January 27, 2026

From Idea to Market: Eatwell, Assistive Tableware for Persons with Cognitive Impairment

ENGR110/210
Perspectives in Assistive Technology



Sha Yao, MFA

Sha Design

Questions, Comments, Suggestions, or Concerns?





Please notify me of your comments, suggestions, and concerns so I can explain / address / correct them.

Teams



- **K9 Consortium** - Treats for Nathan
- Second Team with No Name - Laptray Artwork Easel
- Third Team with No Name - Obstacle Detector 1
- Fourth Team with No Name - MBP Attractions 1
- Fifth Team with No Name - Obstacle Detector 2
- Sixth Team with No Name - Footshell Project
- Seventh Team with No Name - MBP Attractions 2

Reminder - Work with Diligence

- Time is your team's most precious resource
- 14 days of class until Mid-term Presentations – Tue, Feb 10th
- It is not too early to outline your presentation & report





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Mid-term Presentations in 14 days!



- Mid-term presentations will be **8 minutes**
- Project title, background, problem, aim, design criteria, "understanding the problem", existing products, brainstorming activities, sketches, prototypes, and selected solution(s)
- Slides - Google Docs or PowerPoint, no Keynote, no Canva
- Strive to be professional & confident
- Include feeling & emotion in presentation
- Presentation Tips on course website
- Signup Sheet for presentation order will be available
- Example presentation will be made available

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Mid-term Report



- Mid-term report - 10 to 15 pages of narrative 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 webpage documents suggested report features
- Example report to be made available

Team Activities



- **Decide on a cool team name**
- **Sign up for PRL Safety Orientation**
- **Do not hesitate to ask questions about your project's direction**
- Fully understand the Problem / Challenge - search web for products
- Work as a team together on all activities
- Brainstorm possible solutions
- **Evaluate and select design concepts with Pugh Chart**
- Fabricate low-cost prototypes
- Discuss and demonstrate the prototypes to the project suggestor
- Receive and analyze their feedback and suggestions
- Redesign and fabricate a refined prototype
- Iterate the process until the end of the quarter
- Take photos to document your efforts
- **Read Week in Review emailings**
- **Start preparing for Mid-Term Presentation and Report**
- **Report your project progress as a team to me or Tori**





Selecting Design Concepts



- Select best design concepts using a **Pugh Chart**
  - Plot best brainstormed design concepts vs design criteria
    - Ability to meet requirements & criteria
    - Prototype fabrication cost and time
    - Complexity (consider fabricators' skill level)
    - Ability to complete within allotted time and budget
    - Caregiver / User issues
  - Weights - which criteria / features are most important?

Pugh Chart Template

Design Concepts ▶		Concept 1	Concept 2	Concept 3
Design Criteria ▼	**Weight ▼**			
Criteria 1				
Criteria 2				
Criteria 3				
Criteria 4				
Coolness				
Cost				
Time				
Complexity				
Total				

What's wrong with this method?

Pugh Chart Example



Criteria for Success		Option 1		Option 2		Option 3	
Common Theme	7	7	49	6	42	10	70
Expands Knowledge	5	5	25	3	15	7	35
Accurate Info	9	8	72	8	72	7	63
Appealing	8	6	48	9	72	7	56
Unique	10	9	90	6	60	6	60
3 different forms of media	10	9	90	7	70	8	80
Reflects Rauschenberg	4	7	28	10	40	6	24
	TOTAL	402		371		388	

Selecting Design Concepts



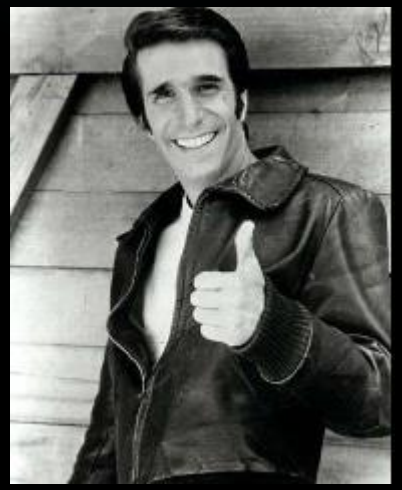
Don't forget aesthetics and coolness factor

- Users won't buy or use a products that identifies them as disabled
- Users want to look cool
- You want to work on something cool





Description		Kimberly Clark Paper Towel Dispenser	Side Roll	Paper Quantity Sensor	Clear Windows	Free-Standing w/ Recycling	Foot Pedal
Sketch							
Criteria	Weight	Datum	Design 1	Design 2	Design 3	Design 4	Design 5
Reliability	2	0	-	0	0	0	-
Hygiene	3	0	-	0	0	0	-
Ease of Use	3	0	-	0	0	-	-
Safety	2	0	0	0	0	0	0
Durability	1	0	0	0	0	0	0
Aesthetics	1	0	-	0	-	--	-
Ease of Replacement	1	0	0	+	+	0	0
Environment	2	0	0	0	0	-	--
+		0	5	1	1	2	6
0		15	6	15	13	9	4
-		0	4	0	1	2	7
Net Score		0	1	1	0	0	-1



Persona



- The characterization of a typical / average person who represents the consumer group for a prototype being designed or a product being commercialized
- Not be a real person - can't get feedback (AI Persona?)
- Designing for an **imaginary person** results in an **imaginary solution**
- Every person with a disability or older adult differs in their challenges, goals, preferences, and prejudices
- Solution - Consider products with versions, adjustability, ability to be customized, accessories, modularity, universally designed

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Extra Credit: Ask AI Report



- Another source of "Understanding the Problem" is AI. While the results may not be perfectly useful, AI could provide interesting suggestions to consider.
- So, for this extra credit assignment, Ask AI (such as ChatGPT) to suggest solutions to the user's challenge. Summarize and document the queries used, the responses, and your assessment of their value. The report should be no more than two pages long. The due date is TBD.
- An individual assignment

Thursday, January 29th



Brain-Computer Interfaces for Communication

Erin Michelle Kunz, PhD
Stanford University
Neural Prosthetics Translational Laboratory

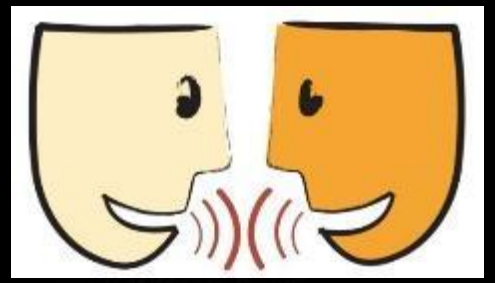
Today



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Sha Yao, MFA - Sha Designs

Break Activities



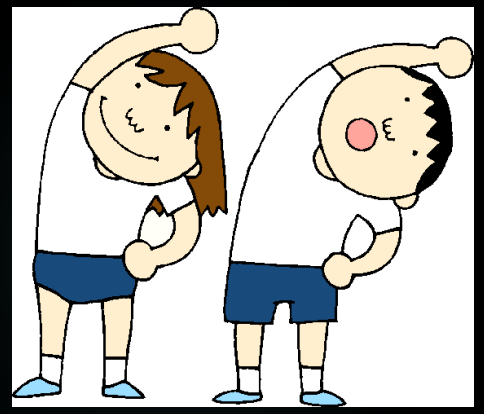




- Breakout rooms
- Attendance sheet
- Stand up and stretch
- Take a bio-break
- Text message
- Web-surf
- Respond to email
- Talk with classmates
- Reflect on what was presented in class









Short Break



