

History of Disability – Legal and Policy

05-499/899 Fall 2024

Celebrating Accessibility

<https://cmu-05-499.github.io>

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Administrivia

- HW1 due tonight, Sept 5, 11:59pm
- HW2 due next Wednesday, Sept 11, 11:59pm
- Please sign up for the course Slack. Link in Canvas/Announcements.
- Readings posted on Canvas/Announcements.

Disability Rights Legislation and Universal Design

Rehabilitation Act of 1973 (Rehab Act)

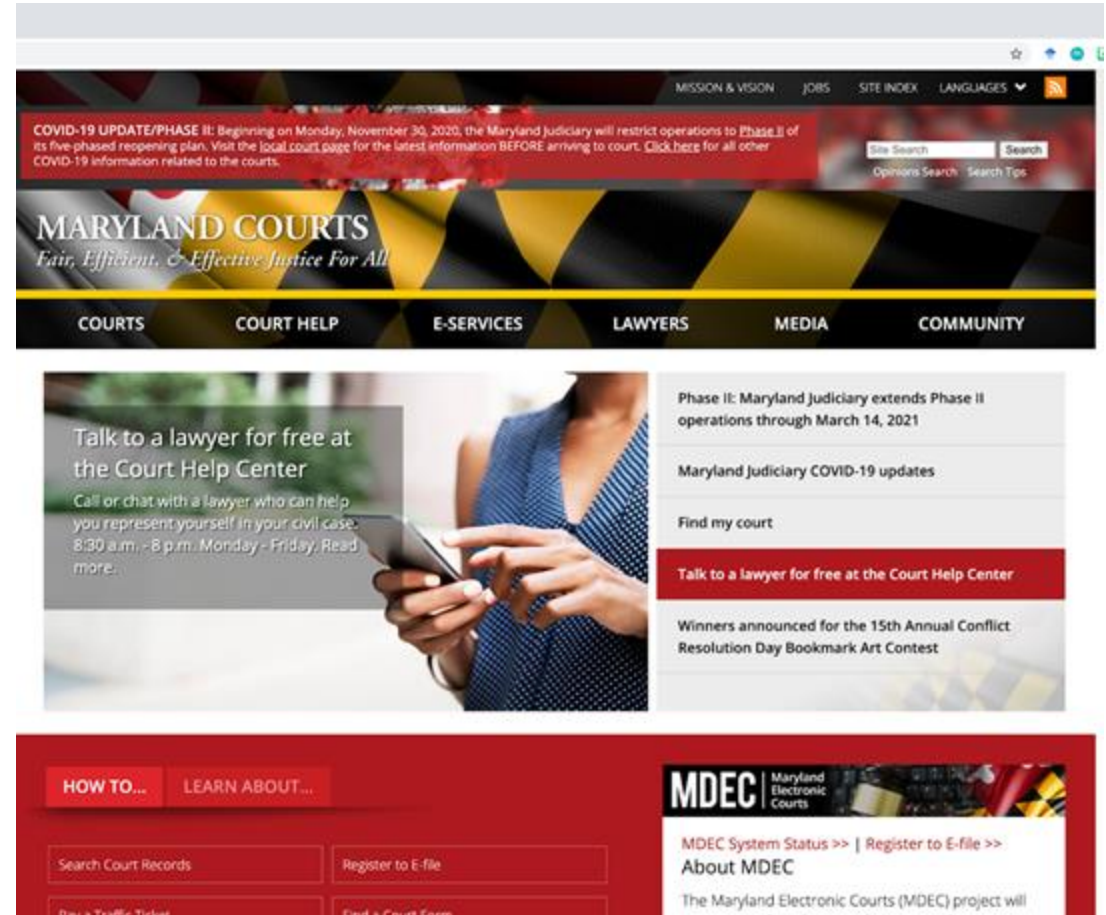
- Prohibits discrimination based on disability
 - Programs provided by federal agencies
 - Programs receiving federal financial assistance
 - In federal employment
 - Employment by federal contractors

