

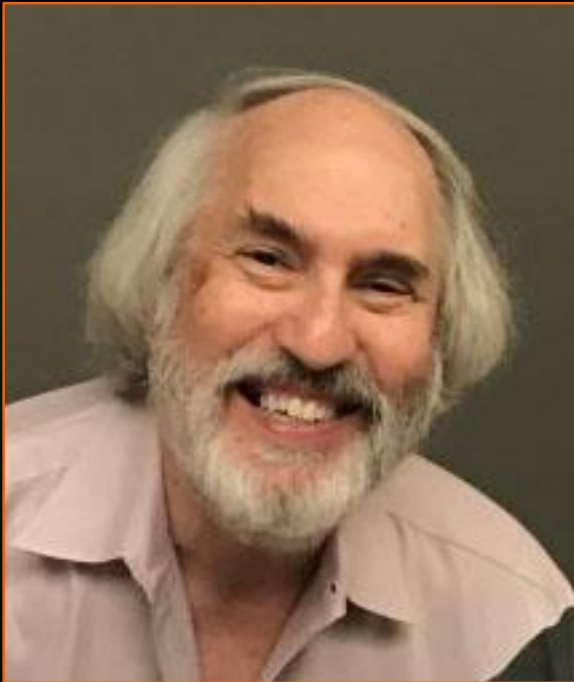
March 9, 2023

Wheelchair Fabrication in Developing Countries



ENGR110/210

Perspectives in Assistive Technology



David L. Jaffe, MS
Instructor

17
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.

Week 10 Class Sessions

- ▶ Tue, Mar 14th
End-of-Term Student Team Project Presentations
Bring your laptop for scoring presentations
- ▶ Thu, Mar 16th
Student Project Demonstrations + Burritos
Bring all your prototypes



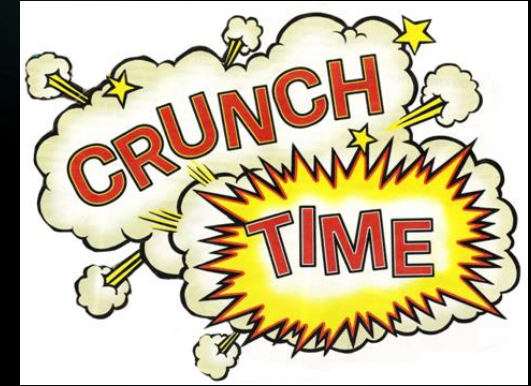
Reminder - Work with Extreme Diligence



- ▶ Time is your most precious resource
- ▶ 5 days until End-of-term Team Project Presentations
- ▶ Prepare for end-of-term presentation - Tuesday, Mar 14th
- ▶ Enjoy end-of-term project demonstration - Thursday, Mar 16th



Week 9

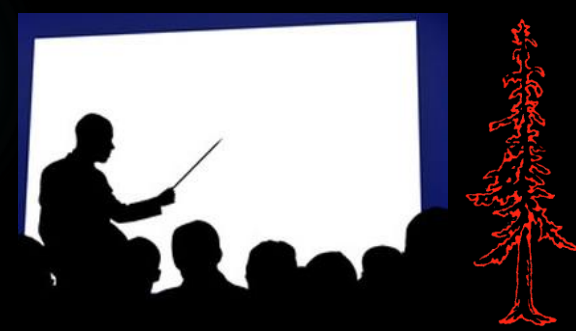


- It's project crunch time
- Brainstorm, Select, Prototype, Test, Analyze, Repeat, Report
- Contingency plan
- Discontinue submitting progress reports, ok to ask for advice



Week 9 Project Activities

- Finalize fabrication, perform user testing
- Focus on Tuesday's team presentation
- Project demonstrations
bring prototypes next Thursday



Final Presentations - Tue, Mar 14th



- ▶ Cover your entire quarter's effort
- ▶ Tell a complete story, but focus on what you have achieved since the mid-term
- ▶ Emphasize how your team addressed the problem
- ▶ **7 minutes, no demos, no audience questions**
- ▶ Show your prototype in your slides - point to features
- ▶ **Email Google Docs url to Dave by noon Tuesday**
- ▶ One video of prototype in use
 - ▶ Embed a short video in your slides
- ▶ Be prepared to evaluate other teams' presentations - bring your laptop
- ▶ Dress professionally



