

# **Lab Sleep Monitor - Progress Report 1**

9/5/08-9/12/08

## **Project Title:**

A combined Thermistor, Pressure, and CO<sub>2</sub> device for use in the Sleep Laboratory

## **Team Members:**

Jack Page – Team Leader  
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## **Client:**

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## **Advisor:**

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## **Problem Statement:**

Currently there are three nasal prongs connected to a child during polysomnography: a resistor to detect temperature difference between inhaled and exhaled air, pressure sensors that show a flattening pressure profile during upper airway narrowing, and CO<sub>2</sub> sampling tubes to sense exhaled CO<sub>2</sub>. This is inefficient and uncomfortable for the child. The goal is to design and develop a prototype that combines these three devices into one apparatus that samples from both the nose and the mouth, and attaches to the child in both a durable and comfortable fashion.

### **Summary of Team Accomplishments:**

1. Decided on team roles
2. Read and discussed suggested articles
3. Began background research
4. Met with client
  - a. Determined the criteria for the project
  - b. Decided on semester goals
  - c. Received tubes/prongs to examine
5. Began planning research trip to the Sleep Center

### **Statement of team goals:**

1. Write Project Design Specifications
2. Develop Gantt Chart
3. Research background information
4. Research existing solutions
5. Begin to find manufacturers or people to contact for information

### **Project Schedule**

9/5/08 – 9/12/08: Choose team and project, Meet Client, Get specifications for project  
9/13/08 – 9/19/08: Develop PDS, Perform background research  
9/20/08 – 9/26/08: Background research, preliminary design ideas  
9/27/08 – 10/3/08: Continue to brainstorm for ideas  
10/4/08 – 10/10/08: Work on design and choose design alternatives  
10/11/08 – 10/17/08: Complete Mid Semester Presentations  
10/18/08 – 11/27/08: Develop final design and complete prototype  
11/28/08 – 12/12/08: Complete and give Final Presentation, submit notebooks and paper

### **Team Difficulties:**

1. No significant difficulties this week.

### **Activities and Individual Accomplishments:**

Team meeting 9/5: 1.5 hours – chose roles, reviewed project

Client meeting 9/10: 1 hour – obtained specifications for project and overall goals

Team: 4 hours total – reviewed suggested articles

Nicole – 3 hours: Set up client meeting, researched background information

Robyn – 3 hours: Searched for background info, learned how to make the website

Jack – 3 hours: Researched background information, wrote progress report

Lindsey – 3 hours: Found background information, talked with a coworker who works with pressure sensing devices

**Total hours for this week: 18.5 hrs**

**Cumulative hours to date: 18.5 hrs**