Important Sections

- Section 501 - Prohibits discrimination in employment by federal agencies
- Section 503 - Prohibits discrimination in employment by contractors and subcontractors
- Section 504 - Prohibits discrimination in programs conducted by or financially supported by federal funds.
- **Section 508** - Specifically addresses information technology

Aside: Carrington's Official Start in Accessibility

- Many years ago
- Developed Template pages for state government website
- After months of work, it was time to check for compliance
- Guess what? We found problems.
- Took another couple of months to correct



Key Terms

- **Qualified individual** - an individual who, with or without reasonable accommodation, can perform the essential functions of the employment position that such individual holds or desires.
- **Individual with a disability** - a person who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such impairment or is regarded as having such an impairment

Architectural Barriers Act (ABA) - 1982

- Original Law passed in 1968
 - One of the first laws to address the accessibility of the built environment
- Standards apply to facilities designed, built, altered, or leased with federal funds
- Minimum standards **published** in 1982
- **Adoption** and revisions continuing through at least 2013

Americans with Disabilities Act (ADA) - 1990

- Civil rights legislation that works to increase the inclusion of people with disabilities in all aspects of community life, including employment.
- Extends Rehab Act accessibility standards application to private employers, state and local government, public accommodations, etc.
- Updates and amendments through at least 2014

Disability under the ADA

- "The ADA does not specifically name all of the impairments that are covered."
 1. a person who has a physical or mental impairment that substantially limits one or more major life activities,
 2. a person who has a history or record of such an impairment, or
 3. a person who is perceived by others as having such an impairment.

Sections

- Title I: Employment
- Title II:
 - State and Local Government Programs
 - Transportation including paratransit
- Title III: Public Accommodations
- Title IV: Telecommunications

ADA Title III - Public Accommodations

Public accommodations are private entities who own, lease, lease to, or operate facilities such as:

- restaurants
- retail stores
- hotels
- movie theaters
- private schools
- convention centers
- doctors' offices
- homeless shelters
- transportation depots
- zoos
- funeral homes
- day care centers
- and recreation facilities including sports stadiums and fitness clubs.
- Transportation services provided by private entities are also covered by title III.

ADA Title IV - Telecommunications

- Telecommunications relays
 - Supporting TTY services for people with hearing and speech disabilities
- Title IV also requires closed captioning of Federally funded public service announcements.
- When we “connect” this with the Telecommunications Act of 1996 we see accessibility extended to more devices and services (telephones, cell phones, pagers, etc.)

Participation Activity

On a piece of paper, write your name and Andrew ID.
Answer the following questions:

1. What kinds of accommodations or features (tech or otherwise) have you interacted with or noticed around you here at CMU? or is anything notably missing?
 2. Who is it for?
 3. Are there any really interesting or thoughtful ways these features have been integrated into the campus?
- Once you've finished writing down your answers, pair up with a neighbor and discuss your answers with them. Share your answers with the class.
 - Turn in your paper at the end of class.

US Access Board

- Works with DOJ and DOT to enforce, amend, and support compliance with these and other key standards
- Most accessibility guidelines/standards issued are minimum requirements
- Can be a great resource for learning about and guides for applying these standards
 - <https://www.access-board.gov/>

Discussion of Readings

- Discussion Leader: Xin Yue Li
- Mankoff et al. 2010 - Disability studies as a source of critical inquiry for the field of assistive technology.
<https://dl.acm.org/doi/10.1145/1878803.1878807>
- Heumann nature: The life and legacy of disability rights activist Judy Heumann
(https://www.youtube.com/watch?v=_pEFsz-84eg)

Two famous court cases

Robles vs Domino's

The assertion: Domino's website and smartphone app was not accessible for people who use screen readers violating Title III of the Americans with Disabilities Act (ADA)

Domino's argued that the ADA didn't apply to websites

Dismissed in district court but appealed and eventually supreme court dismisses petition to overrule.

