

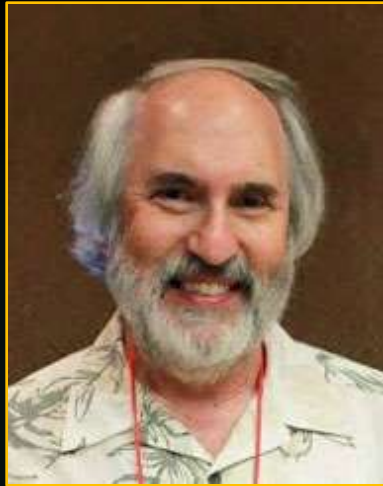
February 6, 2018

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



# ENGR110/210

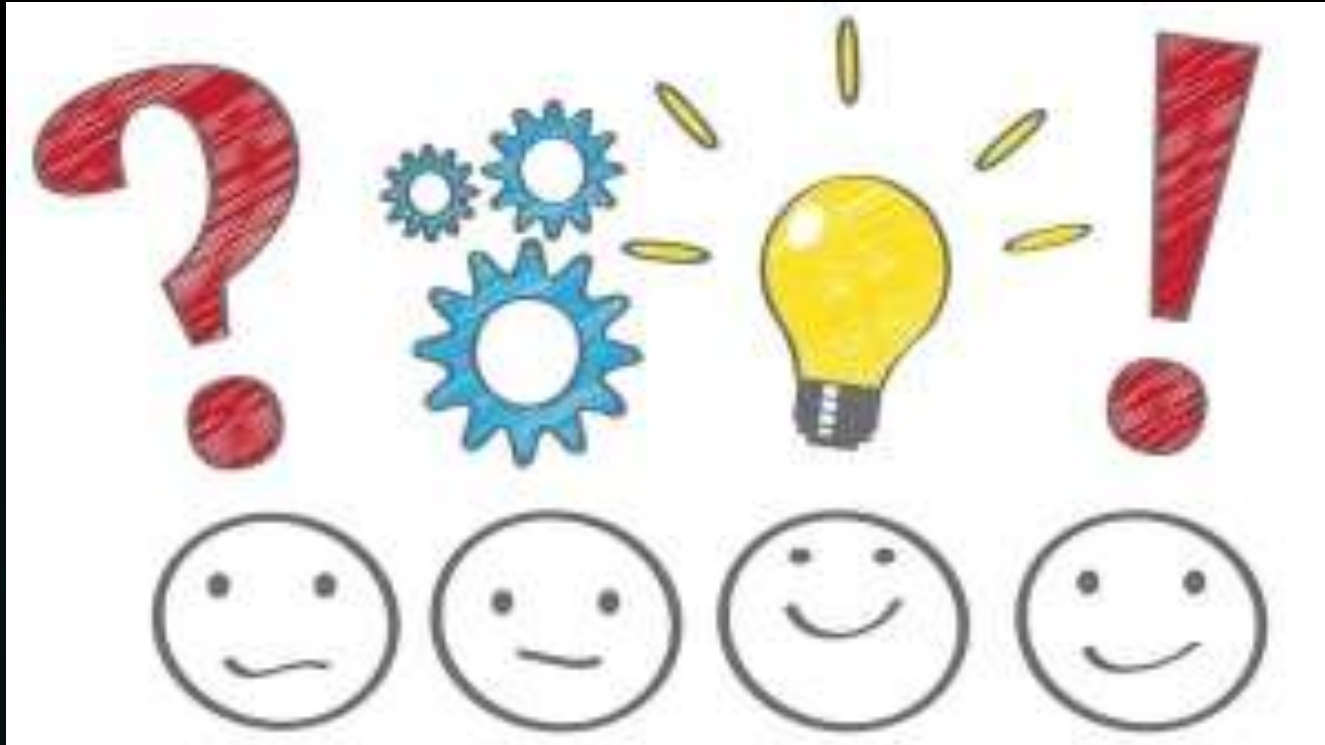
## Perspectives in Assistive Technology



David L. Jaffe, MS  
Instructor



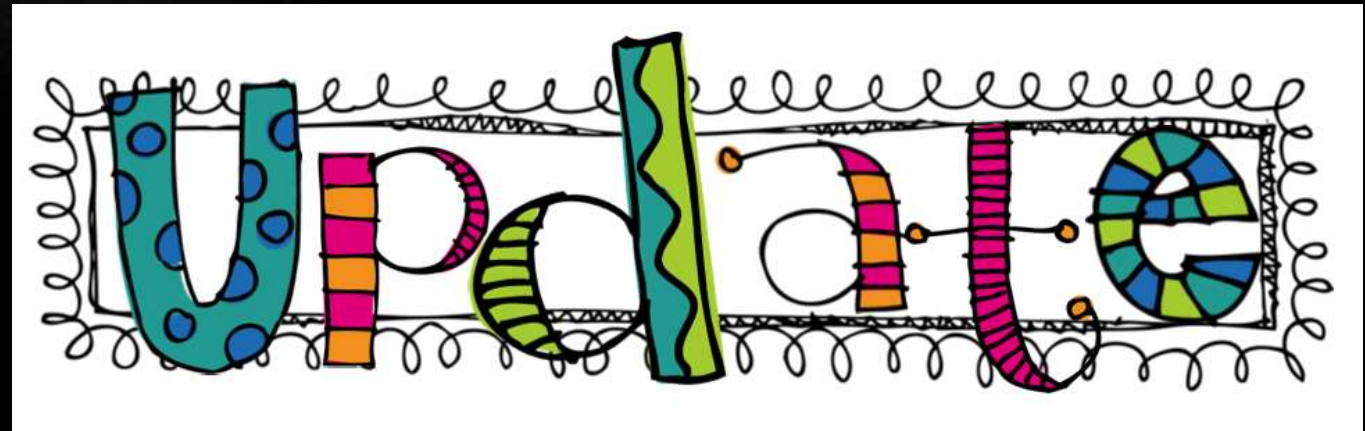
# Questions?



# Update on Weekly Updates



- ▶ General statement of progress, what you have achieved
- ▶ Names of people you interacted with
- ▶ What you have purchased so far
