Project Title: Sensory Substitution Device for Hearing Impairment

Team Members:
Ryan Thome, Co-Team Leader  thome@wisc.edu
Sarah Offutt, Co-Team Leader  offutt@wisc.edu
Amy Weaver, BSAC  aweaver@wisc.edu
Laura Bagley, Communicator  lbagley@wisc.edu
Jack Page, BWIG  jdpage@wisc.edu

Client:
Veronica H. Heide, Au.D.
Audible Difference
vheide@audible-difference.com
608.273.3036

Advisor:
Mitchell E. Tyler, P.E., M.S.
Dept. of Biomedical Engineering &
Dept. of Ortho-Rehab Medicine
University of Wisconsin - Madison
metyler1@facstaff.wisc.edu
608.265.3756

Date: 10/13/06 – 10/19/06

Problem Statement:
The goal is to design and develop an auditory substitution device that through the use of a digital hearing aid and vibro- or electro-tactile stimulation can substitute for regional frequency hearing loss.

Statement of Team Goals:
1. Meet with client
2. Create Problem statement
3. Begin work on PDS
4. Begin research and design
   a) Research all possible background information.
   b) Research existing solutions
   e) Develop possible design solutions
5. Continue research, design, and testing
6. Write Midterm paper
7. Create PowerPoint presentation
8. Discuss possible final design alternative
9. Finalize design
10. Build and test prototype
11. Present final design

**Project Schedule:**
9/8/06 – Choose team and project, meet with client
9/15/06 – Background research, preliminary design ideas
9/22/06 – Continue background research, develop PDS
9/29/06 – Brainstorm
10/6/06 – Decide on design alternatives
10/13/06 – Work on mid-semester presentation and report
10/20/06 – Give mid-semester presentation, finalize mid-semester report
10/27/06 – Decide on final design
11/3/06 – 11/24/06 – Work on final design
12/1/06 – Finalize design and final presentation, begin work on final paper
12/8/06 – Give final poster presentation, finalize paper
12/15/06 – Final meeting with advisor

**Summary of Team Accomplishments:**
1. Made final decisions on mid-semester design ideas
2. Met twice to work on mid-semester presentation

**Summary of Individual Accomplishments:**
1. Jack updated the website with newest progress report
2. Each member completed individual research
3. Each member prepared information for compilation of mid-semester presentation
4. Sarah wrote the progress report

**Upcoming Week’s Team Goals:**
1. Write mid-semester paper
2. Draw circuit for signal processing unit
3. Meet with our client

**Difficulties:**
We have yet to encounter any major difficulties.

**Activities:**

Ryan – class meeting 1.0 hr
    background research (electro vs vibro stimulation) and preparation 1.0 hr
    team meetings 3.0 hr

Sarah – class meeting 1.0 hr
    background research (information to spu) and preparation 1.0 hr
    team meetings 3.0 hr
    progress report 0.5 hr
Amy - class meeting 1.0 hr  
    background research (hearing aid output) and preparation 1.0 hr  
    team meetings 3.0 hr

Laura - class meeting 1.0 hr  
    background research (locations on body for stimulation) and preparation 1.0 hr  
    team meetings 3.0 hr

Jack - class meeting 1.0 hr  
    background research (frequencies/electro v. vibro) and brainstorming 1.0 hr  
    team meetings 3.0 hr

**Team Total Hours for this week: 25.5**

**Cumulative Team Hours to date: 111.5**