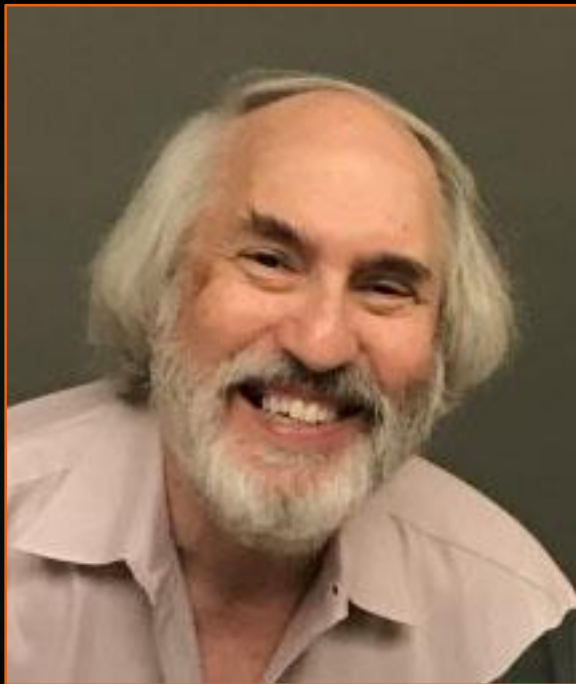February 9, 2023
Assistive Robotics

ENGR110/210
Perspectives in Assistive Technology

David L. Jaffe, MS

Instructor

17
Years

Questions?

ATTENDANCE

▶ Let me know if you are unable to arrive on time or must leave early

▶ Make up missed lectures by reviewing pdf slides, watching YouTube video, and discussing with me

▶ Make up missed class sessions - required for students working on team projects

Upcoming class sessions

▶ Mid-term Student Team Project Presentations
- Tue, Feb 14th

▶ Field Trip to the Magical Bridge Playground
- Olenka Villarreal
- Thu, Feb 16th

▶ VA Palo Alto Heath Care System
- B. Jenny Kiratli, PhD & Jeffrey P. Jaramillo, DPT
- Tue, Feb 21st

▶ Designing Beyond the Norm to Meet the Needs of All People
- Peter W. Axelson, MSME, ATP, RET
- Thu, Feb 23rd
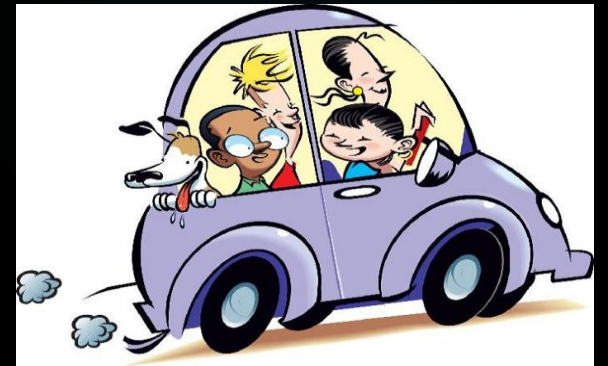
Reminder - Work with Diligence

- Time is your most precious resource
- Five days until Mid-term Team Project Presentations - Tue, Feb 14th
- Practice your presentation!

Students working on Team Projects
Mid-term Presentations in 5 days!

▶ Mid-term presentations will be **7 minutes**

▶ Show prototypes in slides

▶ **Send Google Docs url to me, to be run from my laptop**

▶ Strive to be professional

▶ Present with feeling & emotion

▶ Presentation tips on course website

▶ Video team members who can't be present

▶ **Bring your laptop to fill out online evaluation form**

▶ **Example slides, video, and report links on Week 5 in Review**

Presentation Topics

- Introduction of team and its members

- Brief abstract

- Statement of problem

- Magnitude of problem addressed by this project

- Discussion of interviews with those who suggested the project and potential users

- Summary of design criteria

- Identification of existing solutions and discussion of their limitations

- Description of brainstormed design concepts

- Analysis of considered design alternatives

- Description of top selected design concepts, including their technical feasibility, engineering difficulty, estimated cost, user acceptance, safety considerations, etc

- Design visualizations: photographs, videos, sketches, drawings, models, and prototypes

- Future work and challenges for continuing the project toward fabrication and testing with users

Presentation Topics - Additional

- Project status - what has been done, what remains
- Problems encountered, resolved, and pending
- Plans for the remainder of the quarter

Evaluation Areas

▶ **Presentation & Delivery**: **Presentation**: (<u>What</u> the team presented) - clarity, organization, and completeness of the information presented. **Delivery**: (<u>How</u> the team presented) - professionalism, enthusiasm, conviction, confidence, energy, volume.