- ▶ Experiences with TAs and project suggestors
- ▶ Status of low resolution prototypes



# Team Projects



- ▶ Mid-term Team Project Presentations in 9 days - Thu, Feb 15th
  - ▶ Show your prototypes as slide images
  - ▶ Send me PowerPoint slides or online link
  - ▶ 7 minute presentations
    - ▶ Be concise
    - ▶ Use descriptive photos
    - ▶ Avoid every last detail
- ▶ Mid-term Team Project Reports due Tue, Feb 20th





# Field Trips

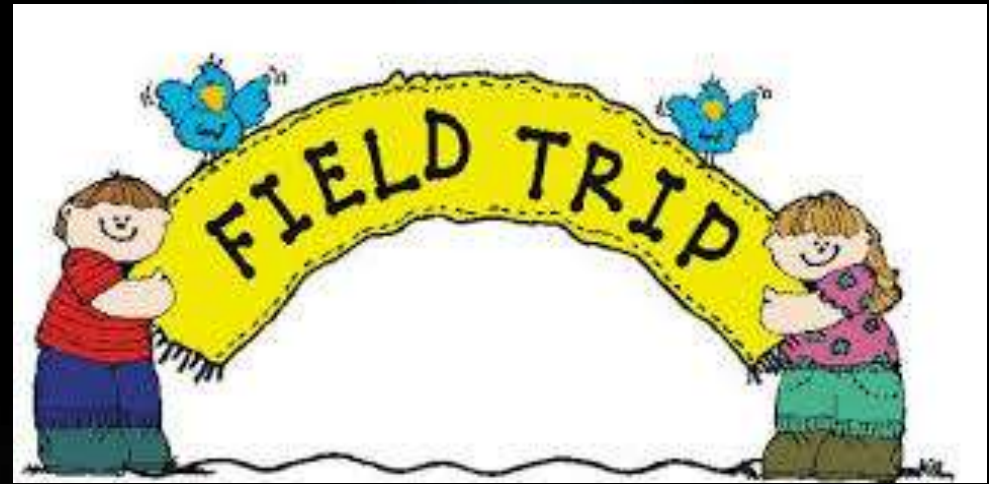
- ▶ Field trips:

