January 22, 2026

The Billion-User Blind Spot: Who, What, and How of Digital Accessibility

ENGR110/210
Perspectives in Assistive Technology



Sean J. Keegan

Office of Digital Accessibility



CLEARING A PATH
FOR PEOPLE WITH SPECIAL NEEDS
CLEARS THE PATH FOR EVERYONE!

Submitted by
Marlo Kohn

Reminder - Work with Diligence

- Time is your team's most precious resource
- 2.5 weeks of class until Mid-term Presentations - **Tue, Feb 10th**





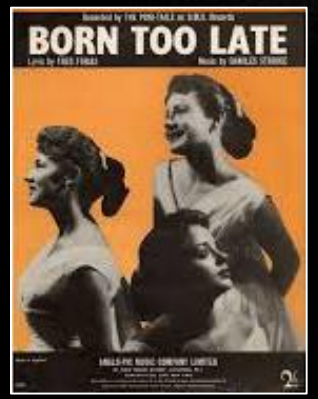
Age-related Disabilities

What you missed because you were "Born Too Late"

- Music: Elvis, Beatles, Rolling Stones, Motown, Classic Rock
  - Media: Vinyl records, 8-Tracks, Cassettes
- People: JFK, MLK ("I have a dream")
- Events: Woodstock, The Summer of Love, Moon Landing
- Sports: "The Catch"
- Introduction of Transistor Radios, Color TVs, TouchTone Telephones, Personal Computers











Age-related Disabilities

What you avoided because you were "Born Too Late"

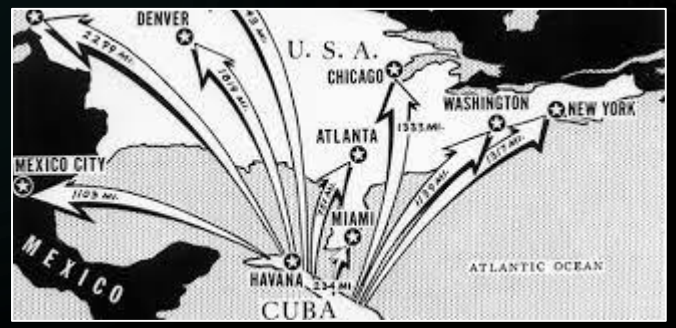
- War in Vietnam
- The Draft
- Political unrest
- Nixon
- The Cuban Missile Crisis
- Disco











Brief Overview of Accessibility



A11y

What is Accessibility?

Accessibility is a:

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



Properties: Readability, flexibility, visibility, permeability, drivability, durability, flammability, reproducibility, affordability

What is Accessibility?



That enables people:

- Individuals with disabilities:
  - Sensory
  - Physical
  - Cognitive
  - Neurological
  - Temporary
- 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 **shared resources**:

- 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











Is this building accessible?

Computer Accessibility

Sean will cover this topic

In Summary



Examples of shared common resources are:

- buildings
- transportation systems
- consumer products including **computers** and software
- institutions such as **schools**, banks, government facilities, libraries, voting places, stores
- facilities such as parks, **playgrounds**, beaches
- information systems such as books and the **internet**

In Summary



Accessibility is the design goal, feature, or criteria that allows people of differing abilities to share common resources.