Dress Professionally

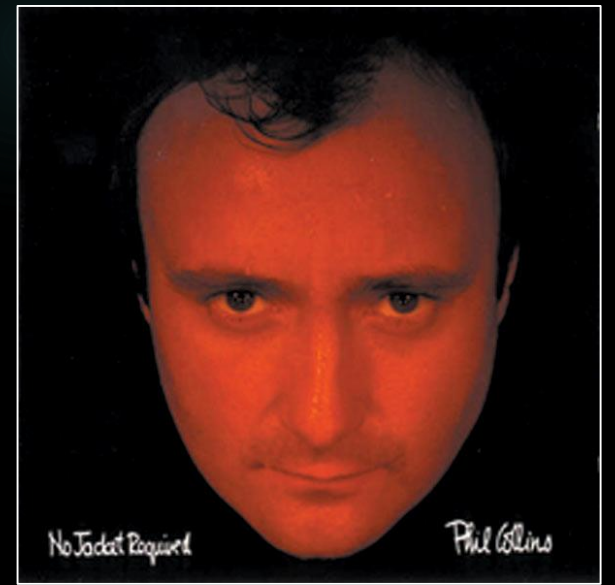
- ▶ No t-shirts, sweatshirts, hoodies
- ▶ No flip-flops, sandals
- ▶ No shorts, jeans, holes in pants
- ▶ No baseball or stocking caps



Mark Zuckerberg

“Each item of clothing makes a statement about who you are”

“Dress for the grade you want”



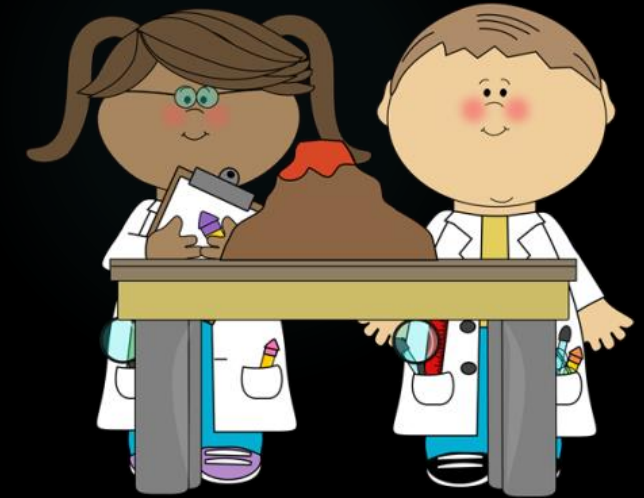
No Jacket
Required



Project Demonstrations - Thursday

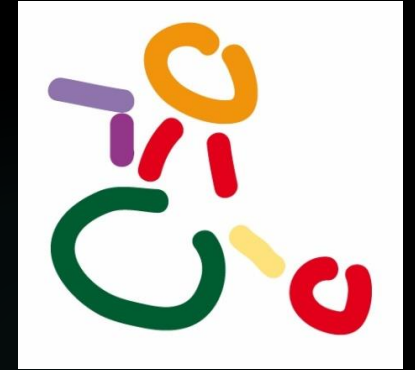


- ▶ Bring all prototypes to class
- ▶ Meet in classroom to fill out a course evaluation form
- ▶ Project demonstrations in classroom or outside on patio
- ▶ No posters or handouts - informal “trade show” presentations
- ▶ Demonstrate prototype’s functionality
- ▶ Make sure Ayano & I check it out
- ▶ Check out other teams’ projects
- ▶ Enjoy burritos & drinks
- ▶ Community members will attend
- ▶ Invite project suggestors, users, friends who contributed to your project’s success
- ▶ Bring laptop to show additional videos and images of your process (no power outside)



Project Considerations

- ▶ Your prototype should 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”



Order of Presentation on Tuesday



1. **Playground Pals** - Accessible and Inclusive Playground Attractions (1)
2. **Tech-Support on the Go** - Mobile Laptop & iPad Computer Support for Abby
3. **iPhone 4** - iPhone Project with Danny
4. **No Bad Vibez** - Bass Reduction Project
5. **Team D.U.G** - Communication Aid for Nathan
6. **Live Laugh Leash** - Leash Project for Danny and Korey
7. **Mother Mary** - Aesthetic Prosthetic Leg Project
8. **Funtastic Four** - Accessible and Inclusive Playground Attractions (2)
9. **Su-paw-star Solutions** - Water Bowl for Danny's Service Dog Korey

Students working on Individual Projects



- ▶ Project presentations:
 - ▶ Schedule for Week 9
 - ▶ Outside of class
 - ▶ In-person

Course Evaluations



1. Dave's in-class evaluation on Thursday
2. Cardinal Course Student Survey (Link sent out 03/07)
3. Registrar'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"/>



End-of-term Report



- ▶ Cover your entire quarter's work
- ▶ Include material from mid-term report
- ▶ Consider mid-term report mark-ups
- ▶ Due **Monday, March 20th**



