**Project Title:** 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 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 in order to prepare the system for laboratory trials.

**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
3/3 – 3/9 Work on presentation and report, mid-semester oral presentations
3/10 – 3/16 Write and hand in written report, PDS, and notebooks
3/17 – 3/31 Work on design
4/1 – 4/8 Spring Break and continue to work on design
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. Give final poster presentation.

**Last week’s goals**

1. Work on mid-semester presentation
2. Test piezoelectric transducers ordered from digikey
3. Look into possible outside help we might require with signal processing/frequency analysis and electronics.
4. Review product information regarding vibro-tactile, electro tactile from companies

**Summary of Team Accomplishments:**

1. Researched and completed divided roles for mid semester presentation
2. Each member constructed their assigned PowerPoint slides
3. Compiled, edited, practiced, and finalized mid semester presentation
4. Tested the piezoelectric transducers which were received from digikey

**Statement of Team Goals for Upcoming Week:**

1. Further test piezoelectric transducers with different voltage and frequency to try to make them vibrate
2. Make final decisions about what stimulation to use, obtain and test them
3. Look into possible outside help we might require with signal processing, frequency analysis and electronics.
4. Divide roles for the mid semester report
5. Write and submit the mid semester report

**Team Difficulties:**
None this week.

**Activities and Individual Accomplishments:**
Team In-class/lab meeting (1 hour)
Monday night meeting – Worked on mid semester presentation first draft (1.5 hours)
Wednesday night meeting – Finalized and practiced mid semester presentation, tested digikey piezoelectric transducers (2 hours)

Jimmy 1.5 hr  Researched and made slides for vibro-tactile stimulation
Matt  1.5 hr  Slides for frequency approach vs. the linguistic approach
Ryan  1.5 hr  Worked on last semester’s progress, design matrix, and electro tactile stimulation for mid semester presentation
Jack  1.5 hr  Wrote progress report, worked on background, placement, sensitivity, and design matrix for the mid semester presentation
Becky  1.5 hr  Future work for the mid semester presentation

**Total hours for this week: 12.0 hrs**
**Cumulative hours to date: 93.0 hrs**