February 5, 2026

Assistive Robotics

ENGR110/210
Perspectives in Assistive Technology



Monroe Kennedy III, PhD

Assistant Professor of ME

and by courtesy CS

Questions?







- Inform me if you will be attending an athletic event or will otherwise miss the class session
- Let me know if you are unable to arrive on time or must leave early
- Make up missed lectures promptly by reviewing pdf slides and recording, and meeting with me
- Making up missed class sessions is required for students working on team projects

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 - Inform me of project progress
- **Team budget = $200**
- **Mid-Term Reports due Mon, Feb 16th**

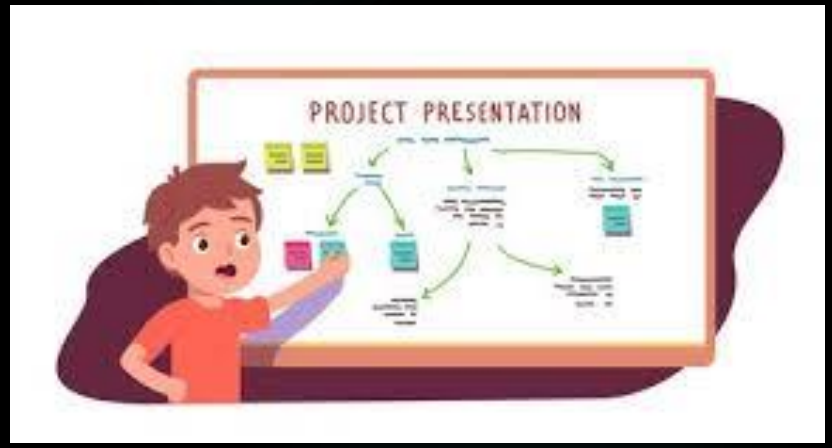


Students Working on Team Projects
Mid-term Presentations in **5** days!



- Mid-term presentations will be **8 minutes**
- Project title, background, problem, aim, design criteria, "understanding the problem" & brainstorming activities, and selected solution, **very brief video**, **low resolution prototypes**
- **Send Google Docs url to me**, **slides to be run from my laptop**
- Strive to be professional & confident & enthusiastic
- Presentation tips on course website & Week 4 in Review
- Example Presentation & Slides sent in Week 4 in Review
- **Minimum font size = 24 (PowerPoint)**
- **Use Arial, Calibri, or other Sans Serif font**
- **Video presentation by team members not present**

Presentation Items - 1 of 2



- 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

Presentation Items - 2 of 2

- 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
- Project status - what has been done, what remains
- Problems encountered, resolved, and pending
- Plans for the remainder of the quarter
- Sorry, there will not be time for questions.



Presentation Evaluation Areas



- **Presentation & Delivery**: **Presentation**: (What the team presented) - clarity, organization, and completeness of the information presented. **Delivery**: (How the team presented) - professionalism, enthusiasm, conviction, confidence, energy, volume.
- **Process**: (How the team addressed the problem) - problem information, background research, design concepts brainstormed, prototyped, tested, and evaluated.
- **Design**: (What 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

Presentation 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?

- **Bring your laptop for online evaluations.**



Team Project Presentations Introduction

"Student project teams have selected a challenge or problem experienced by individuals with disabilities or older adults and have been working to understand, research, brainstorm, design, fabricate, and test prototype devices or software to meet the identified challenge. Each team will now present their mid-term project progress."



Students Working on Team Projects
Mid-term Report

- Mid-term report - 10 to 15 pages of narrative - text and images
- Include legible 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
- Report tips on course website & Week 4 in Review
- Example Report sent in Week 4 in Review
- **Mid-Term Reports due Mon, Feb 16th**



Monday, February 16th

Mid-term Reports Due

Read Instructions and Tips:

- Suggested section titles
- Report writing tips for each section
  - Scanning sketches
  - Adding captions



Reminder - Work with Diligence

- Time is your most precious resource
- **5** days until Mid-term Presentations - Tue, Feb 10th
- Outline your presentation & report





Upcoming Class Sessions



- Assistive Robotics –
  Monroe Kennedy III, PhD - **Today**
  Drivers' Signup

- Mid-term Student Project Presentations –
  7 Teams - Tue, Feb 10th
  Passengers' Signup



- Field Trip to the Magical Bridge Playground – Palo Alto
  Olenka S. Villarreal - Thu, Feb 12th

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.