▶ **Process**: (<u>How</u> the team addressed the problem) - problem information, background research, design concepts brainstormed, prototyped, tested, and evaluated.

▶ **Design**: (<u>What</u> the team produced) - creativity, originality, functionality of the design concept & prototypes and the likelihood it will meet the user's challenges.

▶ **Overall**: (Overall score) - combined impression of presentation and project effort

Evaluation Comments

▶ What did the team learn, what are your LIKES and WISHES about what they did, and what are your recommendations, suggestions, and advice for the team?

Students working on Team Projects
Mid-term Report

- **Due Tue, Feb 21st**

- 10 to 15 pages of narrative - text and images

- Include sketches and photos

- Goal: short, concise, well-written, and highly readable report with few grammatical and spelling errors.

- Report Writing Tips documents **suggested** report features

Students working on Team Projects

- ► Connect with project partner
- ► "Understand the Problem"
- ► Brainstorming
- ► Select Design Concept(s)
- ► Sketches, low resolution prototypes
- ► **Prepare for Mid-Term Presentation** and **Report**
- ► Contact me if you have questions about your project direction
- ► Weekly - Meet with me or Ayano to discuss project progress, submit reports to both Ayano and me

Tuesday, February 21st

Mid-term Reports Due

Read Instructions and Tips:

- Mid-term Assignment Webpage

- Suggested section titles

- Report writing tips for each section

  - Scanning sketches

  - Adding captions

  - Adding bibliographic references

Students working on Individual Projects

- **Meet with me to approve your project, get information**
- Submit project name
- Contact me if you have questions about your project direction
- Weekly - Meet with me or Ayano to discuss project progress
- Submit progress reports to both Ayano & me
- Project presentations:
  - Week 9
  - Outside of class

10 Commandments of Making

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.

Adam Savage's 10 Commandments of Making - 10:03

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!
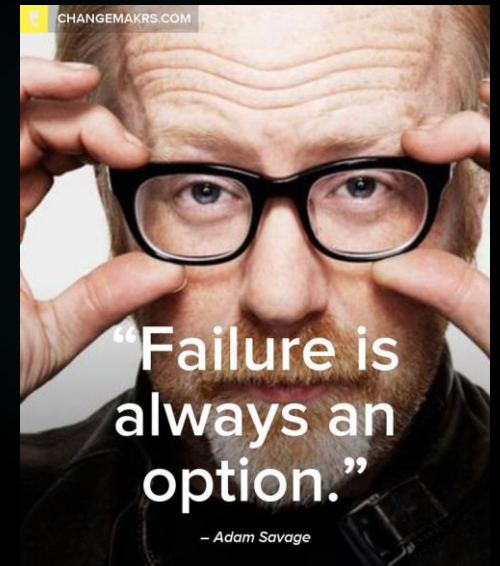
Tuesday, February 14th
Mid-term Student Team Project Presentations

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

Today

Assistive Robotics

Monroe Kennedy III, PhD

Assistant Professor of Mechanical Engineering and, by courtesy, Computer Science - Stanford University