Result: Filed in 2016, eventually settled in 2022

Domino's vs Robles

Implications:

- The ADA **does** apply to websites and apps
- Just because the DOJ does not specify the regulations doesn't excuse businesses and places of public accommodation from applying
- Adherence WCAG cited as not required but could have prevented the issues and Domino's received fair notice

- In general, **fighting against the ADA is not good for business**

United Airlines - Overtime

The assertion: United Airlines policy against overtime work for people placed on light duty violates the ADA as it discriminates against people with disabilities who are more likely to be assigned to light duty schedules.

Despite being medically cleared to work overtime the policy was to deny such requests.

Result: Settlement of \$850,000 USD

United Airlines - Overtime

"It runs counter to the ADA's goal that each employee be evaluated individually on whether they can get the job done, with or without an accommodation. We appreciate that United Airlines has agreed to settle this case and rescind this policy"

-EEOC San Francisco Regional Attorney William R. Tamayo

On the ADA and Stereotypes

"Disability does not mean inability. The ADA encourages us all to focus on opening doors to all a worker can do and discourages the closing of doors through restrictive stereotypes about disabilities, such as what you may think that person cannot do."

-EEOC San Francisco District Director Michael Baldonado

An HCI and Design Perspective

Before the 1990s...

- 1960s: many people who were blind brought in to be programmers, then start to be phased out
- 1970s: computers begin to have more visual interfaces and increase in keyboarding
- This cycle of growth led to people being pushed out of gainful employment and positioned accessibility as overcoming a deficit
 - Remember the medical model

In the late 1990s - Shift toward Universal design

- Ronald Mace (an architect) coined the phrase Universal Design
- In 1997 - Seven Principles proposed with guidelines
 - <https://www.udinstitute.org/principles>

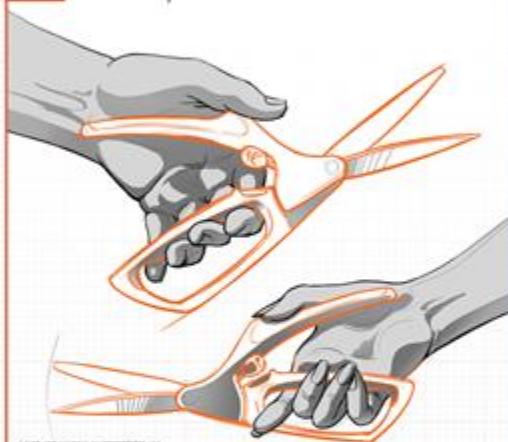
The Principles of Universal Design



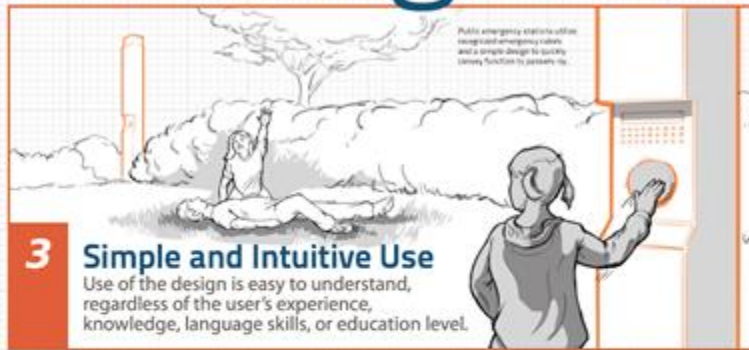
1 Equitable Use
The design is useful and marketable to people with diverse abilities.

The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

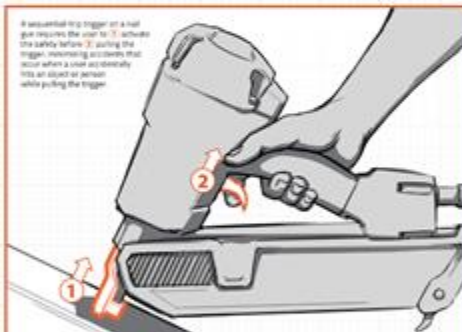
2 Flexibility in Use
The design accommodates a wide range of individual preferences and abilities.



