

January 8, 2009

# ENGR110/210

## Perspectives in Assistive Technology



David L. Jaffe, MS



Professor Drew Nelson



Alex Tung, PhD Candidate

# Today's Agenda

## Student Projects:

Team Formation

Project Suggestions for this Quarter

Review and Presentations

## Discussions:

Who is Disabled?

Questions for Contemplation



# Considerations for Team Formation

1. **Project preference** - All team members should have a desire to work on the same project.
2. **Undergraduate / graduate student** - It would be best if all team members were either undergraduate or graduate students as this makes it easier to continue projects into the Spring Quarter.
3. **Desire to continue project work into Spring Quarter** - Ideally, all team members should commit to continue their project work into the Spring Quarter.
4. **Team's engineering skill set** - Match the team's expertise with the project needs.
5. **Personality** - There should be a compatible mix of personalities in the team.

# Considerations for Project Selection

1. Review the list of projects
2. Note those that are interesting to you / your team
3. Contact or visit the project individual listed to get more information about the project including details of the problem or need, and the solution desired
4. Select project based on level of enthusiasm, matching of team skills with project needs, etc.

# Assignment One – Problem Identification

1. Investigate project needs with an individual with a disability to further evaluate needs and define the project.
2. Gather relevant background information for the project, including any prior design approaches.
3. Determine the magnitude of the problem/need and identify all the populations who may benefit from an improved solution.
4. Provide a concise and convincing statement of how your project might address the need/problem. Outline general design concepts and new technology that might be brought to bear on it.

# An Engineer's First Task

The engineer's first task in any design situation is to discover what the problem really is - Author unknown

# Assignment Two – Design Proposal

1. Formulate a preliminary set of design concepts addressing the specific problem your team has identified, further research this need, and focus on a specific design solution.
2. Brainstorm, evaluate, and choose a design concept.
3. Rapid prototype, fabricate, test, and assess the design concept. The embodiment of your chosen design should be in the form of detailed drawings, pre-functional models, and/or critical function prototypes.
4. Take your project as far as you can. Some projects may be able to be completed this quarter, other projects may require additional effort.
5. Present this design concept in class and submit a final comprehensive project report that encompasses your team's work for the entire quarter. This should include background, design criteria, initial concepts from brainstorming, selected design candidate, and any prototyping, fabrication, and testing.

# Additional Project Comments

- Need not be impressive
- Low tech is ok
- Getting it to work is a priority



# Review of Project Suggestions

1. Lightning Wands – Mark Goldstein
2. Bike Riders – Debbie Kenney
3. Opening Doors – Ron Sidell
4. Podna Designs – Elaine Levin
5. VA SCI – Jenny Kiratli & Nelson Sierra
6. iPhone - Isaac Penny
7. Crutch Projects & One-hand Game  
Controller – Susan A. Feighery & Richard  
Smith

**Tuesday, January 13th**

**The Transdisciplinary Team: Bridging  
the Gap between Consumers and  
Products in Rehabilitation Medicine**



**Deborah E. Kenney, MS, OTR/L  
Stanford University and Foothill College**

# Adjourn

