.5 hrs
10.24.06 Team met at CAE to finish writing and editing paper 2.5 hrs
10.25.06 Kristen: Updated notebook 1 hr
10.25.06 Chou: Updated notebook 1.75 hr
10.25.06 Chris: Updated website 30 min
10.25.06 Kristen: Finished Mid-semester peer/self evaluation 1 hr
10.26.06 Kristen: Worked on progress report 45 min

TOTAL HOURS THIS WEEK 19.5 hr

Expenses: No expenses this week.
### Task Delegations/Time Lines:

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Member</th>
<th>Date Due</th>
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<tbody>
<tr>
<td><strong>Research</strong></td>
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<tr>
<td>FNA</td>
<td>all - more Chou</td>
<td>13-Oct</td>
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<tr>
<td>Biopsies/Tissues Tested</td>
<td>Kristen, Chou</td>
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<td>Tissue/Needle Forces</td>
<td>Kristen, Chris</td>
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<td>Current Devices (why fail?)</td>
<td>Chris, Jason</td>
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<td>Related Devices</td>
<td>all - Jason</td>
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<td>Needle types</td>
<td>Chou</td>
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<td>Clinical procedures</td>
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<td>Sample collection</td>
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<td>Materials for prototypes</td>
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<td>Construction/Testing methods</td>
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<td>Brainstorming</td>
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<td>Alternate Designs (3)</td>
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<td>Design Matrix</td>
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<td><strong>Prototyping</strong></td>
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<td>Set up checking account</td>
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<td>Build prototype</td>
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<td>Revise prototype</td>
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