

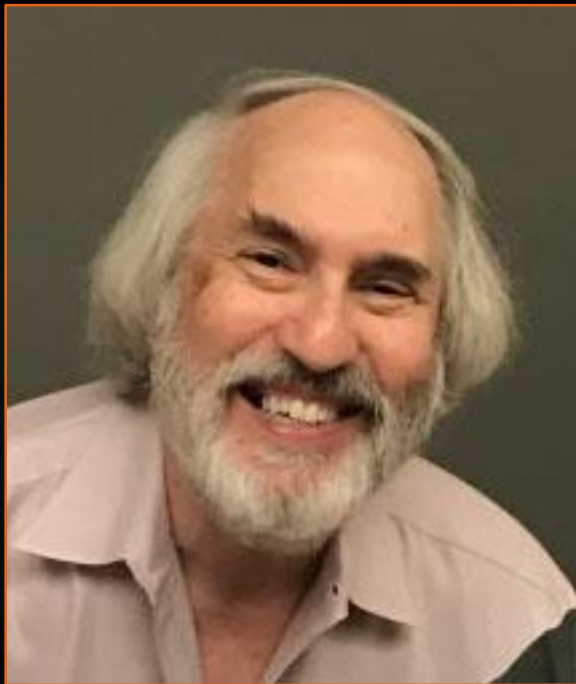
March 11, 2021

Wheelchair Fabrication in Developing Countries



ENGR110/210

Perspectives in Assistive Technology



David L. Jaffe, MS
Instructor

15
Years

Questions, Comments, Suggestions, or Concerns?



Please notify me of your comments, suggestions, and concerns so I can explain / address / correct them before the end-of-term course evaluation.

Reminder - Work with Diligence



- ▶ Time is your team's most precious resource
- ▶ Project presentations are next week



Week 10 Class Sessions

- ▶ Tue, Mar 16th
End-of-Term Student Project Presentations



- ▶ Thu, Mar 18th
End-of-Term Student Project Presentations

- ▶ Updated presentation order posted on course website



Tuesday, March 16th



End-of-term Student Project Presentations



- ▶ Abby's Vegetable Cutter
- ▶ PACE for Uniformity
- ▶ Disability in Sports: Adaptive Skiing and the High Fives Foundation
- ▶ The Assistive Technology Lab of Community Vision, Inc.
- ▶ Safe Communication Methods at Children's National Hospital
- ▶ Advances in Wheelchair Mobility
- ▶ Prosthetics in the World of Sports
- ▶ One-Handed Trumpeteering
- ▶ Tilly's Phone Holder

Thursday, March 18th



End-of-term Student Project Presentations



- ▶ Facilitating Communication for Individuals with Autism on the Tennis Court
- ▶ Eye Play: A Device to Assist with Vision Therapy Exercises
- ▶ Storage Solution for Great Grandmother's Walker
- ▶ Abby's Camping Cot
- ▶ Disability in Social Media
- ▶ Designing Innovative and Inclusive Playground Structures with the Magical Bridge Playground
- ▶ Abby's Super Pooper Scooper
- ▶ Kitchen Knives for Austin

Week 9



- Finalize fabrication, perform user testing
- Focus on next week's presentations



Students working on fabrication projects

Activities for the remainder of the quarter



- ▶ Work individually
- ▶ Fabricating low-cost prototypes
- ▶ Discussing and demonstrating the prototypes to the project suggestor
- ▶ Receiving and analyzing their feedback and suggestions
- ▶ Redesigning and fabricating a refined prototype
- ▶ Iterating the process until the end of the quarter
- ▶ Reporting your project progress
- ▶ **Planning for end-of-term presentation & report**
- ▶ **Reports & Individual Reflections due Mon, March 22nd**

Students working on non-fabrication projects

Activities for the remainder of the quarter



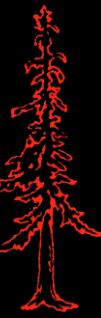
- ▶ Continue research on topic
- ▶ Interview additional people including clients
- ▶ Include your perspectives, draw conclusions
- ▶ Reporting your project progress
- ▶ Planning for end-of-term presentation & report
- ▶ Reports & Individual Reflections due **Mon, March 22nd**

General Presentation Considerations



- ▶ Time length: Three students working on the same project will have 10 minutes and two students will have 8 minutes for their shared presentation while one student will have 6 minutes.
- ▶ Slides and screen sharing: Screen sharing of PowerPoint slides that include photographs, images, and a short video is encouraged.
- ▶ Evaluation: Students and community members will be asked to fill out a Google Form to evaluate each presentation and project outcome.