- ▶ Tuesday, February 13th - Magical Bridge Playground - Palo Alto

- ▶ All are invited to attend

- ▶ Thursday, February 22nd - VA Medical Center - Palo Alto

- ▶ Students and community member car pool drivers only



# Car Pool Drivers' Signup Sheet



## Car Pool Drivers' Signup Sheet - 2018

Field trips: Tuesday, February 13th - Magical Bridge Playground - Palo Alto  
Thursday, February 22nd - VA Medical Center - Palo Alto

Students and community members: Please indicate your availability to drive students to these field trips. Unless otherwise arranged, the departure point from Stanford is the Thornton Center.

Driver's name:	Dave Jaffe
Cell phone:	650/892-4464
Tours available:	<input checked="" type="checkbox"/> - Magical Bridge Playground <input checked="" type="checkbox"/> - VA
Car model & color & number of passengers:	Black Acura Integra - 2

Driver's name:	_____
Cell phone:	_____
Tours available:	<input type="checkbox"/> - Magical Bridge Playground <input type="checkbox"/> - VA
Car model, color, and number of passengers:	_____
Available for early return @ 5:40:	<input type="checkbox"/> - Magical Bridge Playground <input type="checkbox"/> - VA

Driver's name:	_____
Cell phone:	_____
Tours available:	<input type="checkbox"/> - Magical Bridge Playground <input type="checkbox"/> - VA
Car model, color, and number of passengers:	_____
Available for early return @ 5:40:	<input type="checkbox"/> - Magical Bridge Playground <input type="checkbox"/> - VA

- ▶ Students and community members: Please indicate your availability to drive students to these field trips. Unless otherwise arranged, the departure point from Stanford is the Thornton Center.
- ▶ Let me know if you are a solo driver so I can send you a map.



# Tuesday, February 13th

## *Where Everyone Can Play!*



Field trip to Magical Bridge Playground

Olenka Villarreal & Jay Gluckman





# Thursday, February 8th



Designing Beyond the Norm to Meet the Needs of All People

Peter W. Axelson, MSME, ATP, RET

Beneficial Designs - Director of Research & Development

Post-class dinner at Max's  
in Stanford Shopping Center

# Today



From Idea to Market: Eatwell, Assistive Technology for Persons with Cognitive Impairments

Sha Yao

Sha Design

# Pre-lecture Discussion Topics



- ~~21~~ Assistive Robotics
- ~~18~~ Ethical / Moral Dilemmas
- ~~13~~ In the News
- ~~12~~ Ten Commandments of Making
- 12 Video Theatre
- 12 Marketing Terms
- 10 **Overview of Accessibility**
- 10 Vintage Assistive Technology
- 10 The Upside of Failure
- 8 Who is Disabled?
- 7 Famous people with disabilities







# Overview of Accessibility



# What is Accessibility?



Accessibility is a:

- ▶ Design concept
- ▶ Design specification
- ▶ Design consideration
- ▶ Design goal
- ▶ Product feature



# What is Accessibility?



That enables people:

- ▶ Individuals with disabilities:
  - ▶ Sensory
  - ▶ Physical
  - ▶ Cognitive
  - ▶ Neurological
- ▶ Older adults
- ▶ Kids
- ▶ Everyone