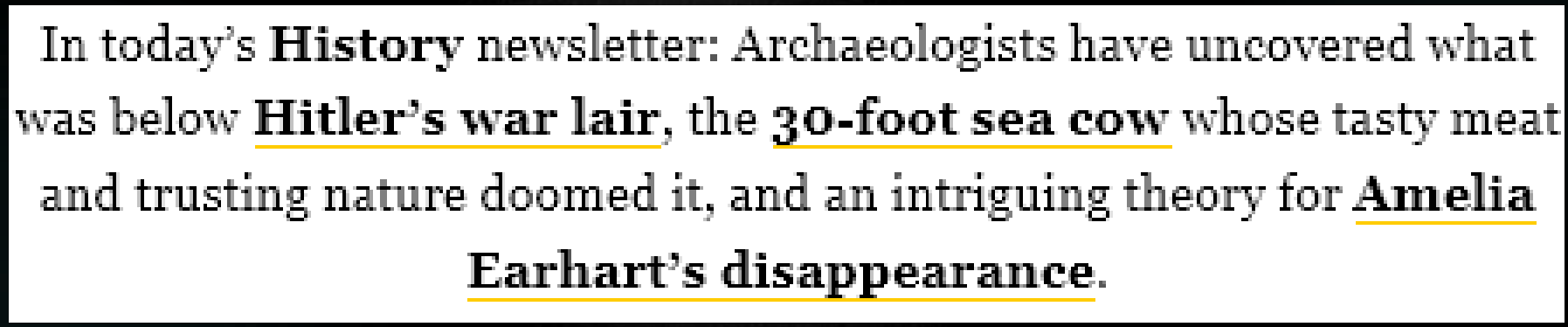
In Summary



In many instances, the use of an assistive technology device can provide needed access to an otherwise inaccessible resource.

When Digital Accessibility Failed

Jody uses "Inverted Text" to make it easier for her to read her email messages on her phone:



In today's **History** newsletter: Archaeologists have uncovered what was below **Hitler's war lair**, the **30-foot sea cow** whose tasty meat and trusting nature doomed it, and an intriguing theory for **Amelia Earhart's disappearance**.

When Digital Accessibility Failed

But this scheme didn't work when I sent her the course newsletter



Perspectives

ATLAS

Assistive Technology Laboratory at Stanford

Design, Technology , and Engineering benefitting individuals with disabilities and older adults in the local community

November xx, 2025

Perspectives is the newsletter of the Stanford course, **Perspectives in Assistive Technology**.

Last Call for Team Project Suggestions

This newsletter issue updates course activities.

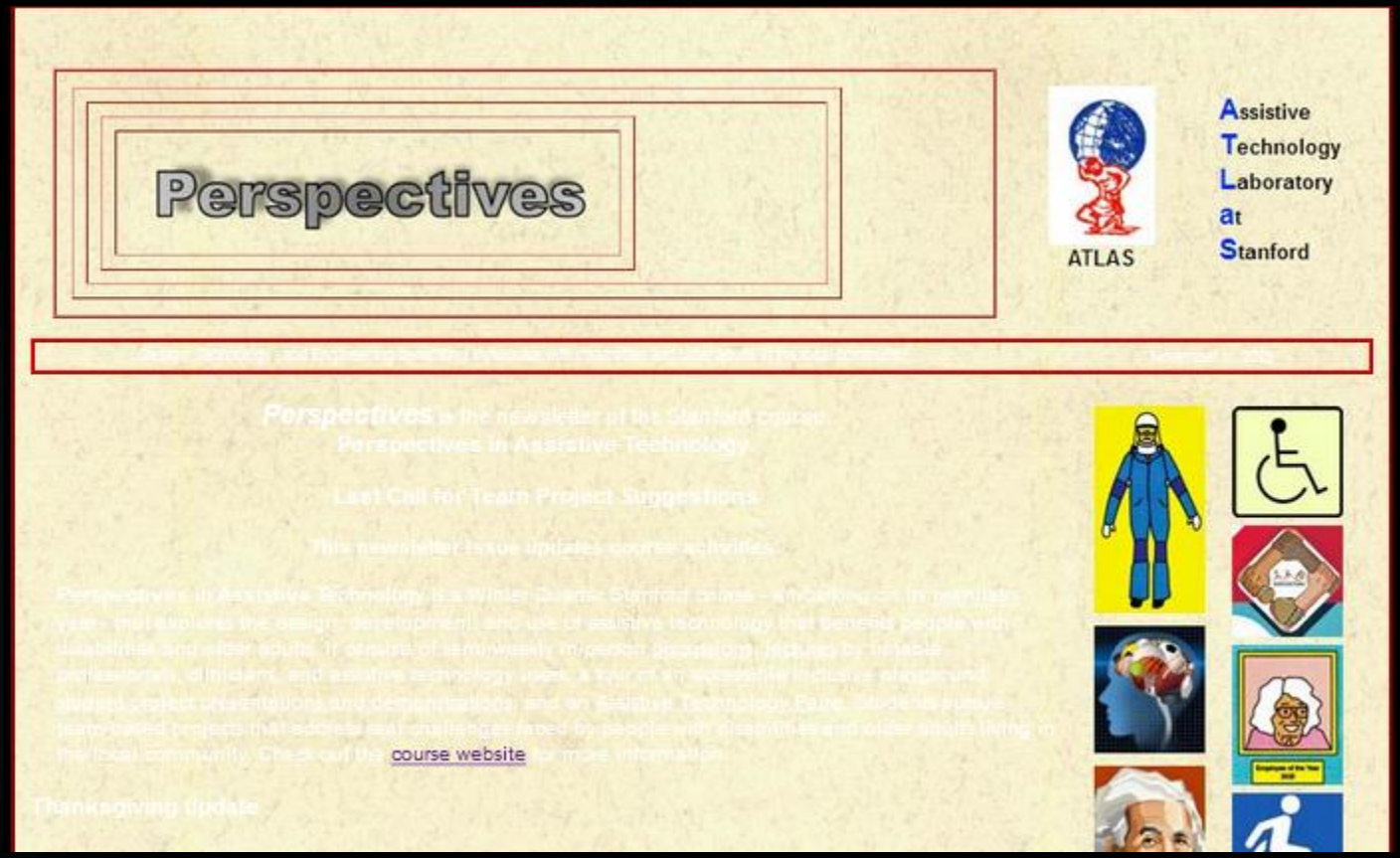
Perspectives in Assistive Technology is a Winter Quarter Stanford course - embarking on its twentieth year - that explores the design, development, and use of assistive technology that benefits people with disabilities and older adults. It consists of semi-weekly in-person discussions; lectures by notable professionals, clinicians, and assistive technology users; a tour of an accessible inclusive playground; student project presentations and demonstrations; and an Assistive Technology Faire. Students pursue team-based projects that address real challenges faced by people with disabilities and older adults living in the local community. Check out the course website for more information.