Considerations for Projects Presented by More Than One Student



- ▶ Time length: Three students working on the same project will have 10 minutes and two students will have 8 minutes for their shared presentation while one student will have 6 minutes.
- ▶ Slides and screen sharing: Screen sharing of PowerPoint slides that include photographs, images, and a short video is encouraged.
- ▶ Screen share: One student should manage the entire presentation's screen sharing.
- ▶ Shared content: All students should collectively present on their efforts from the first half of the quarter.
- ▶ Individual solution: Each student should present the solution they pursued.

End-of-term Presentation



- ▶ Cover your entire quarter's effort
- ▶ Tell a complete story, but focus on what you have achieved since the mid-term
- ▶ Emphasize how you addressed the problem
- ▶ 6, 8, or 10 minutes, no real-time demos, no audience questions
- ▶ Show your prototype in your slides - point to features
- ▶ Be prepared to evaluate other students' presentations
- ▶ Async students can submit a video



Perform Professionally

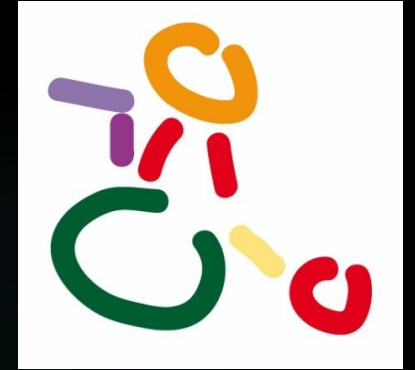


Starting now, you will be evaluated as a professional, no longer as a student



Project Considerations

- ▶ Your prototype may be functional, but not necessarily ready for market
- ▶ Contingency plans if things don't work out
- ▶ Add a team or Stanford logo
- ▶ Never apologize for what you did or what you were not able to achieve
- ▶ Mention future plans
- ▶ Remember “Everything is a prototype”



End-of-term Report



- ▶ Cover your entire quarter's work
- ▶ Include material from mid-term report
- ▶ Consider mid-term report mark-ups
- ▶ Due March 22nd



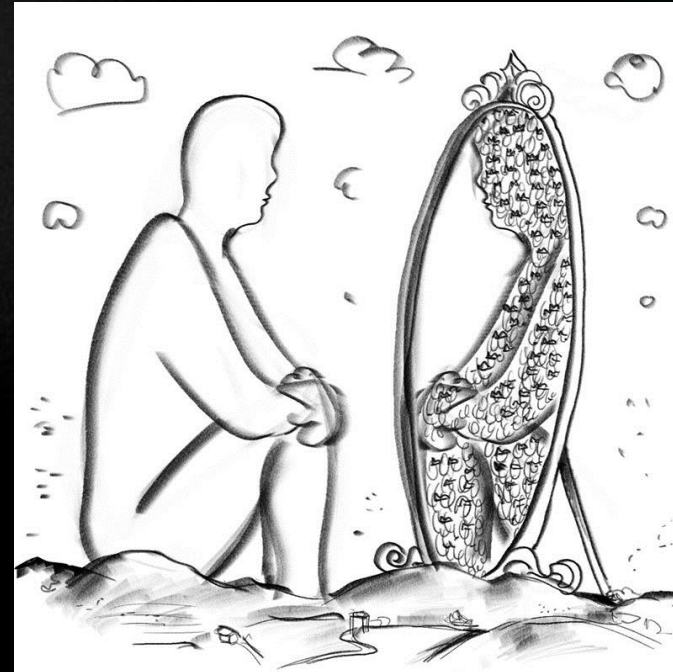
Individual Reflection



- ▶ How you felt about your course, project, user experience
- ▶ Due March 22nd

We do not learn from
experience... we learn
from reflecting on
experience.

- John Dewey



Apology

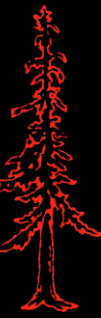
- ▶ Walter had audio problems



SORRY!