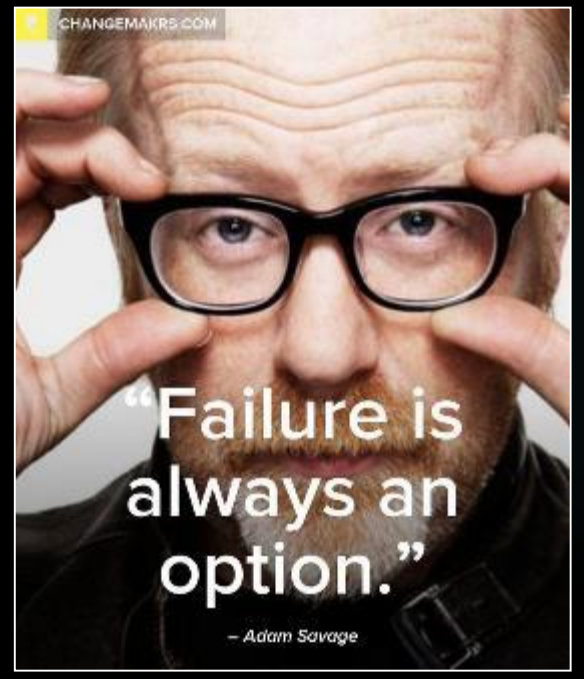


Adam Savage's 10 Commandments of Making - 10:03

10 Commandments of Making



Summary 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 are part of the project
8. Measure carefully
9. Make things for other people
10. Use more cooling fluid!

Today



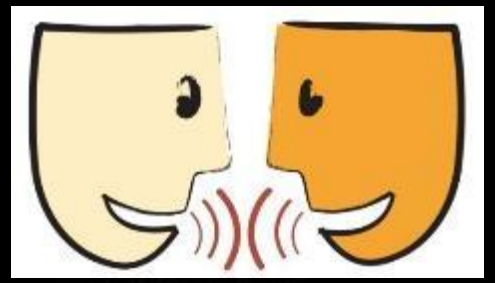
Assistive Robotics

Monroe Kennedy III, PhD

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

Activities

- Attendance sheet
- Evaluation Form
- **Driver Signup**
- 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