Thanksgiving Update

What I sent

When Digital Accessibility Failed

But this scheme didn't work when I sent her the course newsletter



This is what she saw

When Digital Accessibility Failed - Why?

Her phone did not know how to invert the background which was an image rather than a solid color



Unlikely Intersection

- Accessibility
- Font Faces
- Politics







Font Types

- Times New Roman
- Calibri
- Century Gothic

Sans serif	Serif
Tahoma	Times
Arial	Georgia
Verdana	Century
Trebuchet	Garamond
Gill Sans	Book Antiqua

Advantages

- Times New Roman - default font in Microsoft Word, typically used in documents before 2023
- Calibri - font used in documents, considered to be more accessible for those with reading challenges and easier to recognize by screen readers
- Century Gothic - font used in these slides

Political Conflict

- The State Department ordered Times New Roman to be restored as the default font for official documents.
- Switch to Calibri in 2023 was denounced as a "DEI play".
- Return to Times New Roman "restores decorum and professionalism".
- Calibri, is often described as "soft and modern" but State Department considers it "informal", "radical", and clashes with its letterhead.

Tuesday, January 27th



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

Sha Yao, MFA

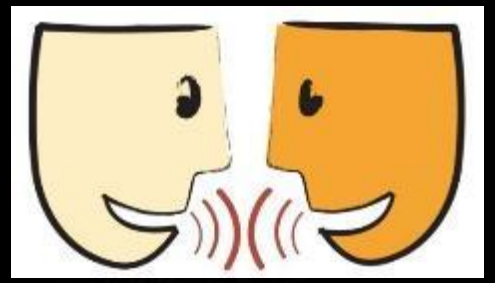
Today



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Sean J. Keegan
Stanford Office of Digital Accessibility

Break Activities



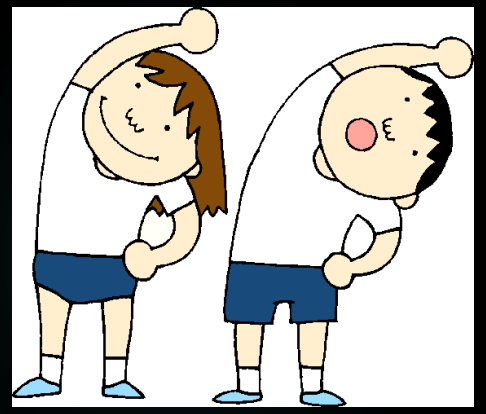




- Sign Attendance Sheet
- Stand up and stretch
- Take a bio-break
- Text message
- Web-surf
- Respond to email
- Talk with classmates
- Reflect on what was presented in class









Short Break