Haas Cardinal Course Student Survey



- ▶ The Haas Center conducts a student survey to gather valuable feedback on the *community engaged learning component*. This input helps them and faculty to improve this and future service-learning classes.
- ▶ This 15-minute in-class survey is specifically for recipients of the Cardinal Course Grant and focuses on the community engaged component of the course.
- ▶ Fill out this online form if you have been working on a project and have connected with Community members.

https://stanforduniversity.qualtrics.com/jfe/form/SV_250n5HeuiQpGK45

Course Evaluations



1. Cardinal Course Student Survey ✓
2. VPTL's evaluation - online (on your own)



	Strongly Agree	Agree	Disagree	Strongly Disagree
The instructor had a nice haircut.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructor knew how to cook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructor had a good singing voice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shaving cream was used.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dogs were permitted in class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructor had a masculine nose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



RESNA Student Design Challenge



The **RESNA Student Design Challenge** (SDC) is an annual competition that showcases creative and innovative assistive technology designs that help people with disabilities function more independently. Student teams represent a wide variety of disciplines including mechanical, electrical, and biomedical engineering; computer information science; architecture; and physical and occupational therapy. Entries are judged on originality, quality of design, and usefulness to persons with disabilities. SDC winners have frequently moved on to become leaders in the field of assistive technology. Only undergraduate and masters level graduate students currently enrolled in a college or university are eligible to apply.

Deadline for submissions = Monday, March 22nd

Famous TV Characters with Disabilities



Big Bang Theory

Famous TV Characters with Disabilities



Raj - Social anxiety disorder, selective mutism, and fear of spiders (arachnophobia)



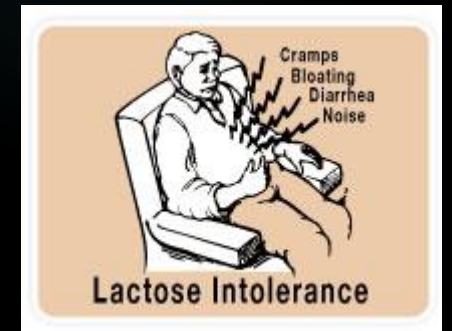
Famous TV Characters with Disabilities



Marilu Henner

Sheldon - Eidetic memory, afraid of dogs (cynophobia) and birds (ornithophobia), mild OCD, "a bit of a germaphobe" (mysophobia), autistic behaviors, but not crazy (his mother had him tested)

Famous TV Characters with Disabilities



Leonard - Asthmatic and lactose intolerance

Famous TV Characters with Disabilities



Howard - Severe peanut allergy and fear of going into space (astrophobia)

Famous TV Characters with Disabilities



Penny - No last name!, shy bladder (paruresis)

Famous TV Characters with Disabilities



Barry Kripke - Speech impediment (rhotacism)

Famous TV Characters with Disabilities



Mrs Wolowitz – obesity, neck size of 43, facial hair, gout

Famous TV Characters with Disabilities



Amy Farrah Fowler - night terrors

Famous TV Characters with Disabilities



Stuart Bloom - night blindness (nyctalopia)

