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About Being Accessible: Your Communication from a Universal Design Perspective

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About Being Accessible

Your Communication from a Universal Design Perspective

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Today's Content

- Universal design: Why by the numbers
- Universal Design principles and how they apply
- 508 Refresh – what does it even mean?
- The principles of the WCAG 2.0 document
- Breaking down POUR
- Some document creation tips
- Evaluation tools
- Browser add-ons

*By the Numbers (US Population Estimates)
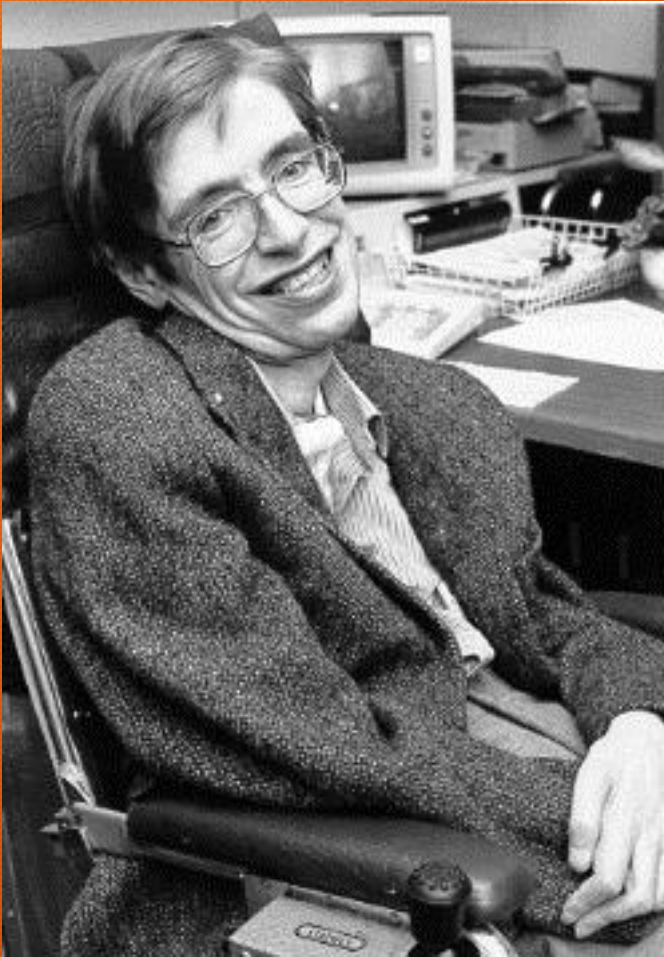
Cognitive issues = 10 million
  Autism spectrum = 3.5 million
  Intellectual issues = 6.5 million

Hearing impairment = 37.5 million
  Full or partial deafness

Physical disabilities = 56.7 million

Vision impairment = 10 million
  Low vision | Blindness | Color blindness

*Estimates vary

But Wait, There Are More of Us…

- An undiagnosed person
- A person recuperating from an injury
- A person seeking privacy
- A person in an overloud environment
- An elderly or very young person
- A person … any person

Universal Design – What and Why

The history of universal design originates in architecture

- 1950s – improved social access for persons with disabilities

- 1970s – emphasis toward normalization and integration
  - In the mid 70s, design was recognized as a condition for equal rights
  - Everyone's functional capacity is enhanced when environmental barriers are removed – Michael Bednar, architect, 1970s.

Universal Design, continued

- 1987 - Irish designers pass a resolution at the World Design Congress that recognize disability and aging as factors into their work.
  - American architect Ron Mace coins the term Universal Design (UD), seeking universal usability designed to adapt to assistive interfaces.
- 1990s – A surge of interest from industrial designers, whose work must appeal to the end user.
- Ever-increasing user diversity has established a clear, commonsense case for Universal Design.

What Does "508 Refresh" Mean?

- [Federal Register, Volume 82, No. 11](): Rules and Regulations describe the final rule for Information and Communication Technology (ICT) Standards and Guidelines, updating Section 508 of the Rehabilitation Act of 1973 as well as Section 255 of the Communications Act of 1934.

- [Web Content Accessibility Guidelines]() (WCAG 2.0) offers harmonization as it informs the final rule and offers guidance to satisfy the success criteria for specific technologies

Intentions of the "Refresh" Rule Changes

These rule changes make Web/electronic content more accessible to a wider range of people in a society with ever-increasing technology use. They are:

- Designed to apply broadly to different Web technologies now and in the future
- Seek to harmonize 508 and 255 requirements with voluntary consensus standards (WGAC 2.0)
- Are testable with a combination of automated testing and human evaluation
- Replace product-specific requirements with enhanced functional-based criteria

Implications for Libraries*

I. We provide the highest level of service to all library users through appropriate and usefully organized resources; equitable service policies; equitable access; and accurate, unbiased, and courteous responses to all requests.

