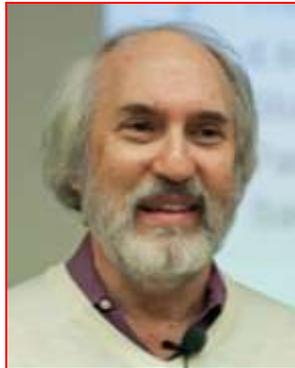


January 22, 2015

# ENGR110/210

## Perspectives in Assistive Technology



David L. Jaffe, MS  
Instructor

# Questions or Concerns?





# Signup to Meet with Dave

- 15 minutes
- 1 spot before class
- 1 spot after class
  
- Report team project progress
- Make up missed lecture

**Sign Up to Meet with Dave**

Before or after class meetings in Thornton 110  
Meetings in Peterson Building, Room 113

Date & Time	Team Name & Specify 15 minute block
<b>Wednesday – January 21<sup>st</sup></b>	
Morning – 8:30am – 10:45am	
Afternoon – 1:00pm – 4:30pm	
<b>Thursday – January 22<sup>nd</sup></b>	
Morning – 8:30am – 11:30am	
Afternoon – 1pm – 2:30pm	
Before class – 3:45pm	
After class – 5:45pm	
<b>Friday – January 23<sup>rd</sup></b>	
Morning – 8:30am – 11:00am	
<b>Monday – January 26<sup>th</sup></b>	
Morning – 8:30am – 11:30am	
Afternoon – 1pm – 4:30pm	
<b>Tuesday – January 27<sup>th</sup></b>	
Morning – 8:30am – 11:30am	
Afternoon – 1pm – 2:30pm	
Before class – 3:45pm	
After class – 5:45pm	

# Passenger Carpool Signup

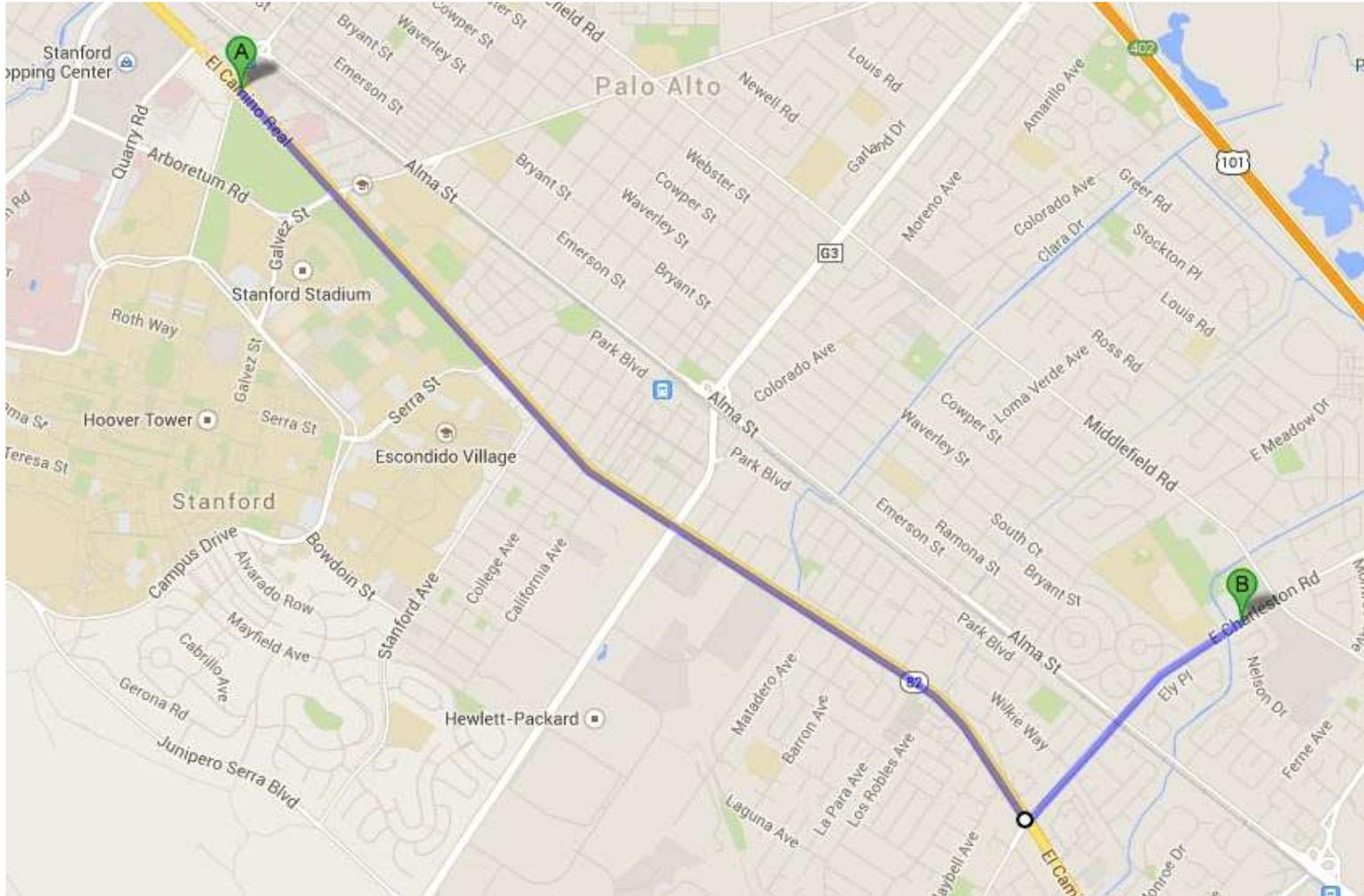
- Magical Bridge Playground
- Tuesday, January 27<sup>th</sup>
- Meet at Thornton Center
- Make your best effort to arrive on time – 4:15pm
- Contact Dave if you can't attend
- Early return option

