Information and Communication Technology (ICT) Accessibility

Making electronic information more accessible for everyone

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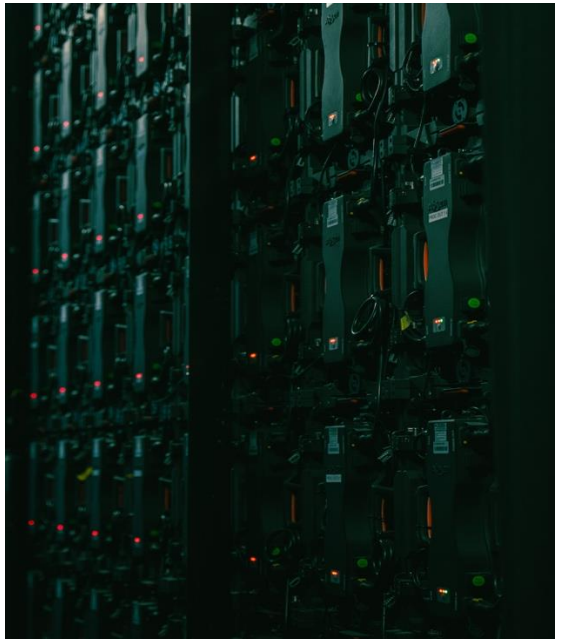
- There is a segment of the population that is not able to access technology equitably.
- There are groups currently working to improve accessibility for those who would not be able to access ICT otherwise.
- There are ways to improve accessibility without spending a lot of money.
- Improving accessibility improves the digital experience for everyone.

What is Information and Communication Technology?

It is technology that:

- Creates, displays, modifies, stores, receives, and sends data



Source: [Office of Accessible Systems & Technologies]

What are some examples of ICT?

- Websites
- Electronic documents
- Online learning content
- Video Conferencing
- Touchscreen at a museum
- Press briefing recorded and posted to YouTube
- Telephones
- Multifunction office machines

As well as….

Source: Office of Accessible Systems & Technologies

Information Kiosks!

What is not considered ICT?

- Air Conditioning System (it may have some accessible technology built in, such as a self-monitoring thermostat, but the system as a whole is not designed to work with data)
- Medical equipment, where information technology is key to its operation
- ICT not addressed by Section 508:
  - Cables and power cords
  - Wi-Fi and fiber optics
  - CDs and DVDs (content stored on them must be accessible)

Source: Office of Accessible Systems & Technologies

What are some examples of Assistive Technology (AT)?

- Screen readers, such as JAWS
- Screen magnification software, such as Dolphin Guide
- Text to speech software, such as Natural Reader
- Speech input software, such as Dragon Naturally Speaking
- Closed captions
- Refreshable braille displays

Sources: University of Berkeley, State of Minnesota, Computer/Electronic Accommodations Program, Assistive Technology Initiative

Who is helped by improved accessibility?

Site visitors with:

- Blind or limited vision
- Deaf or hard of hearing
- Without speech or have speech impairments
- Cognitive or reading disabilities
- Motor skill disabilities, such as fine motor control, or limited reach
- Photosensitive epilepsy
- You!

Who is working on improving accessibility?

- The Department of Homeland Security is working to improve accessibility, using the revised standards developed for Section 508 of the Rehabilitation Act of 1973. Section 508 is designed to help information and communication technology be as accessible to those with a form(s) of disability as it is to those without disability. It applies to technologies "procured, developed, maintained, or used" by the Federal government. (What is Section 508 and Why Is It Important?)
- Section 508 standards integrate Web Content Accessibility Guidelines (WCAG) 2.0 created by the World Wide Web Consortium to define webpage accessibility, "a globally-recognized and technologically-neutral set of accessibility guidelines for web content."
- The standards help govern how technology works with assistive technology, such as a screen reader.
- "508 is also required of entities receiving federal funds, such as state universities. Web Accessibility is also covered under Title II of the Americans with Disabilities Act."
- "The Assistive Technology Initiative can assist by providing web accessibility reviews, document remediation services, and captioning for video, among other things."