Large grip scissors accommodate use with other hand and vision alternatives between the two in highly repetitive tasks.

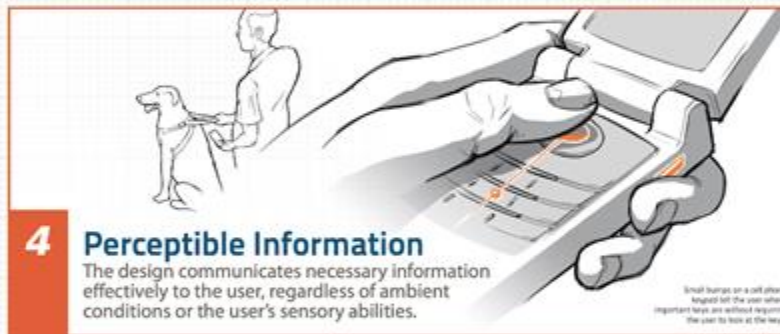


3 Simple and Intuitive Use
Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or education level.



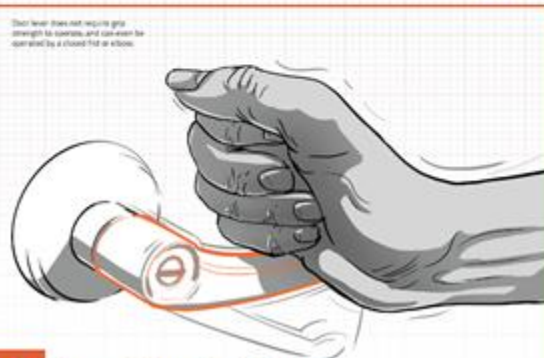
If sequential trigger on a rail gun requires the user to "activate the safety before" pulling the trigger, increasing air flow that stops when a user accidentally hits an object or person while pulling the trigger.

5 Tolerance for Error
The design minimizes hazards and the adverse consequences of accidental or unintended actions.



4 Perceptible Information
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Small bumps on a cell phone helped tell the user where important keys are without requiring the user to look at the keys.



Door lever does not require grip strength to operate, and can even be operated by a closed fist or elbow.

6 Low Physical Effort
The design can be used efficiently and comfortably and with a minimum of fatigue.

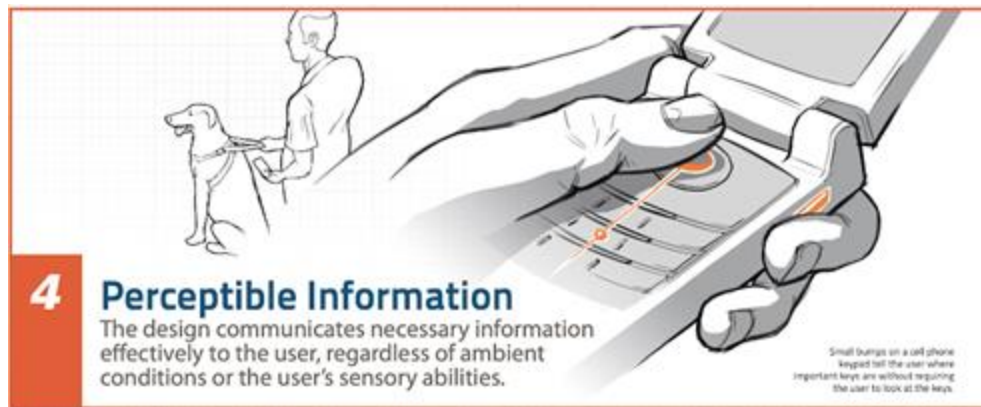


Wide gates at subway stations accommodate wheelchair users as well as commuters with packages or luggage.

7 Size and Space for Approach and Use
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

An example: Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.