VIII. We strive for excellence in the profession by maintaining and enhancing our own knowledge and skills, by encouraging the professional development of co-workers, and by fostering the aspirations of potential members of the profession.

* From the [ALA Code of Ethics](#)

WCAG 2.0 Structure

[Four principles of accessibility](#), with12 guidelines:

Perceivable

1.1 Text alternative
1.2 Time-based media
1.3 Adaptable
1.4 Distinguishable

Operable

2.1 Keyboard accessible
2.2 Enough time
2.3 Seizures
2.4 Navigable

61 Success Criteria

A   - 25
AA   - 13
AAA   - 23

Understandable

3.1 Readable
3.2 Predictable
3.3 Input Assistance

Robust

4.1 Compatible

Compliance Levels for 508

WCAG offers [compliance information](#) for testable criteria:

- A – minimum compliance
- AA – complies with all A and AA criteria, or offers a conforming alternative version
- AAA – complies with all A, AA, and AAA criteria (WCAG notes this is not achievable in all cases, and does not suggest its use as a general policy)

Perceivable

1.1 Text alternative (level A)
- All non-text content has a text alternative that serves an equivalent purpose, or at least provides descriptive information

1.2 Time-based media (levels A – AAA)
- Alternatives for time-based media (text file, live captioning, sign language, etc.) are available

1.3 Adaptable (level A)
- Use of structure, sequence, sufficient sensory characteristics (multiple means), to present content in different ways

1.4 Distinguishable (level A – AAA)
- It is easy to distinguish foreground content from background

Operable

2.1 Keyboard accessible (levels A, AAA)
- All functionality is available from a keyboard, and users are not "trapped" by cursor focus

2.2 Enough time (levels A, AAA)
- Users have enough time to read and use content, and can turn off, adjust, or extend timers, motion, and auto updates, or time is not a factor/users re-authenticate without losing information

2.3 Seizures (levels A, AAA)
- Three flashes or below, or below threshold (A) None (AAA)

2.4 Navigable (A – AAA)
- Users are able to to navigate, find content, and determine where they are, using bypass blocks, page titles, multiple ways, etc.

Understandable

3.1 Readable (levels A – AAA)

- This includes setting a default language of each page, specific word definitions and pronunciations, expanding abbreviations

3.2 Predictable (levels A – AAA)

- Focus on a screen component does not change the context; navigation is consistent; components with the same functionality are identified consistently; changes are only initiated by user

3.3 Input Assistance (levels A – AAA)

- Input errors are described to the user, and instructions or suggestions given for completion; help is provided

Robust

4.1 Compatible (level A)

- Content can be reliably interpreted by a variety of user agents, including assistive technologies, are compatible with their use, and the name and role of interface components and be programmatically determined.

Document Creation Tips

- Use CamelCase to give your files a meaningful 20-30 character name without special characters or spaces
- Use styles to structure your document
  - ARIA codes and proper markup (HTML)
  - Styles Word, etc documents
- Provide alt tag information for images, or allow them to be invisible to the screen reader

Document Creation Tips Continued

- Do not skip heading levels
- Ensure page sequencing is correct
- Maintain appropriate contrast ratios
- Do not use blinking or moving content
- Caption video, including non-language cues that impart meaning (music, screams, laughter, etc.) where needed
- Use accessibility tools built into Word, PowerPoint, etc. to check your content

Web Documents – WAVE

The Web Accessibility Evaluation Tool (WAVE) is a helpful way to evaluate your site pages. It is available as a browser add-on for Chrome and Firefox, or staff can run the WAVE tool directly from its site page.

The WAVE tool evaluates pages for errors, alerts, features, structural elements, HTML5 and ARIA components, and for contrast errors

Other Evaluation

- [Free screen readers](#) can help you evaluate your content (I use NVDA's free version on my PC)

- Built-in accessibility features on your Macs and PCs can help users navigate site pages for no additional expense

- [Browser add-ons](#) offer accessibility features including the ability to switch to a dyslexic-friendly font.

- Social media offers some of its own issues, especially considering third party content. This [section508.gov site](#) explains how to navigate them.

Document Creation Helps

- Microsoft Office provides built-in accessibility checkers for their Mac-based products and for PC users

- Google offers accessibility Products and Features information

- The Department of Health and Human Services offers Tips on Making Files Accessible

- WCAG offers examples of good techniques and failures on their extensive site pages

Your Thoughts

- What issues do you face with implementation?
- What questions remain unresolved for you?
- Where are you in the equity of access process?
- What other concepts surround this issue?
- What new questions do you have about the refresh?

References

Statistics on intellectual impairments

Autism spectrum = 1.1 million

Intellectual issues = 6.5 million

Statistics on hearing impairment = 37.5 million

Statistics on physical disability – 56.7 million

Statistics on vision impairment = 7.3 million