Passenger Signup Sheet			
Magical Bridge Playground			
Tuesday, January 27 <sup>th</sup>			
Driver's name & cell:	Dave Jaffe	650/892-4464	davejaffe@stanford.edu
Car make, model, color:	Black Acura Integra		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
Driver's name & cell:	James Bui	951/834-8170	jamesbui@stanford.edu
Car make, model, color:	Honda Fit		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
Driver's name & cell:	Fred Hombruch	650/995-4515	foggs@aol.com
Car make, model, color:	Red Toyota Prius		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
Driver's name & cell:	Tom Grojean	651/226-4871	tgrojean@stanford.edu
Car make, model, color:	Mercedes C300		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
Driver's name & cell:	Dan Berschinski	770/842-7778	danber@stanford.edu
Car make, model, color:	Red Audi A4		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
	4. Name: _____	Cell: _____	
Driver's name & cell:	Joaquin Carcache	707/364-4878	jmcarcac@stanford.edu
Car make, model, color:	Scion TC		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
Driver's name & cell:	Eric Medine	310/923-8164	emedine@gmail.com
Car make, model, color:	White Toyota		
Pickup time and place:	Thornton 110 - departs 4:15pm		
Passengers:	1. Name: _____	Cell: _____	
	2. Name: _____	Cell: _____	
	3. Name: _____	Cell: _____	
	4. Name: _____	Cell: _____	

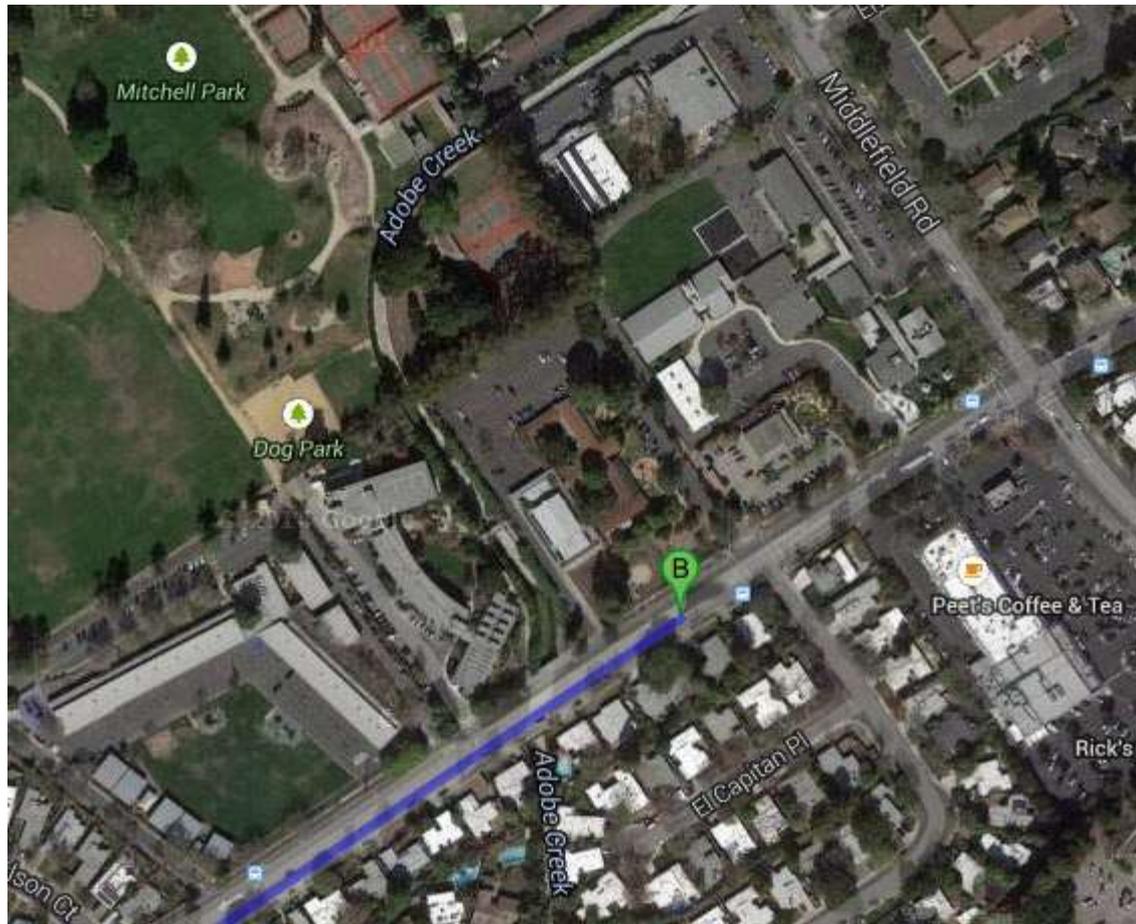
# Directions to Magical Bridge Playground

