

January 26, 2017



# ENGR110/210

## Perspectives in Assistive Technology



David L. Jaffe, MS  
Instructor



# Questions?



# Attendance Sheet, Evaluation Form, and Meet with Dave Signup



For all students:

- Attendance Sheet
- Meet with Dave signup – Teams or individual students

For everyone:

- Class Session Evaluation Form



ENGR110210 Enrolled Student Attendance List  
January 10, 2017

Enroll Number	Name of Enrolled Student	Enroll Number	Name of Enrolled Student
10001	Adams, John Alexander	10002	Adams, John Alexander
10003	Adams, John Alexander	10004	Adams, John Alexander
10005	Adams, John Alexander	10006	Adams, John Alexander
10007	Adams, John Alexander	10008	Adams, John Alexander
10009	Adams, John Alexander	10010	Adams, John Alexander
10011	Adams, John Alexander	10012	Adams, John Alexander
10013	Adams, John Alexander	10014	Adams, John Alexander
10015	Adams, John Alexander	10016	Adams, John Alexander
10017	Adams, John Alexander	10018	Adams, John Alexander
10019	Adams, John Alexander	10020	Adams, John Alexander
10021	Adams, John Alexander	10022	Adams, John Alexander
10023	Adams, John Alexander	10024	Adams, John Alexander
10025	Adams, John Alexander	10026	Adams, John Alexander
10027	Adams, John Alexander	10028	Adams, John Alexander
10029	Adams, John Alexander	10030	Adams, John Alexander
10031	Adams, John Alexander	10032	Adams, John Alexander
10033	Adams, John Alexander	10034	Adams, John Alexander
10035	Adams, John Alexander	10036	Adams, John Alexander
10037	Adams, John Alexander	10038	Adams, John Alexander
10039	Adams, John Alexander	10040	Adams, John Alexander
10041	Adams, John Alexander	10042	Adams, John Alexander
10043	Adams, John Alexander	10044	Adams, John Alexander
10045	Adams, John Alexander	10046	Adams, John Alexander
10047	Adams, John Alexander	10048	Adams, John Alexander
10049	Adams, John Alexander	10050	Adams, John Alexander
10051	Adams, John Alexander	10052	Adams, John Alexander
10053	Adams, John Alexander	10054	Adams, John Alexander
10055	Adams, John Alexander	10056	Adams, John Alexander
10057	Adams, John Alexander	10058	Adams, John Alexander
10059	Adams, John Alexander	10060	Adams, John Alexander
10061	Adams, John Alexander	10062	Adams, John Alexander
10063	Adams, John Alexander	10064	Adams, John Alexander
10065	Adams, John Alexander	10066	Adams, John Alexander
10067	Adams, John Alexander	10068	Adams, John Alexander
10069	Adams, John Alexander	10070	Adams, John Alexander
10071	Adams, John Alexander	10072	Adams, John Alexander
10073	Adams, John Alexander	10074	Adams, John Alexander
10075	Adams, John Alexander	10076	Adams, John Alexander
10077	Adams, John Alexander	10078	Adams, John Alexander
10079	Adams, John Alexander	10080	Adams, John Alexander
10081	Adams, John Alexander	10082	Adams, John Alexander
10083	Adams, John Alexander	10084	Adams, John Alexander
10085	Adams, John Alexander	10086	Adams, John Alexander
10087	Adams, John Alexander	10088	Adams, John Alexander
10089	Adams, John Alexander	10090	Adams, John Alexander
10091	Adams, John Alexander	10092	Adams, John Alexander
10093	Adams, John Alexander	10094	Adams, John Alexander
10095	Adams, John Alexander	10096	Adams, John Alexander
10097	Adams, John Alexander	10098	Adams, John Alexander
10099	Adams, John Alexander	10100	Adams, John Alexander

Sign Up to Meet with Dave

Before class outside Thornton 110  
After class in Thornton 110  
Other times in Peterson Building, Room 113

Date & Time	Enter Team Name & Specify 15 minute time block
Wednesday - January 18 <sup>th</sup>	
Morning - 8:30am - 11:30am	
Afternoon - 1:00pm - 4:30pm	
Thursday - January 19 <sup>th</sup>	
Morning - 8:30am - 11:30am	
Afternoon - 1pm - 3:30pm	
Before class - 5:45pm - outside classroom	
After class - 8pm	
Friday - January 20 <sup>th</sup>	
Morning - 8:30am - 11:30am	