Source: Office of Accessible Systems & Technologies, Web Accessibility under ADA, Office of Civil Rights – Digital Accessibility, Kristine Neuber

WCAG 2.0 Principles and Guidelines

1. Perceivable — Information and user interface components must be presentable to users in ways they can perceive. (It must be accessible via all of their senses)
2. Operable — User interface components and navigation must be operable. (No possible interactions can be inaccessible)
3. Understandable — Information and the operation of user interface must be understandable. (Both the information presented, as well as operation of the user interface, must be understandable)
4. Robust — Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, such as web browsers, including assistive technologies. (While technology changes, the information must remain accessible)

Sources: World Wide Web Consortium, Office of Accessible Systems & Technologies, University of Washington

WCAG 2.0 Conformance Requirements Levels

- A - Technology that satisfies all level A criteria, or an alternate version is provided. It is considered the minimum level of conformance.
- AA - Technology that satisfies all level A and AA criteria, or a Level AA alternate version is provided. It is the standard most organizations working toward accessibility aim to meet.
- AAA - Technology that satisfies all level A, AA, and AAA criteria, or a Level AA alternate version is provided. Fewer technologies meet these requirements, and fewer organizations aim for AAA conformance.

Sources: World Wide Web Consortium Conformance Requirements, How to Meet WCAG

What are Functional Performance Criteria?

- A specification used to assess whether, "the individual accessible components work together to create an accessible product."
- There are 9 different standards within Functional Performance Criteria which define different types of limitations, as well as give a benchmark to meet to improve accessibility for each type of limitation.
  - Without vision, with limited vision
  - With limited manipulation, with limited reach and strength
  - Without perception of color
  - Without hearing, with limited hearing
  - Without speech
  - With limited language, cognitive, and learning abilities

Sources: Office of Accessible Systems & Technologies, University of Washington

Trusted Tester Tools Used to Assess Accessibility

ANDI

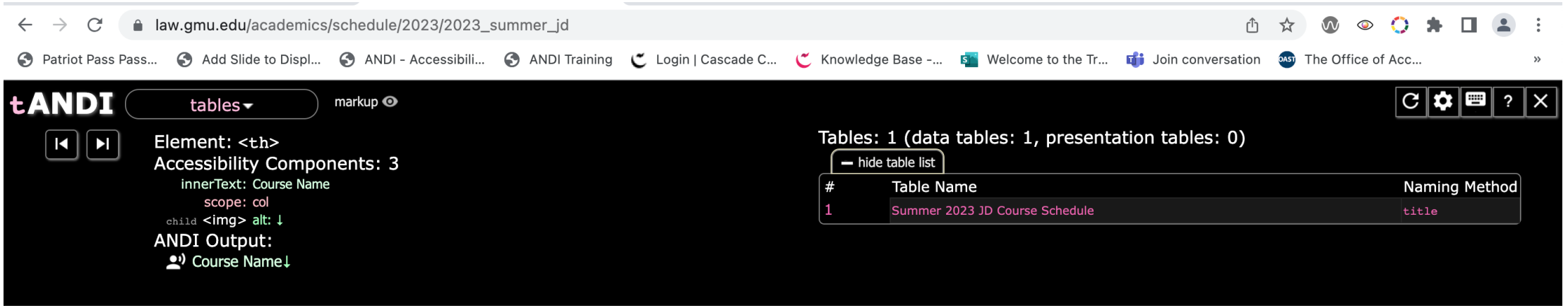
The accessibility and Section 508 compliance testing tool.

A contrast checker tool that allows you to determine the contrast ratio of two colors using an eyedrop tool.