1. Head southeast on El Camino Real from Stanford
2. Left turn onto W. Charleston Rd. (0.9 miles)
3. Left at Unitarian Universalist Church  
505 E. Charleston Ave.

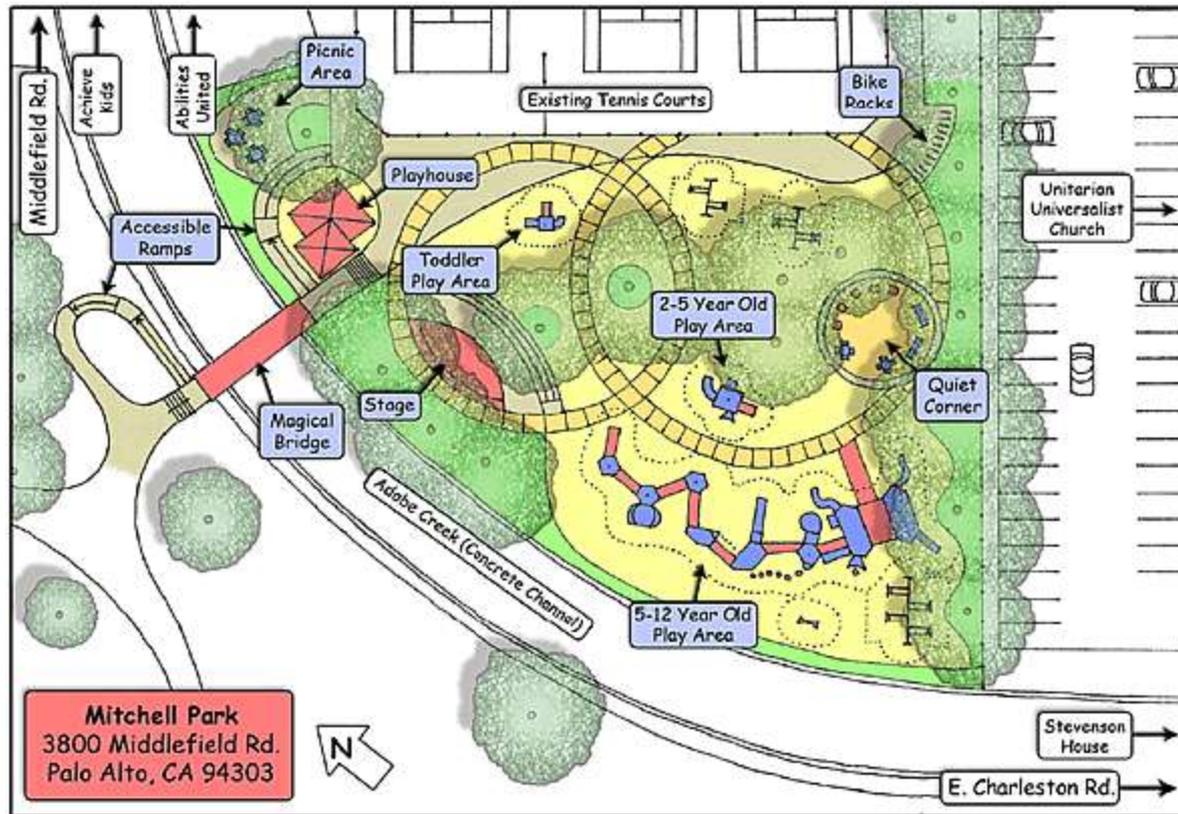
# Directions to Magical Bridge Playground



# Directions to Magical Bridge Playground



# Magical Bridge Playground



# Magical Bridge Playground



# Work with Diligence

- Personal & Team Initiative
- Meet with your team
- Meet with, interview project suggestors
- Research existing products, prototypes
- Brainstorm design concepts
- Prototype, test, analyze, repeat
- Document your efforts
- Report your activities
- Ask Dave, Project Resource People, PRL TAs