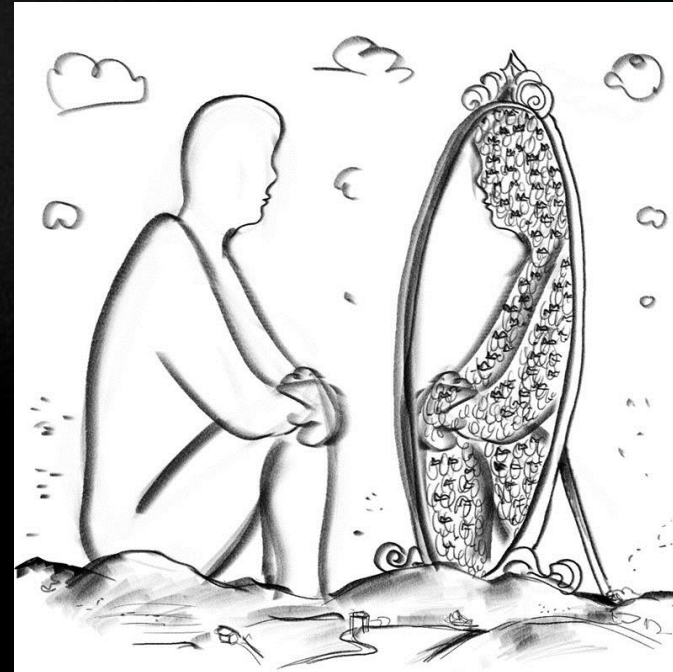
Individual Reflection



- ▶ How you felt about your course, project, user, team experience
- ▶ Due **Monday, March 20th**

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

- John Dewey



Famous TV Characters with Disabilities



Big Bang Theory

Famous TV Characters with Disabilities - Raj



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

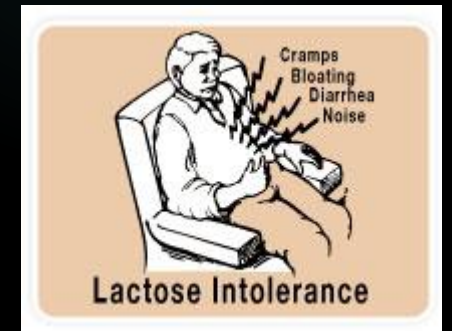
Famous TV Characters with Disabilities - Sheldon



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), tardive dyskinesia symptoms

Famous TV Characters with Disabilities - Leonard



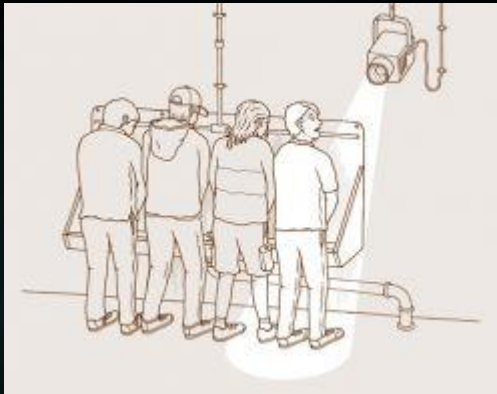
Leonard - Asthmatic and lactose intolerance

Famous TV Characters with Disabilities - Howard



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

Famous TV Characters with Disabilities - Penny



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

Famous TV Characters with Disabilities - Barry



Barry Kripke - Speech impediment (rhotacism)

Famous TV Characters with Disabilities - Mrs Wolowitz



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

Famous TV Characters with Disabilities - Amy



Amy Farrah Fowler - night terrors

Famous TV Characters with Disabilities - Stuart



Stuart Bloom - night blindness (nyctalopia)

Today



Wheelchair Fabrication in Developing Countries

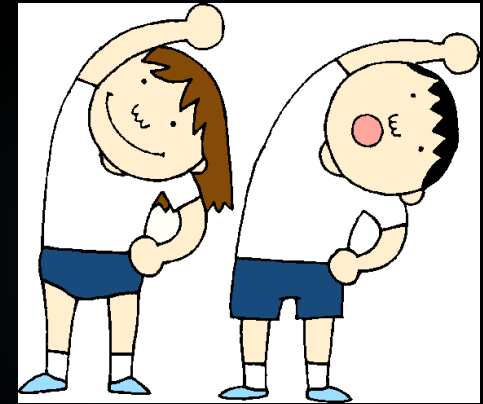
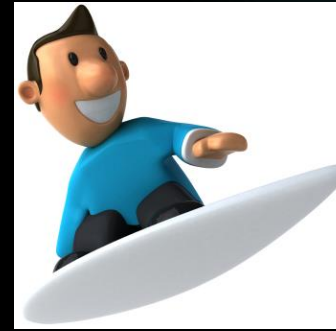
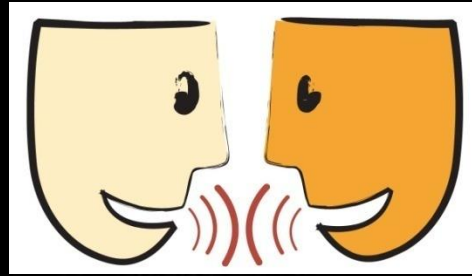
Ralf Hotchkiss

Whirlwind Wheelchair International

Joining Ralf will be Telma Ramos, a wheelchair builder from Nicaragua, who will show simplified, more efficient fabrication of Whirlwind Wheelchair's latest designs.

Break Activities

- ▶ 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

