

# Accessibility

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How much impact can  
technology have on a  
person's life?

# Disabilities

- Many different types of disabilities: physical disabilities, mental impairments, and learning disabilities
- How can technology overcome some of these disabilities?
- Does technology cause more problems?

# ADA

- Americans with Disabilities Act
- Signed into law in 1990
- Guarantees equal opportunities for Americans with disabilities
- [https://www.ada.gov/ada\\_intro.htm](https://www.ada.gov/ada_intro.htm)

# Technology and Disabilities

- Technology can ease the stress of a disability or make it worse
- Typically, the accommodations made for individuals with disabilities will be beneficial for everyone
- Non-technology examples:
  - Elevator (maybe a ramp) can be easier than the stairs
  - Audio cue at crosswalks

# Learning Disabilities

- Technology, if used properly, can be very beneficial
- Post slides ahead of class
- Include adequate text on the slide so students aren't frantically taking notes
- Clean slides, not too busy/distracting
- Nothing flashing
- Present material in multiple ways: lecture, hands-on activity, practice outside of the classroom, discussion

# Visual Impairments

- Visual impairment does not necessarily mean blind
- Screen readers (Voice Over on Mac)
- They don't work for everything though!
- Slides with black background and white text has been shown to be the most effective for students with visual impairments
- alt text for images when designing webpages

# Visual Impairments

- Video Magnifiers
- Braille Technology: <http://www.afb.org/info/living-with-vision-loss/using-technology/assistive-technology-videos/braille-writing-devices/transcript-of-braille-transcribing-software-and-braille-embossers/12345>
- Speech Systems
- Be My Eyes: <http://bemyeyes.com/>



# Activity

Choose one of the following activities with a friend (the friend should keep you safe). Then, choose a second activity so your friend gets to have the experience

1. Get a drink of water from the fountain
2. Pretend to get a Dr. Pepper from the soda machine downstairs
3. Give directions to the Caf without referencing anything visual

# Hearing Impairment

- Not as difficult to use the computer, but what about videos?
  - Important for videos to have closed captioning
- Hearing implants
- Telephone systems - phones now have captioning

# Hearing Impaired Activities

<https://www.hearinglikeme.com/hearing-loss-simulator/>

[https://www.hear-the-world.com/en/knowledge/  
hearing-loss/what-hearing-loss-sounds-like](https://www.hear-the-world.com/en/knowledge/hearing-loss/what-hearing-loss-sounds-like)

[https://aplus.com/a/what-it-sounds-like-to-be-deaf-video?  
no\\_monetization=true](https://aplus.com/a/what-it-sounds-like-to-be-deaf-video?no_monetization=true)

# Activity

- Get in groups of 2 or 3
- Let's see how well you read lips =)

# Motor Impairments

- Speech Systems
  - Myna: [https://www.youtube.com/user/ProjectMyna/videos?view=0&sort=dd&view\\_as=subscriber&shelf\\_id=0](https://www.youtube.com/user/ProjectMyna/videos?view=0&sort=dd&view_as=subscriber&shelf_id=0)
- Eye Tracking: <https://www.youtube.com/watch?v=2q9DarPET0o>
- Tobii: <https://www.tobii.com/>
- Track pads

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# What do I do with this information?

- In life...anything you design or create, think about how people will use it? Could you design it more universally?
- In class...ethics “essay.” Please write an essay describing the ethics of technology. It could be about accessibility, hacking, cheating, etc. It does not need to be an essay. You can create a video, a painting, a collage, anything you want. You will need three academic sources. If you create something abstract (painting, collage), please include at least half a page explaining the point of the piece and how it relates.