**Project Title:** 25. Sensory Substitution Device for Hearing Impairment

**Team Members:**

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**Client:**  
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**Advisor:**  
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**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. We will continue the work from last semester, mainly focusing on integrating vibro-transducers into the system and converting the system to real time.

**Statement of team goals:**  
1. Create problem statement  
2. Create first draft of PDS
3. Begin to research and develop design ideas
4. Continue the design project
   a) Research all possible background information.
   b) Research existing and design alternatives
   c) Brainstorm for all possible solutions
   d) Meet with experts to gain ideas about possible solutions
   e) Develop possible design solutions
5. Choose final three design solutions
6. Develop final three solutions
7. Create Power point presentation
8. Finish mid semester report, PDS
9. Discuss possible final design alternative
10. Finalize Design
11. Build and test prototype
12. Present final design & poster

**Project Schedule**
1/26 – 2/2: Choose project, assign roles, meet with client
2/3 – 2/9: Draft first version of PDS, preliminary design ideas to improve prototype
2/10 – 2/16: Continue research and write PDS
2/17 – 2/23: Decide on design alternatives, brainstorm ideas
3/23 – 3/2: Work on design
3/9: Mid-semester oral presentations
3/16: Hand in written report, PDS and notebooks
3/17 – 3/31: Work on design
Spring Break
4/9 – 4/25: Work on Design, plan tests for the prototype
4/26 – 5/4: Work on final poster, presentation and report. Test the prototype and present to client.
5/4: Poster presentation

**Last week’s goal**
1. Edit and update PDS and Gantt Chart
2. Research into what still needs to be implemented on this project
3. Set up the project webpage
4. Continue brainstorming

**Summary of Team Accomplishments:**
1. Split up research and each person researched different aspect.
2. Updated the PDS
3. Updated Gantt chart
4. Began brainstorming alternatives to transducers
Statement of Team Goals for Upcoming Week:

1. Continue research in the frequencies of speech
2. Continue research in alternative approaches to stimulating the ear region
3. Begin work on mid semester presentation
4. Try to set up meeting with Tom Crabb

Difficulties:

Getting in touch with Tom Crabb

Activities and Individual Accomplishments:

Team In-class/lab meeting (1 hour)
Wednesday night meeting - PDS and Gantt chart update (1.5 hours)

Jimmy- 1hr Update project timeline, researched other types of vibro-tactile transducers
Matt- 1 hr –Researched ergonomics of placing device near the ear and voice recognition systems
Ryan 1.5 hr – Contacting Tom Crabb, researched electro-tactile possibility
Jack 1.5 hr – Compiled and edited PDS, researched cost
Becky 1hr – Researched frequency of speech, FDA approval

Team total hours for this week: 8.5 hrs
Cumulative team hours to date: 48.5 hrs