Activities

- Attendance sheet
- Evaluation Form
- 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
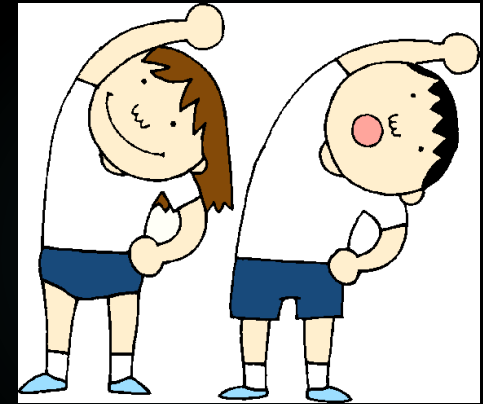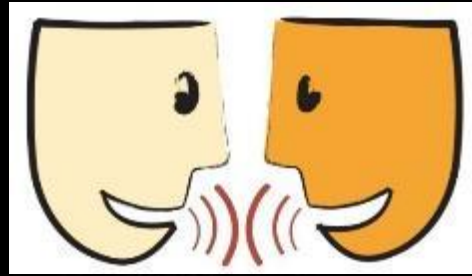
Short Break
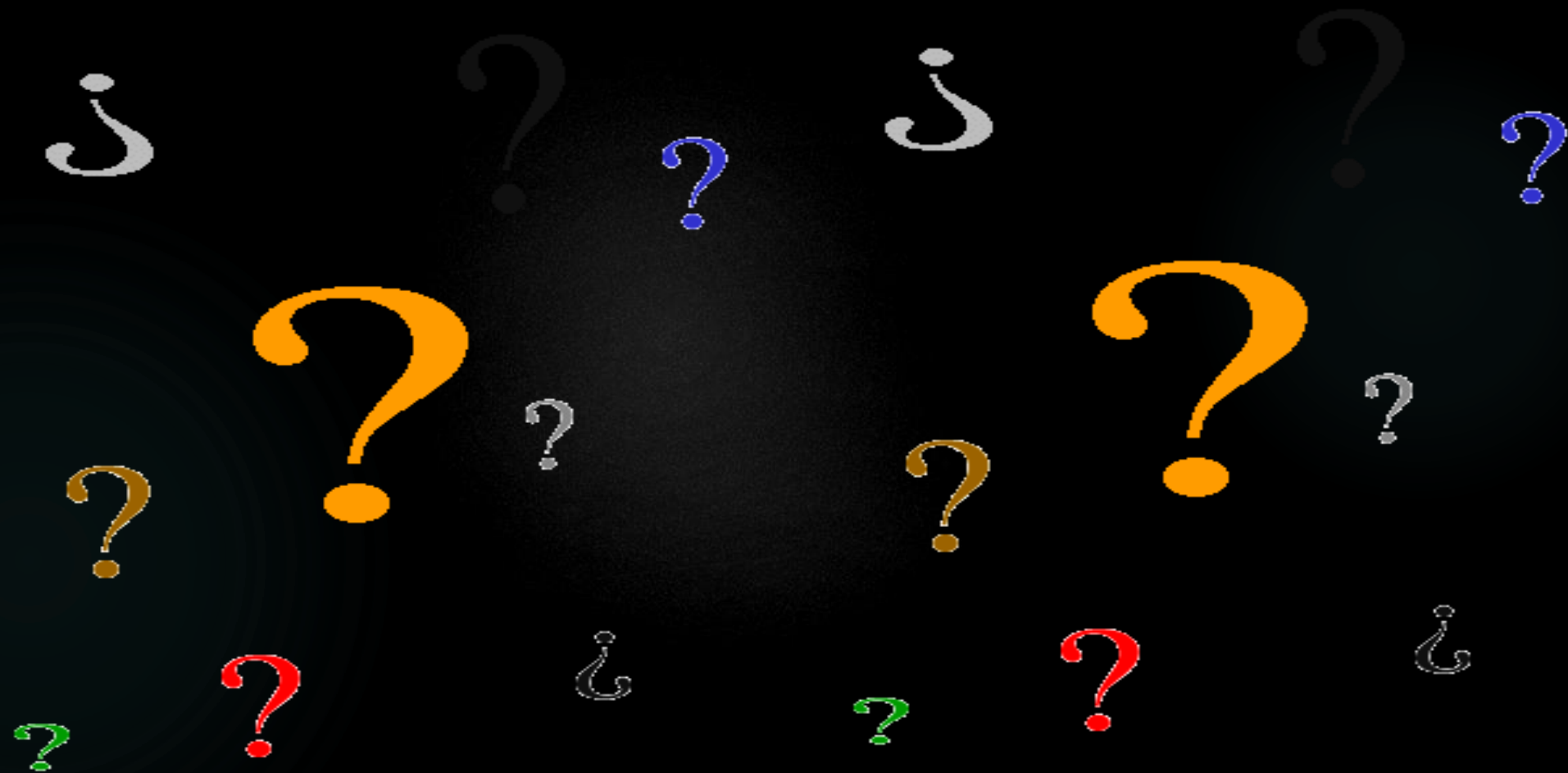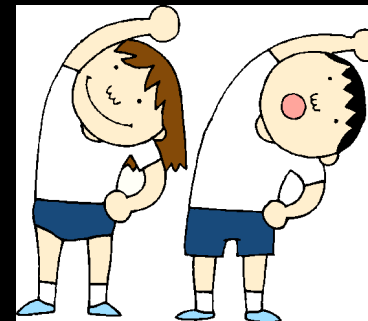
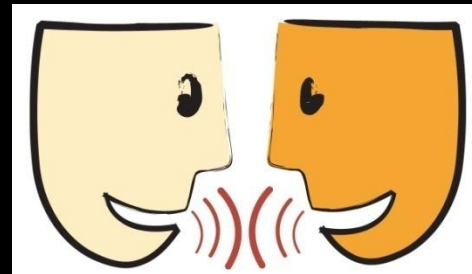# Break Activities

- 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

Adjourn

class dismissed

Laptops Galore

Time for Questions?

End the class