# Miscellany



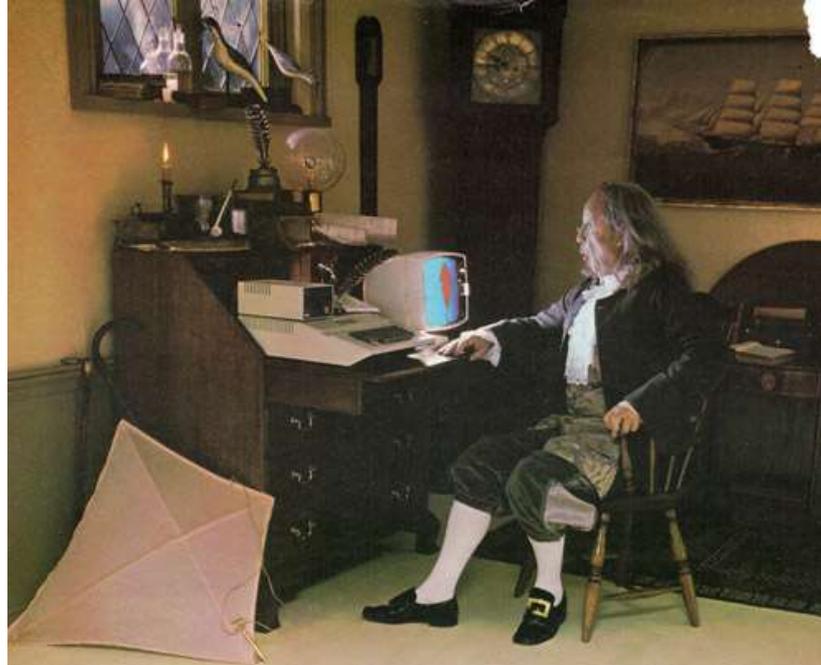
1. PRL Safety Orientation & Shop Passes
2. Three weeks to Team Project Mid-term Presentations

# Pre-Lecture Discussion Topics

## Selected preferences from Evaluation Form

- **Antique Technology** – check out some old assistive technology products and research
- **New technology** – recent research and products
- **AT device review** – examine an assistive technology product
  
- **Who is Disabled?** – making a determination with limited information
- **The Upside of Failure!** – why Failure is good
- **Video theater** – watch selected videos
- **In the News** – recent articles and products
- **Students' Choice** – class determines topic

# Vintage Assistive Technology



## What kind of man owns his own computer?

Rather revolutionary, the whole idea of owning your own computer? Not if you're a diplomat, printer, scientist, inventor... or a kite designer, too. Today there's Apple Computer. It's designed to be a *personal* computer. To un-complicate your life. And make you more effective.

### It's a wise man who owns an Apple.

If your time means money, Apple can help you make more of it. In an age of specialists, the most successful specialists stay away from uncreative drudgery. That's where Apple comes in.

Apple is a real computer, right to the core. So just like big computers, it manages data, crunches numbers, keeps records, processes your information and prints reports. You concentrate on what you do best. And let Apple do the rest. Apple makes that easy with three programming languages—including Pascal—that let you be your own software expert.

### Apple, the computer worth not waiting for.

Time waiting for access to your company's big mainframe is time wasted. What you need in your department—

on your desk—is a computer that answers only to you...

Apple Computer. It's less expensive than timesharing. More dependable than distributed processing.

Far more flexible than centralized EDP. And, at less than \$2500 (as shown), downright affordable.

### Visit your local computer store.

You can join the personal computer revolution by visiting the Apple dealer in your neighborhood. We'll give you his name when you call our toll free number (800) 538-9696. In California, (800) 662-9238.

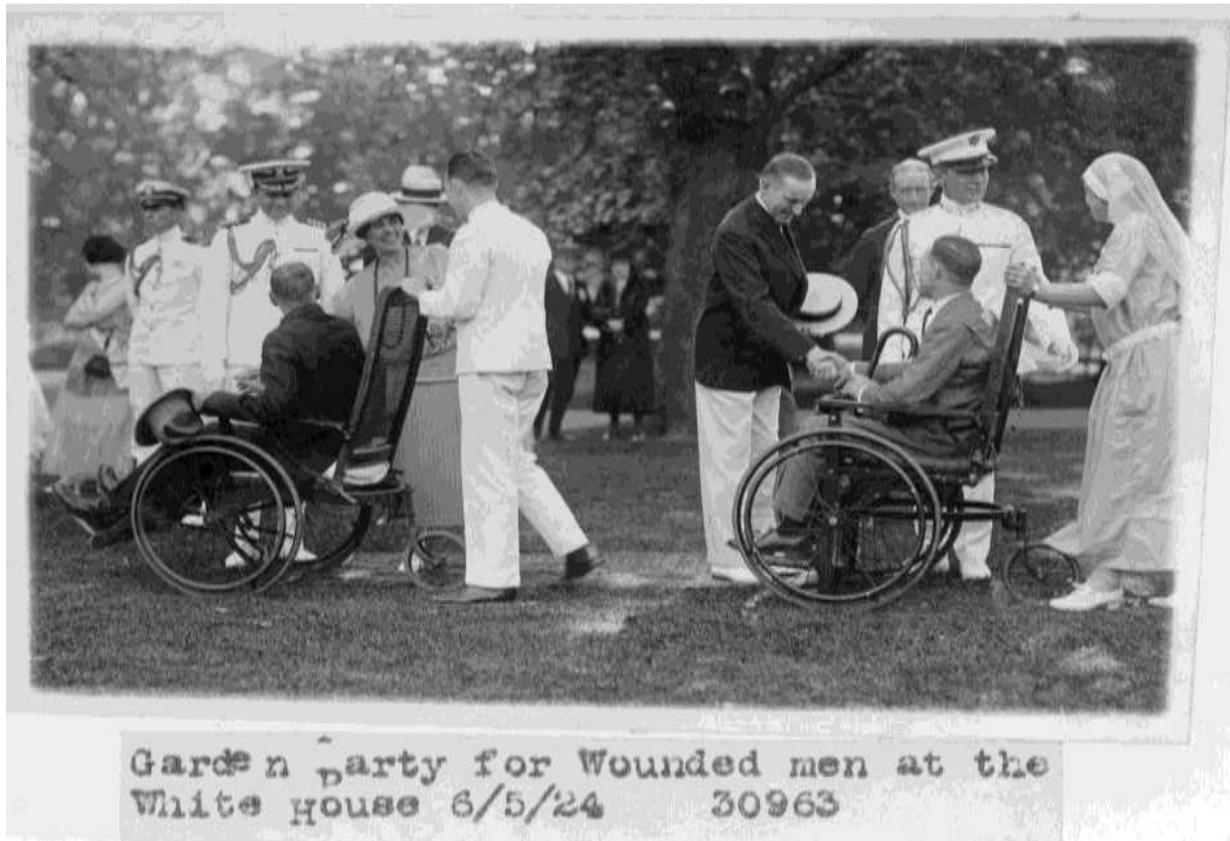
Apple Computer, 10260  
Bandley Drive,  
Cupertino,  
CA 95014.