Perspectives in Assistive Technology - 2017  
Class Session Evaluation Form

Lecture 01a: Course Overview & Introduction to Assistive Technology - David L. Jaffe, MS

Are you an enrolled student?  - Yes  - No

The purpose of the questionnaire is to help the teaching team assess today's class session. Please rate the following issues:

Speaker's overall presentation: speaking volume, understandability, ease of following concepts and arguments, clarity of explanations, quality of PowerPoint slides, use of supporting media (videos) and presentation aids (blackboard/whiteboard), stage presence, knowledge of topic, preparedness, presentation structure, organization, pace and management of allotted time, opportunity for questioning and class engagement, provided good examples, concepts, and demonstrations  
   Presentation content: topic relevant, relevance to the broad scope of assistive technology, presentation of new information, appropriate level of detail and technical content, overall value of presented material

Submit your comments, questions, and suggestions, especially if you found portions of the lecture to be particularly good or bad. Supply your name if you want a response and use the back of this form if you need more room.

What one item did you hear, see, or learn that was new, surprising, interesting, or provided a new perspective?

How much did you learn from today's lecture?  - A great deal  - a bit  - a moderate amount  - a little  - nothing

What is your stress level today?  - low  - medium  - high

How is your stress level trending?  - downward  - steady  - upward

# Pre-lecture Discussion Topics



## 28 Accessibility

19 Assistive Robotics

19 In the News

14 Ten Commandments of Making

14 Video Theater

11 Marketing Terms

9 Ethical / Moral Dilemmas Related to Disability

9 Vintage Assistive Technology

7 Who is Disabled?

7 More Information on the Design Development Process

7 Famous People with Disabilities - TV Edition

3 The Upside of Failure

1 Assistive Robotics for Medical Devices





# What is this?



# Team Projects

- ▶ Work with diligence
- ▶ Purchase shop passes from PRL - keep receipt
- ▶ Report project progress by email
- ▶ Meet with Dave as a team

**MEET  
DAVE**

**DAVE'S  
NOT  
HERE,  
MAN.**



# Current Tasks

# COOLNESS



- ▶ Understand the Problem
  - ▶ Meet with project suggestor / user
  - ▶ Gather information - background on disability condition
  - ▶ Research current solutions
  - ▶ Determine why existing products don't work
- ▶ Judge the Need
- ▶ Brainstorm design concepts
  - ▶ Identify many ideas
  - ▶ Explore wild ideas
- ▶ Select top design concepts using Pugh Chart
  - ▶ Remember "coolness factor"
- ▶ Sketch & fabricate low resolution prototypes

**Design Alternatives – Pugh Analysis**

	Weight	Otter Ball	Puzzle Box	Moving Maze	Tether Ball	Whack-a-mole	Wotter Wheel
<i>Cost</i>	3	2	-2	-2	1	-2	0
<i>Durability</i>	2	2	2	2	-2	0	2
<i>Physical Enrichment</i>	1	-1	0	-1	0	2	2
<i>Cognitive Enrichment</i>	2	-2	2	2	-2	1	-2
<i>Sensor Integration</i>	2	0	2	-2	1	1	2
<i>Novelty</i>	1	-2	2	1	-2	1	2
<i>Production Feasibility</i>	2	1	-1	0	2	-2	-1
<b>Net Score</b>		5	6	-1	-1	-3	6
<b>Rank</b>		5	T2	T8	T8	12	T2



# Mid-term Presentation Outline



3weeks *Notice*

- ▶ 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
- ▶ Statement of specific need
- ▶ 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



# Mid-term Discussion Items

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

**CLASS  
PRESENTATIONS**



# Tuesday, January 31st



Humanistic Intelligence and HARCAD for Assistive Technologies

Steve Mann, PhD  
University of Toronto

# Today



## Designing Beyond the Norm to Meet the Needs of All People

Peter W. Axelson, MSME, ATP, RET  
Beneficial Designs, Inc.  
Director of Research & Development

Optional dinner at Max's  
Opera Café in Stanford  
Shopping Center ~ 7pm



# Short Break

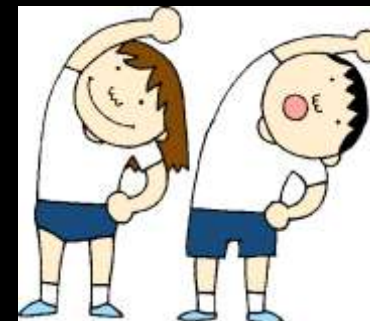
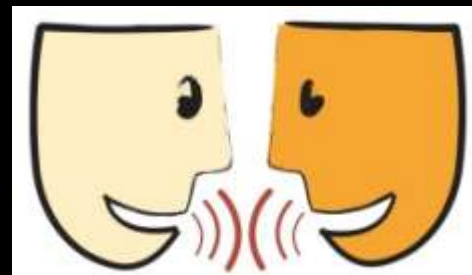