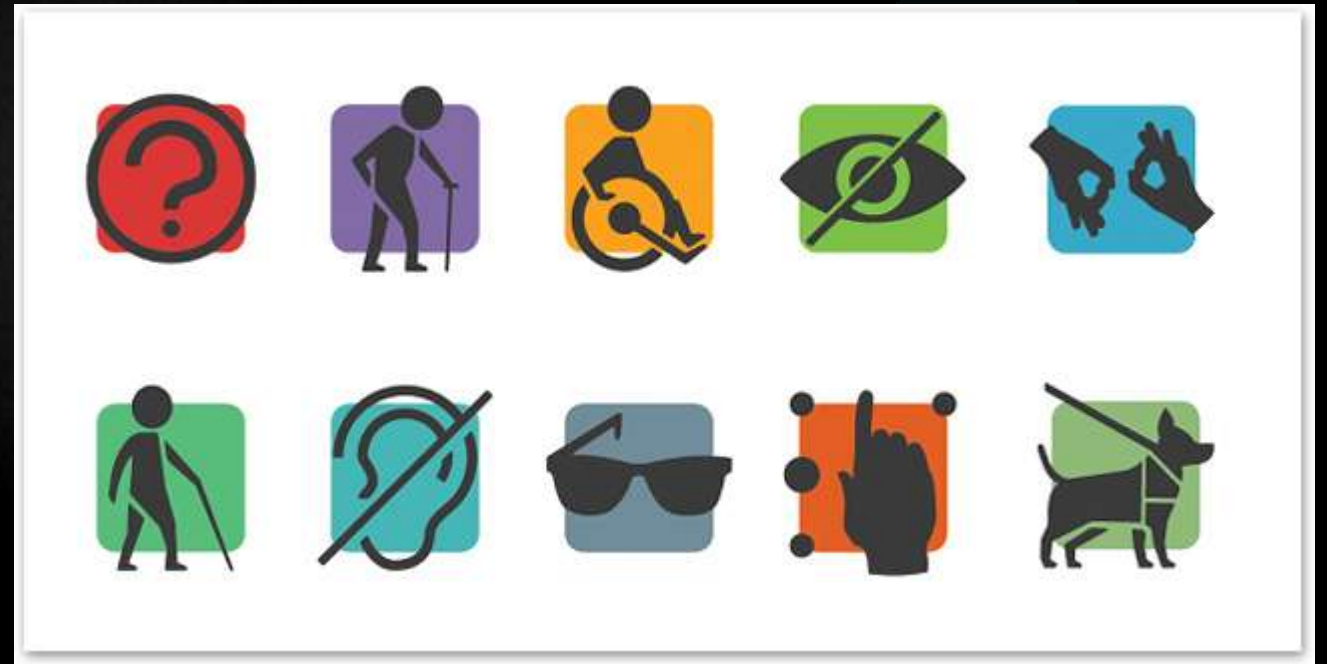


# What is Accessibility?



To better interact through:

- ▶ Sight
- ▶ Sound
- ▶ Touch
- ▶ Smell
- ▶ Mobility
- ▶ Understanding
- ▶ Communication
- ▶ Manipulation
- ▶ Teaching / learning



# What is Accessibility?



With the real world:

- ▶ Other people
- ▶ Infrastructure:
  - ▶ Buildings
  - ▶ Institutions
  - ▶ Transportation systems
- ▶ Products:
  - ▶ Computers
  - ▶ Internet
  - ▶ Websites
  - ▶ Household items
  - ▶ Office items