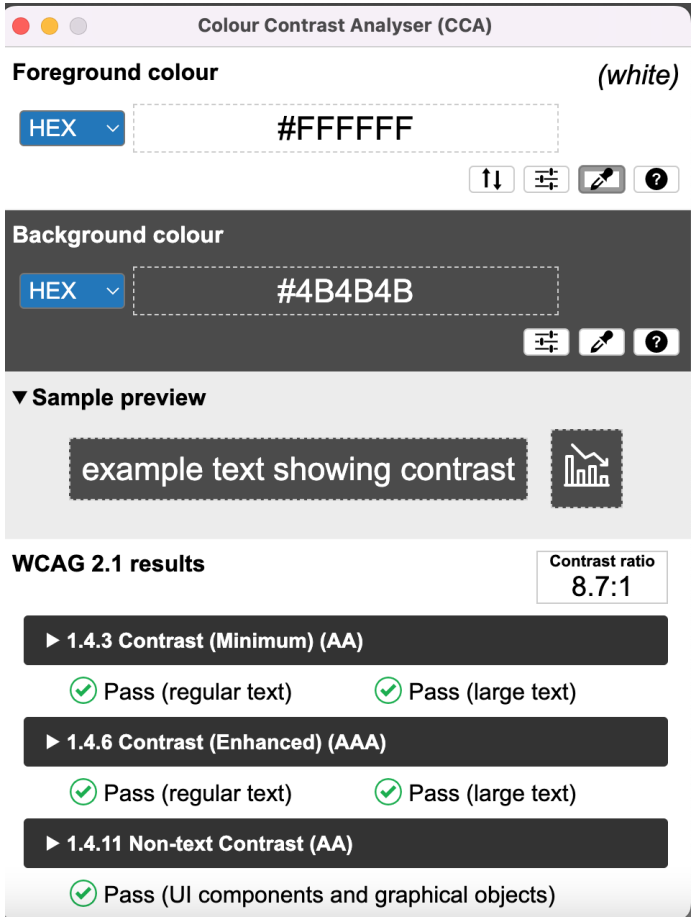
ANDI

ANDI can check many items on a webpage, including:

- Tables
- Links
- Buttons
- Images
- Headings
- Page Language
- Lists
- Reading Order



Colour Contrast Analyser



Can sample colors in the foreground and background to evaluate whether there is enough contrast between page text and background color to be easily readable by site visitors.

Tools to help you see webpages as others see them:

Let's get color blind

[Let’s get color blind] is a Chrome extension that allows you to choose settings that would remove color from your view of the webpage, to show what a site visitor who is color blind would see.

Web Disability Simulator

[Web Disability Simulator] is a Chrome extension that allows you to see a webpage as someone who may not be able to use the webpage as easily would, such as a site visitor with Parkinson’s.

Curb Cuts, and the Curb Cut Effect

- A curb cut is a portion of the curb removed at the corner of a street.
- The first curb cut was installed in Kalamazoo, Michigan, in 1945 after successful lobbying by disabled World War II veterans.
- Curb cuts were installed more widely in the United States after passage of the Architectural Barriers Act in 1968, and later the Americans with Disabilities Act in 1990.
- Curb cuts are now used and appreciated by not only those with disabilities, but everyone in society, such as delivery personnel and people walking with strollers.
- The curb cut movement was so successful, the term Curb Cut Effect was coined, which "describes how addressing disadvantages or exclusions experienced by one group of people creates an environment that enables everyone to participate and contribute fully."

Sources: Carleton College, National Cancer Institute

Why is improving accessibility important?

- Approximately 20% of site visitors may have some sort of disability, and for some websites, such as those focusing on health care, the percentage may be higher.
- It is difficult, unethical, and potentially illegal to attempt to detect whether your site visitor has a disability.
- Not all disabilities are visible or discussed.
- By improving accessibility for site visitors with disabilities, you increase the amount of site visitors to your site.
- When you improve accessibility, you improve the digital experience for everyone.

Sources: B The Change, Census Bureau

Thank you!