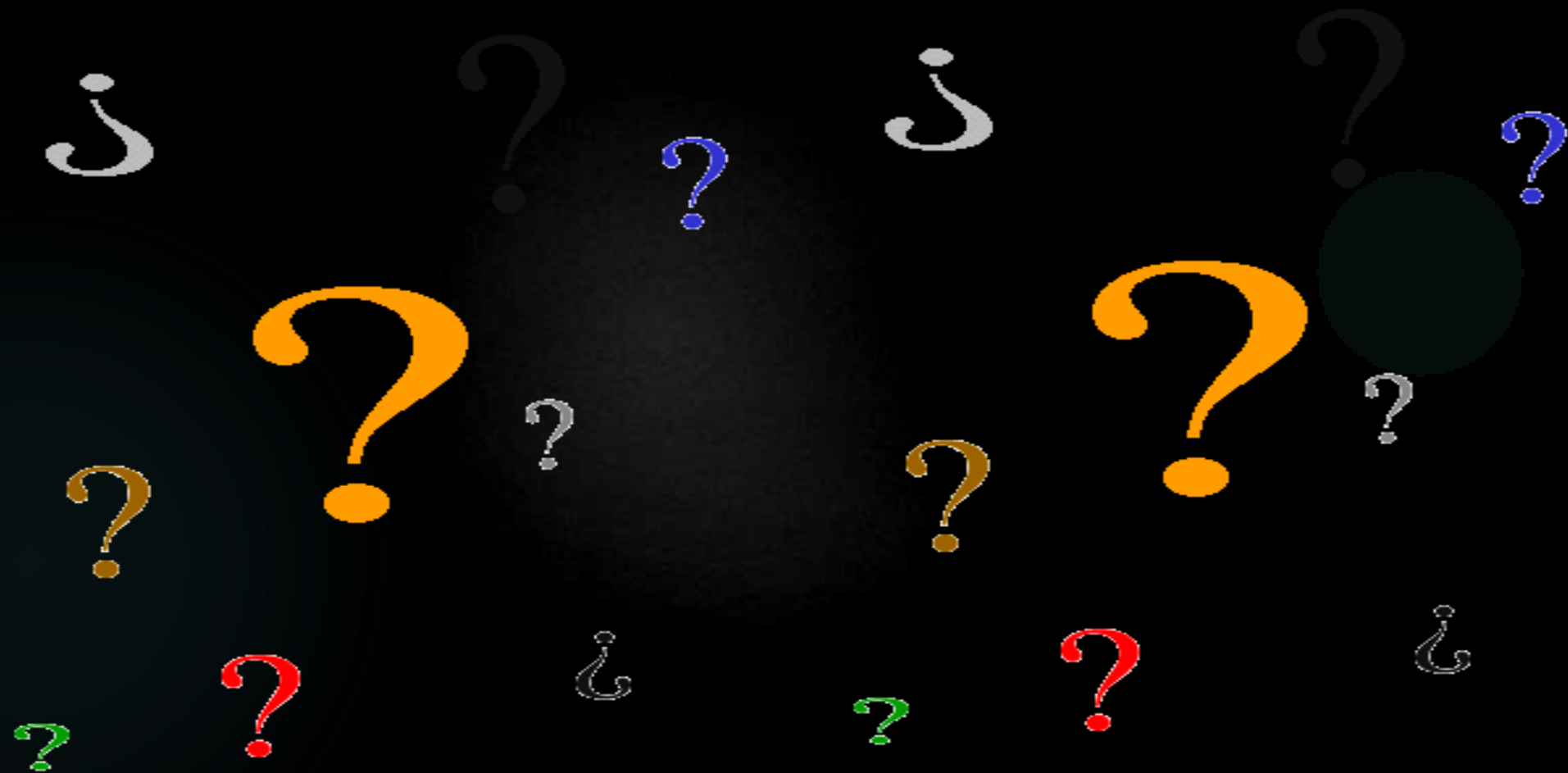
# Break Activities



- ▶ 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



# Questions?



Adjourn



class dismissed



# Laptops Galore