Guidelines:

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- Provide adequate contrast between essential information and its surroundings.
- Maximize "legibility" of essential information.
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

These kinds of guidelines are good for understanding some of the general requirements for our designs, but not necessarily how to apply them well.

This Era of Checklists and Guidelines

- From this point on accessibility is really dominated by reliance on checklists
- Generally at this point for HCI it was widely accepted that:
 - Specific guidelines are good for evaluation, but bad for design
 - General guidelines are good for awareness but also bad for design
 - Conformance to a guideline doesn't necessarily mean that any individual will be able to use the technology
- Here is where we really see the emergence of user centered approaches

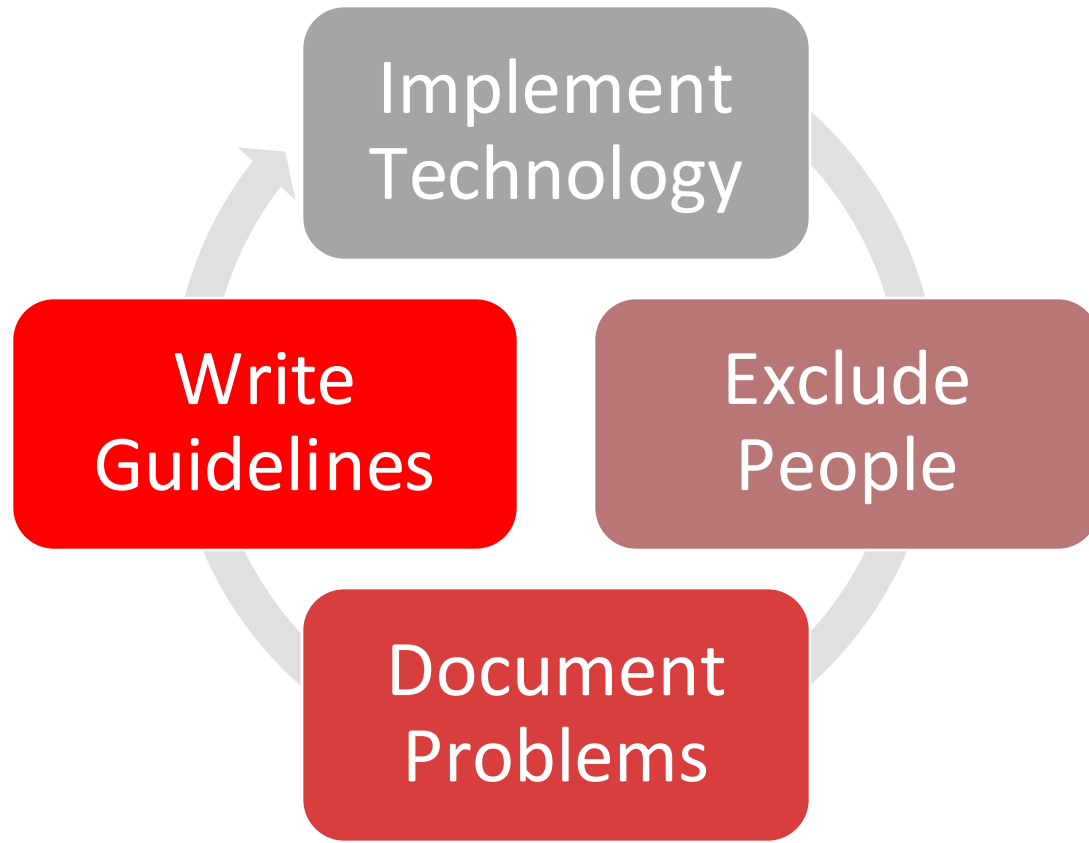
Web Content Accessibility Guidelines (WCAG)

- Proposed in 1999 starts to work toward making change on the Web
- Although well received, they weren't perfect, and when evaluated they fell a bit short
- WCAG 2.0 released in 2008 to respond to updated context
- WCAG 3.0 is about to be released.
- We'll go into this more a bit later

What's Going On?