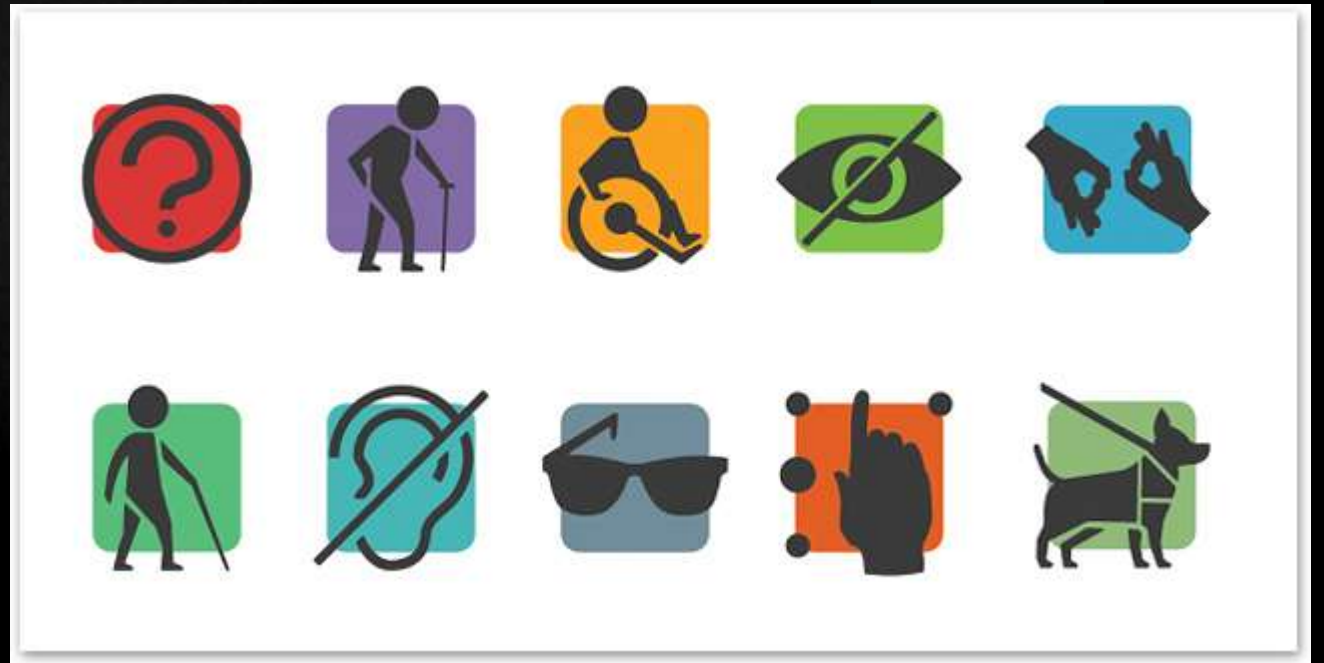


# What is Accessibility?



Through an enhanced hardware and / or software user interface:

- ▶ Alternate ways
- ▶ Augmented ways
- ▶ Customized ways
- ▶ Preferred ways





# What is Accessibility?

For these purposes:

- ▶ Education
- ▶ Vocation
- ▶ Recreation
- ▶ Daily living

Little Things Do Make A Difference

Little Things Do Make A Difference

Little Things Do Make A Difference

Little Things Do Make A Difference



# The Goal of Accessibility



The ultimate goal of the accessibility movement is to ensure that everyone - regardless of ability or disability - has an **equal chance to participate in society**. In the face of constant technological change, this becomes more difficult but also extremely necessary. The only way to allow people with disabilities to **engage fully** in the activities that interest them is to give them access to all the possibilities open to everyone else, including those offered by twenty first century technology.

Accessible Technology in the 21st Century

- The Future

# Examples of Devices that Provide Accessibility



## Building Access

- ▶ Door Opener
- ▶ Ramps
- ▶ Workspaces
- ▶ Signage
- ▶ ATMs





# Computer Accessibility



As the computer age continues, more and more technology is being created to make computers and the internet accessible for people of all ability levels.

For **visually impaired users**, programs offer **audio description** or **screen reading**, while **monitor settings** can be modified to make visual reading easier or **braille embossers** can be added as **alternative output devices**.



