February 12, 2019
The Design and Control of Exoskeletons for Rehabilitation

ENGR110/210
Perspectives in Assistive Technology

David L. Jaffe, MS
Instructor

13 Years
Questions?
Hours of sleep

- Average = 6.63 hours
- STDEV = 1.05
Field Trip to the VAPA
Seminar on People, Computers, and Design

Addressing Situationally-Induced Impairments and Disabilities in Mobile HCI
Jacob O. Wobbrock, University of Washington

Friday, February 15th
11:30am - 12:30pm
Gates B01
For all students:
• Attendance Sheet
• Meet with Dave signup

For everyone:
• Class Session Evaluation Form
Mid-term Team Project Presentations this Thu, Feb 14th
- Send me PowerPoint slides or online public link by noon
- Do not embed videos in slides, add YouTube link on slide
- 7 minute presentations:
  - Tell the entire story
  - Be concise, but avoid every last detail
  - Employ descriptive photos and a short video
  - Show your prototypes as slide images
  - Practice for timing, where to stand, etc
  - Use slide presenter to advance slides

Mid-term Team Project Reports due Thu, Feb 21st
Mid-term Project Presentation Order

Mid-term Student Team Projects Presentation Order Signup
Thursday, February 14th
Presentations start about 4:40pm

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<th>Time slot</th>
<th>Team Name</th>
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“And the first one now will later be last” - Bob Dylan, "The Times They Are A-Changin’"

Note that the order will be inverted for the final presentation.
Upcoming class sessions

- **Mid-term Project Presentations** - Thu Feb 14th
- **Designing Beyond the Norm to Meet the Needs of All People** - Peter W. Axelson - Tue Feb 19th
- **Field Trip to the Magical Bridge Playground** - Thu Feb 21st
- **Designing Exoskeletons and Prosthetic Limbs that Enhance Human Performance** - Steven H. Collins, PhD - Tues Feb 26th
- **Assistive Technology Faire** - Thu, Feb 28th
Work with Diligence

- Time is your team’s most precious resource
- 4 weeks of class left to work on your projects
- Mid-term team presentations on Thursday
- Outline and practice presentation

Mid-term presentations - Thursday, February 14th
Pre-Lecture Discussion Topics

22 - Ethical / Moral Dilemmas Related to Disability
22 - In the News - New Assistive Technology products and research
20 - Assistive Robotics - Robotic technology benefitting people with disabilities and older adults
15 - Overview of Accessibility - How this design feature relates to products, with many examples
15 - Ten Commandments of Making - Adam Savage’s Maker Faire video
15 - Video Theatre - Watch and discuss videos of new products and prototypes
12 - Vintage Assistive Technology - Products and devices from the past
12 - The Upside of Failure - Learning from prototypes that didn't work
12 - Who is Disabled? - Making a determination with limited information
12 - Innovative Marketing Metrics - How we use words to measure and advertise
  9 - Famous people with disabilities - Focus on TV characters
Adam Savage took a few minutes on Sunday, May 18th at the 2014 Maker Faire Bay Area to share what he feels are the “10 Commandments of Making”. Braving the somewhat precarious elevated stage of the crowd favorite Life-Sized Mousetrap, Adam addressed the audience with bits of wisdom and jewels of experience. It was obvious from the laughter that many of these insights and observations struck close to home.
10 Commandments of Making

Here is the short version of the commandments according to Adam:

1. Make something
2. Make something useful
3. Start right now
4. Find a project
5. Ask for help, advice, and feedback
6. Share
7. Recognize that discouragement and failure is part of the project
8. Measure carefully
9. Make things for other people
10. Use more cooling fluid!
Thursday, February 14th

Mid-term Student Team Project Presentations

- **Mean Machine** - WHILL Recharging Project
- **Magical Bridge Team** - Magical Bridge Playground Project
- **Abby's Assistants** - WHILL Grocery Shopping Shopping Project
- **Tray-Iblazers** - Lap Extender Project
- **Kitty Kat Meow** - Hide-Away Lap Tray Project
- **Big Three** - Pick-up Project
- **Travola** - Lap Tray Project
- **Buckle Up** - Harness Project
- **Elevator Pitch** - Elevator Button Pusher Project
The Design and Control of Exoskeletons for Rehabilitation
Katherine Strausser, PhD
Ekso Bionics - Principal Controls Engineer
Short Break

Back in
a minute

SOCIAL MEDIA BREAK
Break Activities

- Sign attendance sheet
- Grab a cookie
- Stand up and stretch
- Take a bio-break
- Text message, web-surf, email
- Talk with classmates
- Reflect on what was presented in class
Questions?
Adjourn
Laptops Galore
Time for Questions?
End the class