# Old Wheelchair Designs



# Old Wheelchair Designs



# Old Wheelchair Designs



# Old Wheelchair Designs



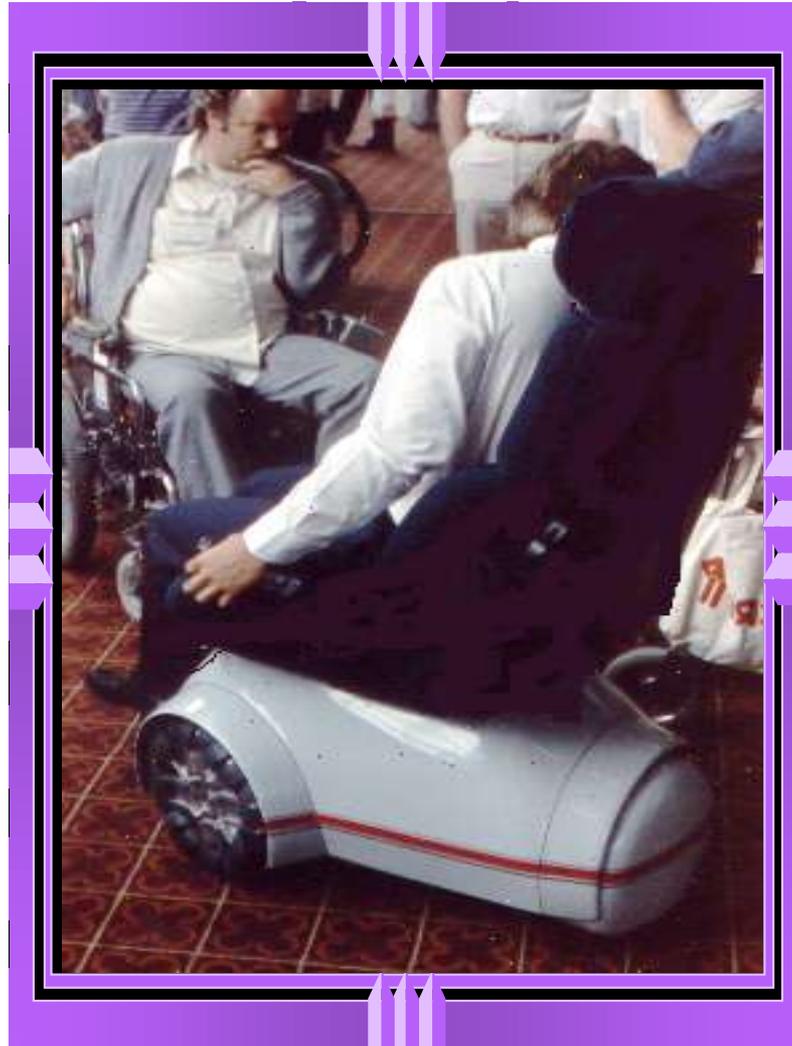
# Old Wheelchair Designs



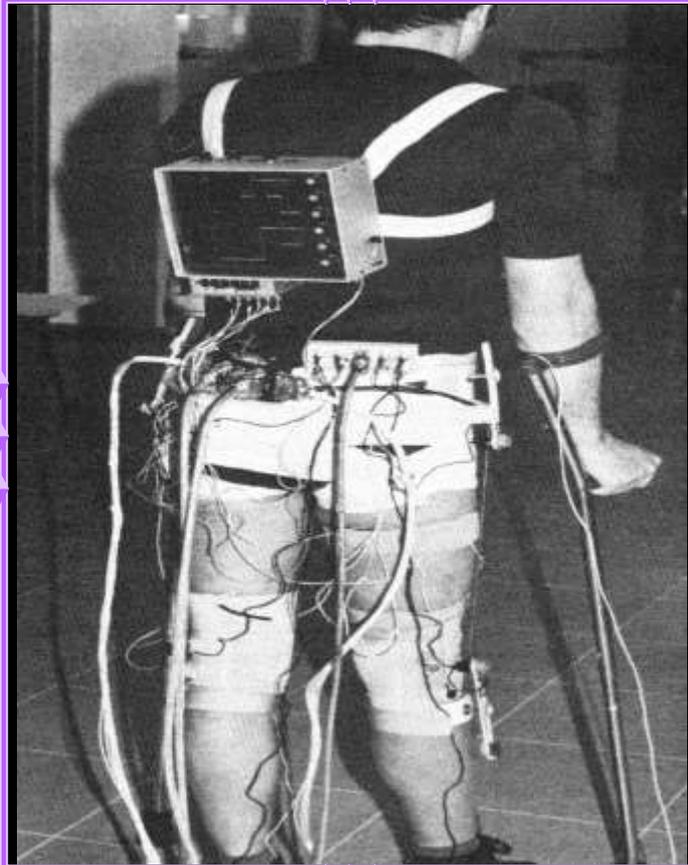