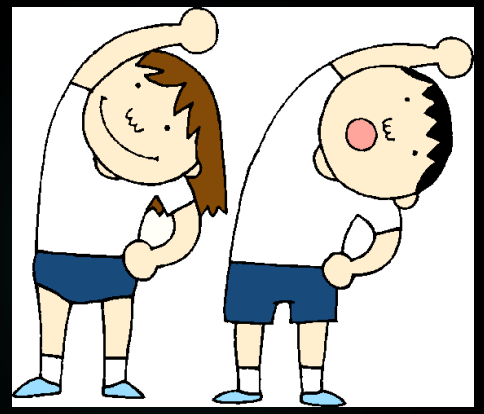












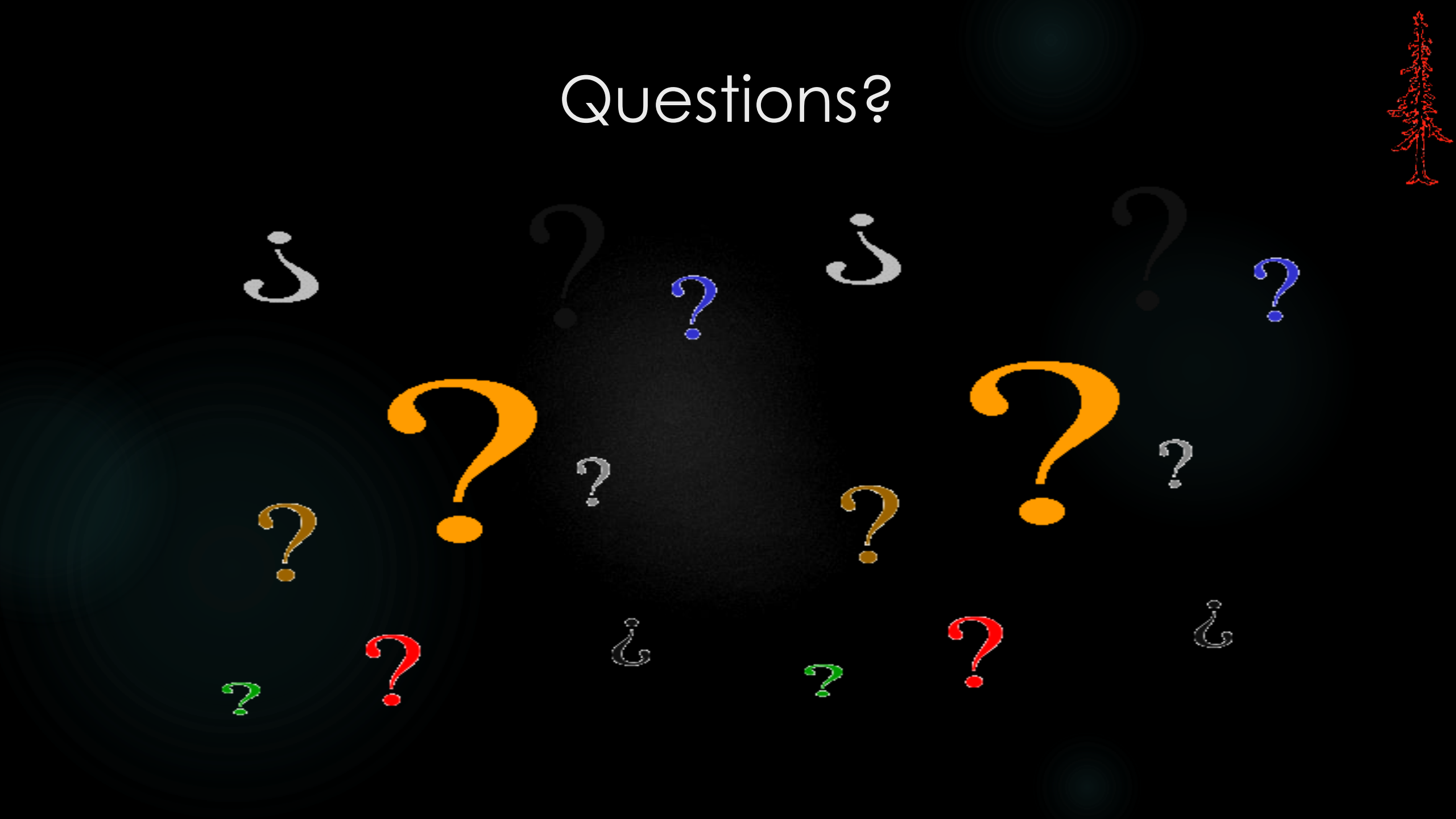


Short Break





Questions?



Break Activities



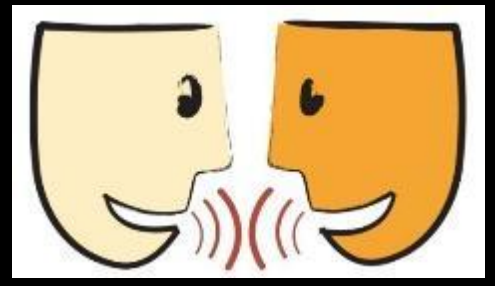


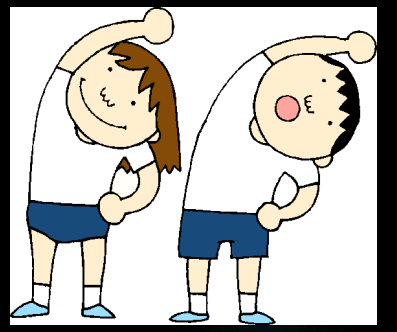


- Sign attendance sheet
- Grab a cookie
- Stand up and stretch
- Take a bio-break
- Text message, web-surf, email
- Talk with classmates
- Reflect on what was presented in class











Adjourn



Laptops Galore



Time for Questions?



End the Class