- Each time we adjust the guidelines we have new problems emerge
- We are playing a constant game of catch up

The current model resembles this



Causes major implementation lag

In the Mid-Late 2000s UX has emerged

- Power argues that just as accessibility is trying to catch up to this implementation and conceptual lag in design, HCI and the rest of the world are acknowledging UX, usability, and the importance of context and lived experience.

Power, C., Cairns, P., & Barlet, M. (2018). Inclusion in the third wave: access to experience. *New Directions in Third Wave Human-Computer Interaction: Volume 1-Technologies*, 163-181.

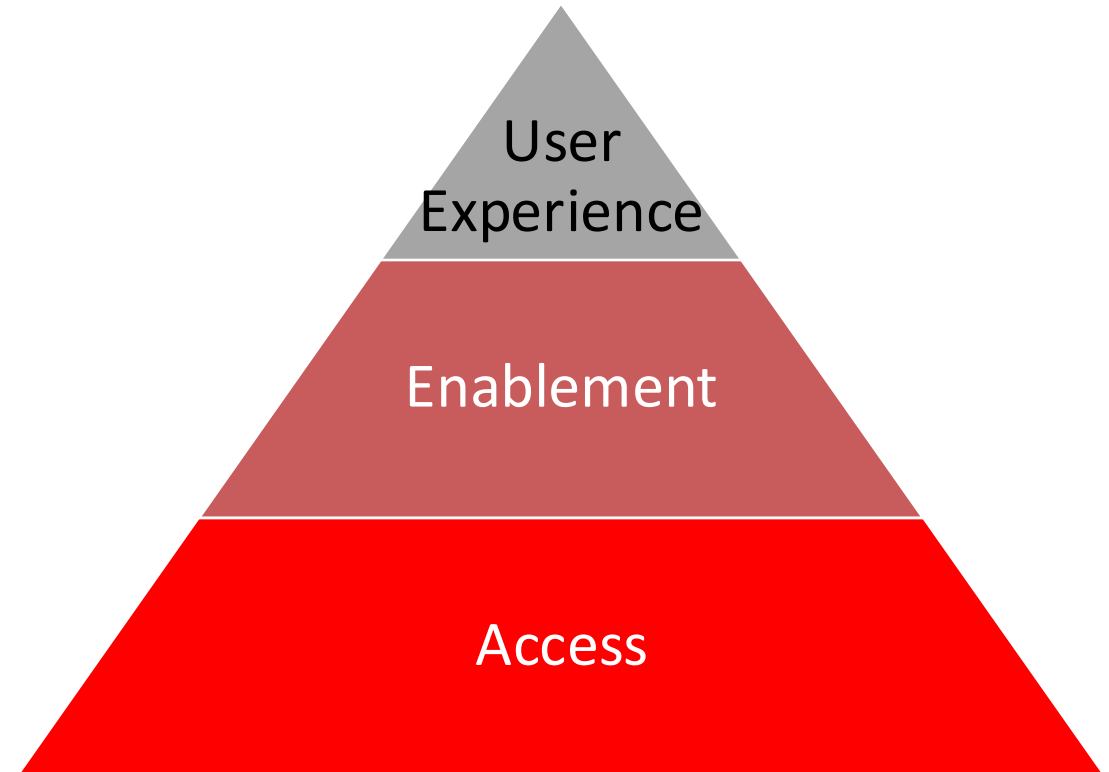
Accessible User Experiences

- “We need a shift in the way we design such that we move beyond the deficits model to the way people want to interact and the experiences people want to have with their technologies...that are free from the barriers imposed by the mismatch between their disability and the technology”

Access to Experience

In the third wave:

- We need to overcome deficits in getting information in and out of the machine
- Ensure that people can achieve their goals by getting them around the interaction cycle
- Ensure that people are having the experience they want to have



As we continue to push the boundaries of User
Experience,

Accessibility and Inclusion
cannot be an afterthought.