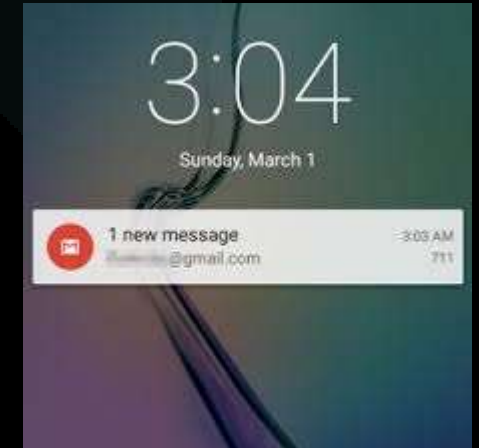
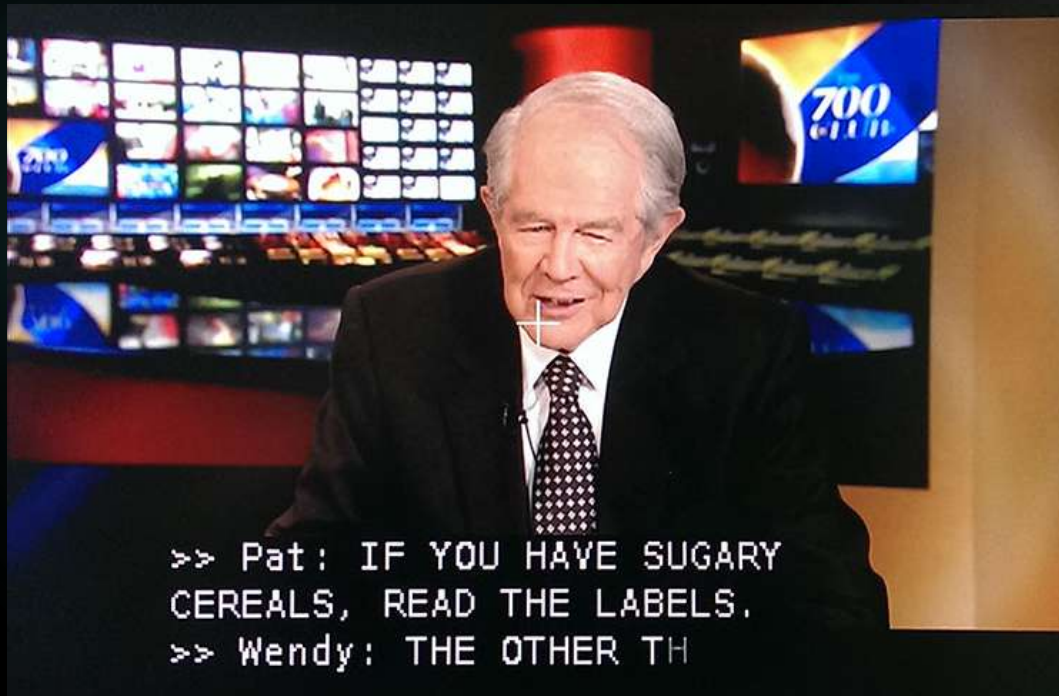
Accessible Technology in the 21st Century

- Introduction

# Computer Accessibility



For individuals with hearing difficulties, **captioning** and **visual notifications** instead of sound can offer more freedom in using a computer.



Accessible Technology in the 21st Century

- Introduction

# Computer Accessibility



Adaptive keyboards and mice allow **people with motor disabilities** to get their input into a computer, while **speech recognition** is an emerging type of software that allows control of a computer by voice.



Accessible Technology in the 21st Century

- Introduction



# Computer Accessibility



For those with **cognitive disabilities**, programs can be set up to **read text aloud while it is displayed**.