# Old Wheelchair Designs



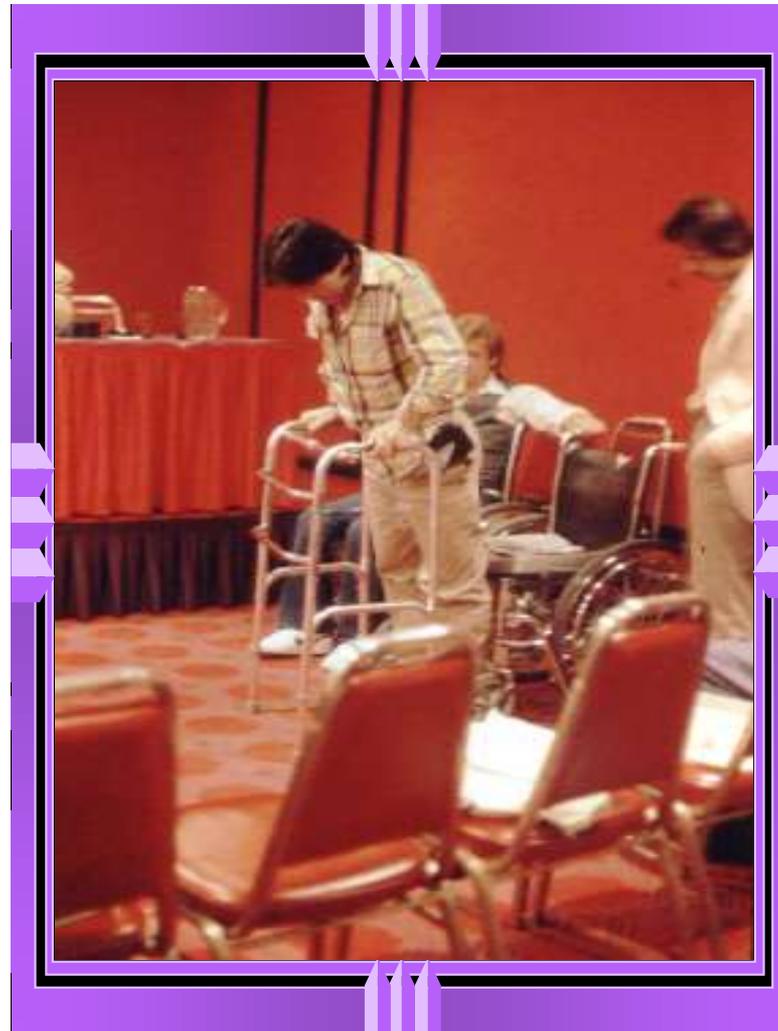
# Old Wheelchair Designs



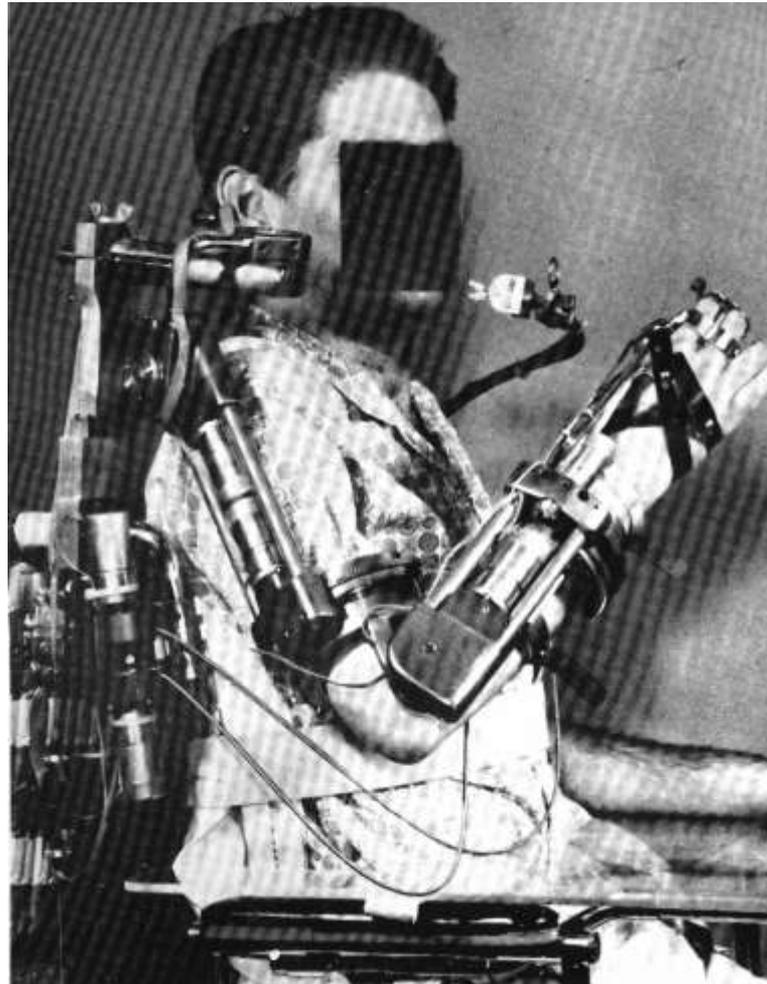
# FES Walking



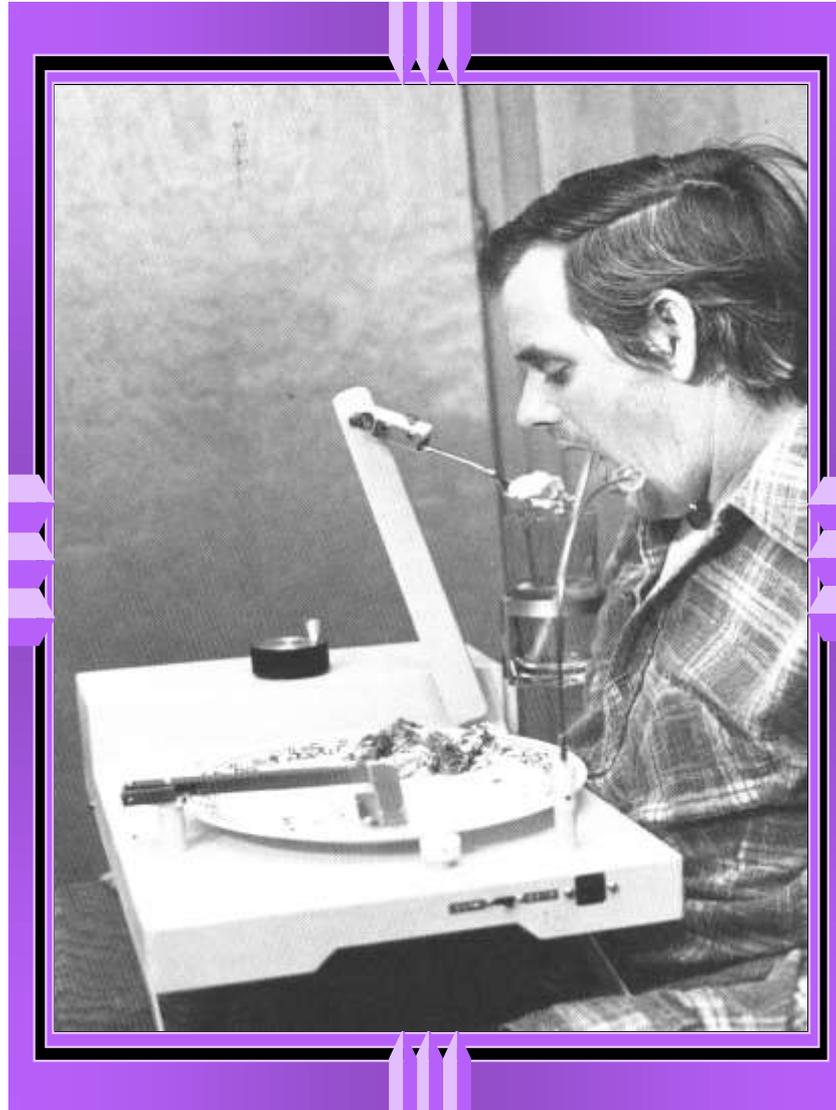
# FES Walking



# Chin Controlled Arm Exoskeleton



# Robotic Feeding Aid



# Robotic Feeding Aid



# Early Environmental Control System



# Voice-Recognition Environmental Control System



# Eye-Gaze Control



# Eye-Gaze Control





# Augmented Communication System



# Artificial Arm from 1560 - 1600



What is this?