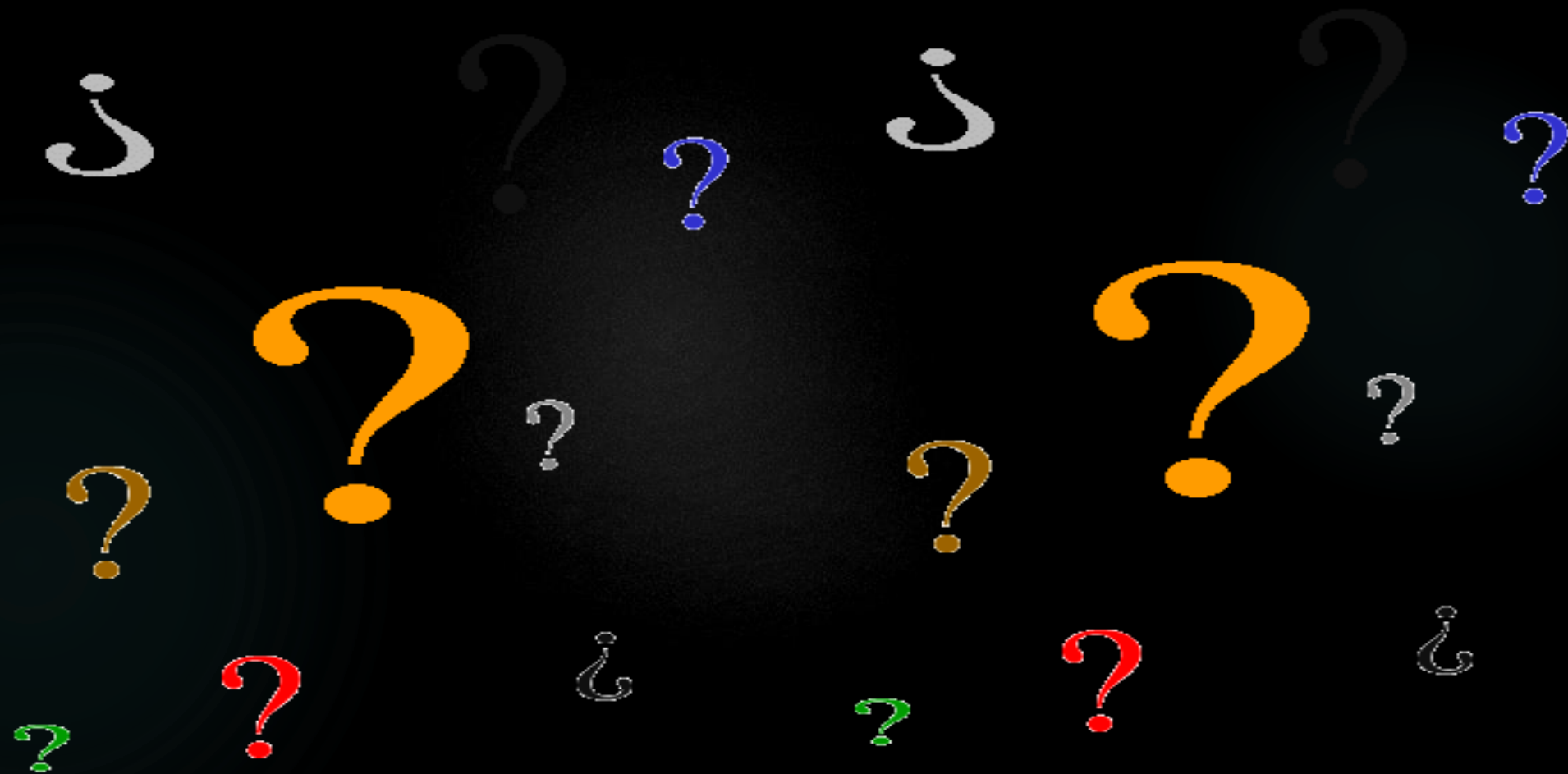
Today



Wheelchair Fabrication in Developing Countries

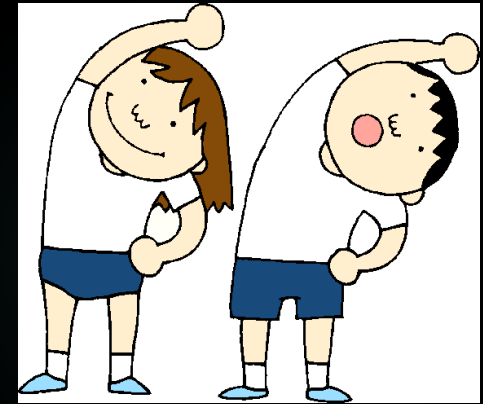
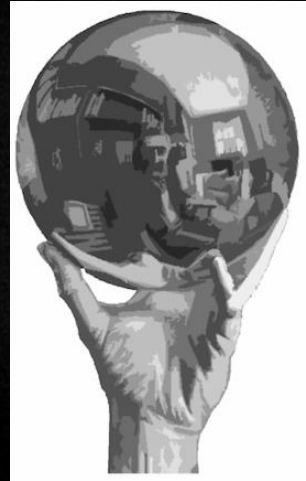
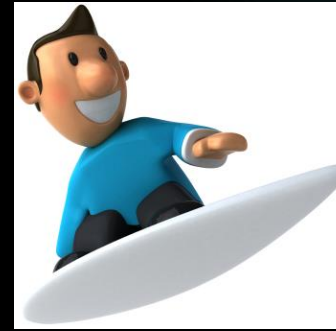
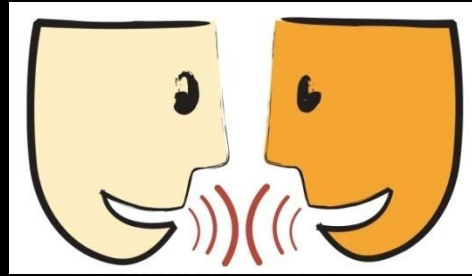
Ralf Hotchkiss

Questions?



Break Activities

- ▶ Breakout rooms
- ▶ Stand up and stretch
- ▶ Take a bio-break
- ▶ Text message
- ▶ Web-surf
- ▶ Respond to email
- ▶ Talk with classmates
- ▶ Reflect on what was presented in class



Short Break