Accessible Technology in the 21st Century

- Introduction

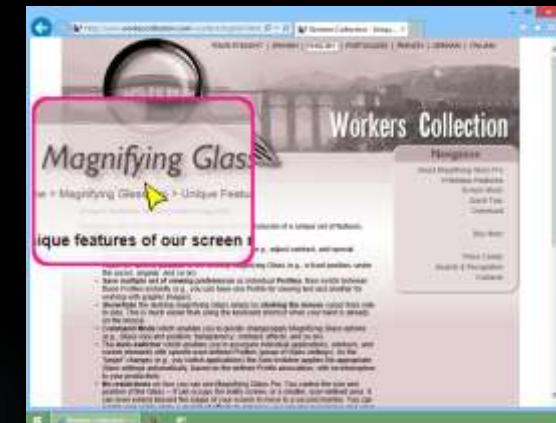


# Examples of Devices that Provide Accessibility

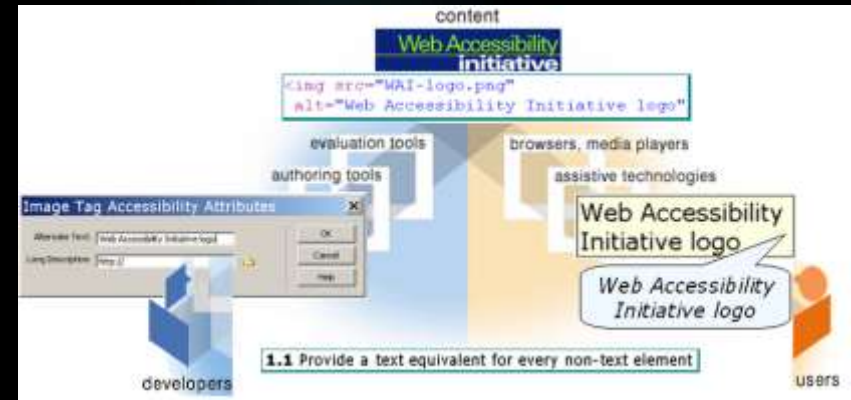


## Computer Access

- ▶ Alternative Mouse
- ▶ Alternative Keyboard
- ▶ Screen Readers
- ▶ Voice Recognition
- ▶ Screen Magnifiers
- ▶ Braille Displays
- ▶ Captioned videos



# Accessible Webpages



## WCAG Guidelines (1 of 2)

- ▶ Provide equivalent alternatives to auditory and visual content
- ▶ Don't rely on color alone
- ▶ Use markup and style sheets and do so properly
- ▶ Clarify natural language usage
- ▶ Create tables that transform gracefully
- ▶ Ensure that pages featuring new technologies transform gracefully
- ▶ Ensure user control of time-sensitive content changes