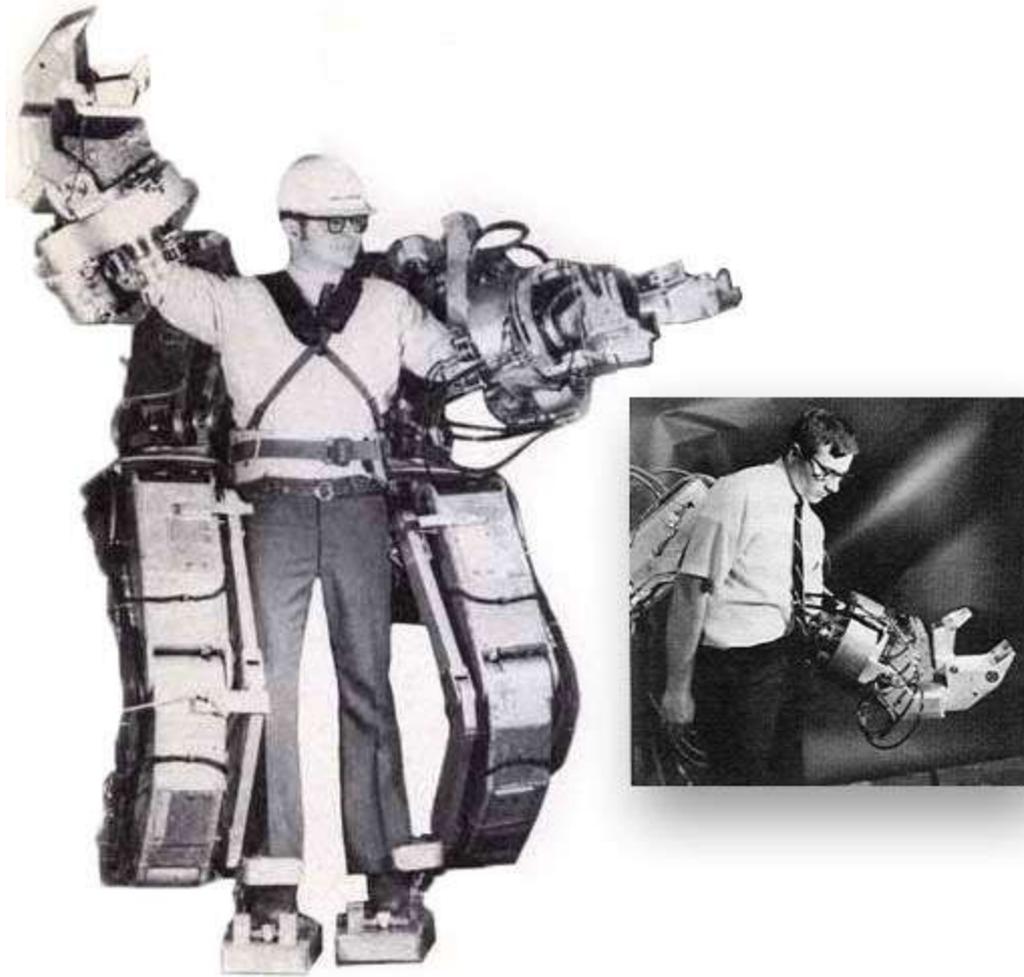
# Peg Leg Bates



# Wooden Prosthetic Legs



# Hardiman Prototype – 1950's



# Student Exoskeleton Arms



# Ultimate Exoskeleton



# Steampunk Professor Xavier Wheelchair Project



[Video](#)

Steampunk Professor Xavier's Wheelchair  
By: Daniel Valdez  
<http://www.smeeon.com/>

# Orange County Chopper

- Christopher & Dana Reeve Foundation
- [Video](#)



# Tuesday, Jan 27th



Olenka Villarreal

**Field Trip to Magical Bridge Playground**

Thursday, Jan 22nd



Katherine Strausser, PhD

**The Design and Control of Exoskeletons for  
Rehabilitation**

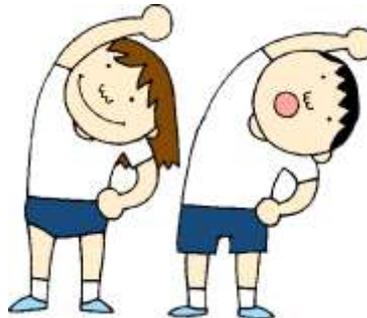
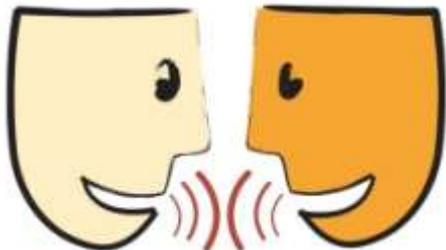
# Short Break



# Break Activities



- 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



Class  
Dismissed!