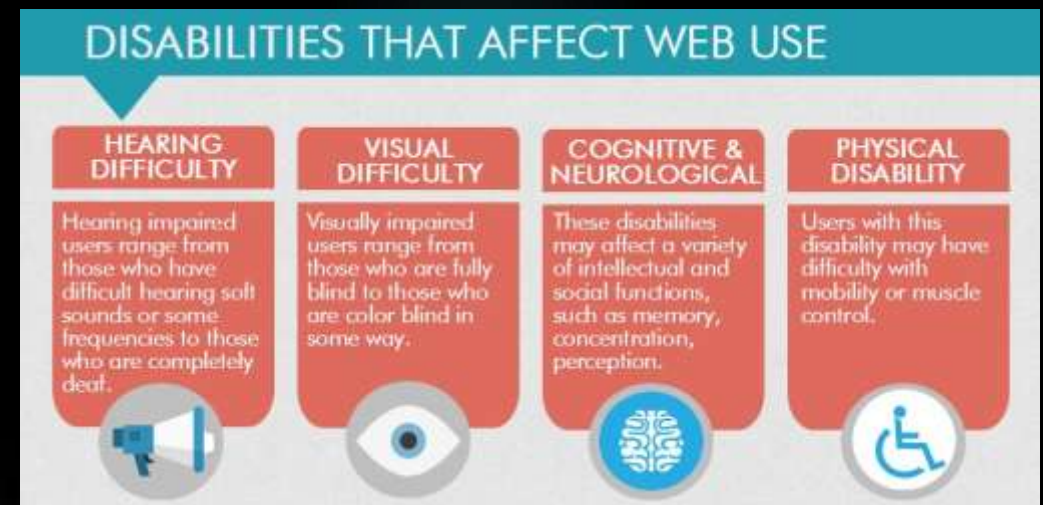


Accessible Technology in the 21st Century  
• Website Accessibility

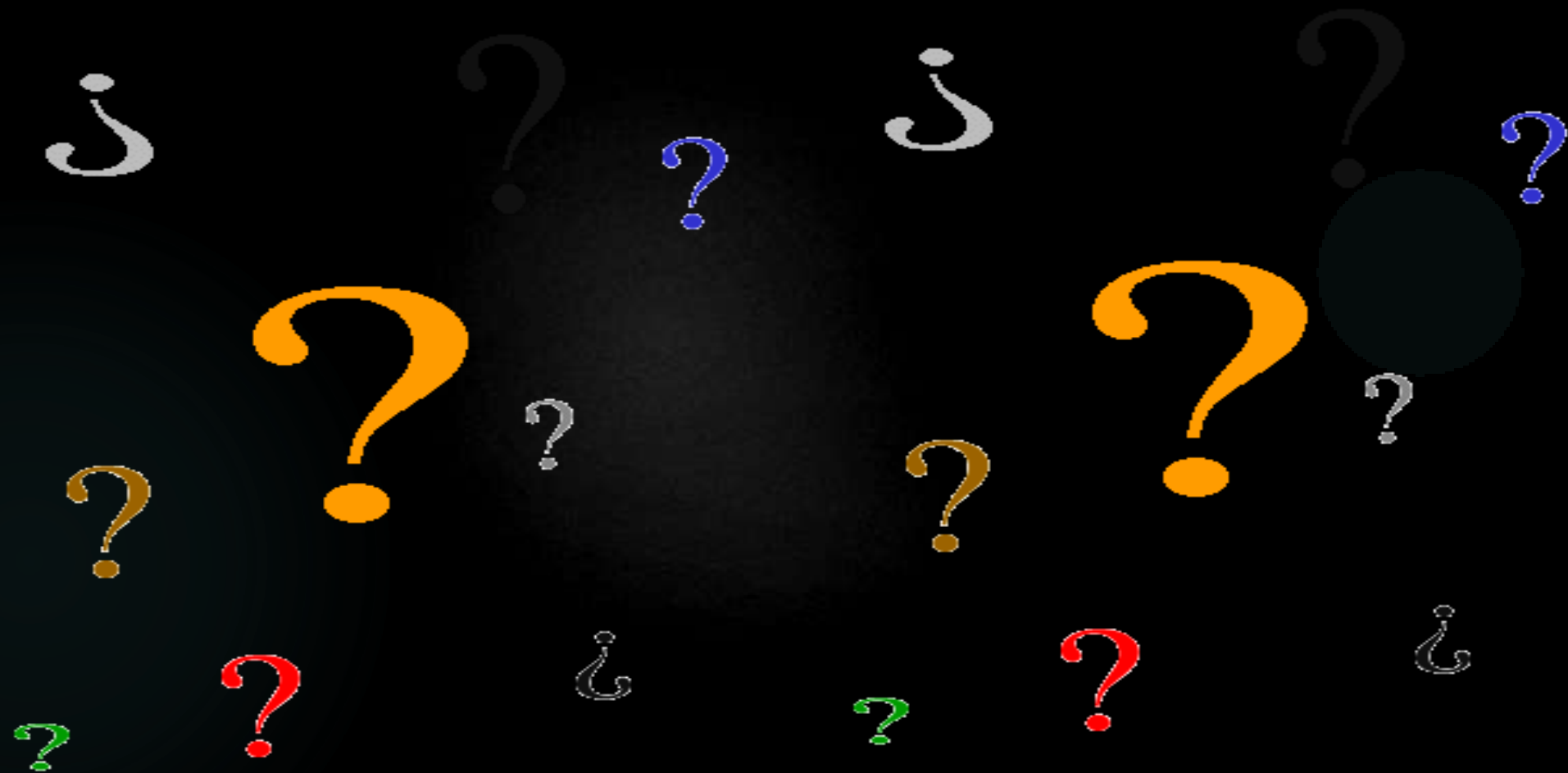
# Accessible Webpages

## WCAG Guidelines (2 of 2)

- ▶ Ensure direct accessibility of embedded user interfaces
- ▶ Design for device-independence
- ▶ Use interim solutions
- ▶ Use W3C technologies and guidelines
- ▶ Provide context and orientation information
- ▶ Provide clear navigation mechanisms
- ▶ Ensure that documents are clear and simple



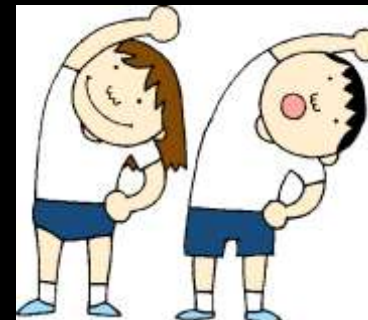
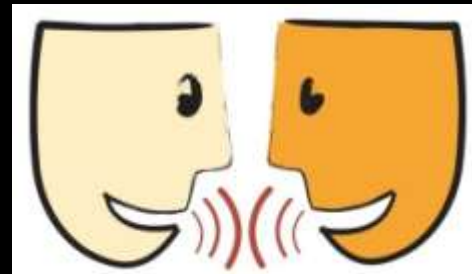
# Questions?





# 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



class dismissed



# Laptops Galore



# Time for Questions?





End the class

