

Digital Equity & Accessibility

Presented by the MDOD IT Accessibility Initiative & the DoIT Office of Accessibility

Introductions

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Learning Objectives

What does it mean to be accessible

The basic principles of accessibility

Testing and Designing with accessibility in mind

What It Means To Be Accessible

Definitions

- Merriam-Webster: Capable of being reached; easy to speak or deal with; capable of being used or seen; capable of being understood or appreciated; capable of being influenced; *easily used or accessed by people with disabilities or adapted for use by people with disabilities*
- W3C: "Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them."

Sources: 1. Merriam-Webster.com; 2. W3C Web Accessibility Initiative Fundamentals

What do I intend my users to get from this and how do I make it as easy as possible for them to do so?

Consider this before, during, and after content creation or change

How does it help?

- Allows equal access to information and services for people with disabilities
 - Includes "temporary" disabilities (broken arm, missing glasses)
 - The CDC states 26% of the US population has a disability
- Improves user experiences and agency
 - Provides alternatives in certain situations (no headphones in public space)
- Required by law
 - <u>ADA Regulatory Standards</u>; DoIT Web Policy (1-2024); MD Non Visual Access Clause

Basic Principles

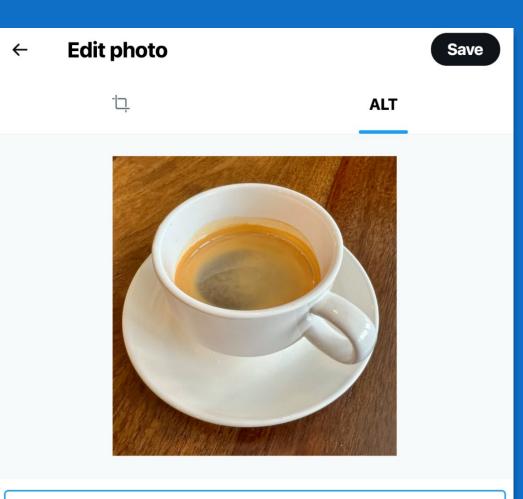
Web Content Accessibility Guidelines

Web Content Accessibility Guidelines (WCAG)

- Created by the World Wide Web Consortium (W3C)
- Provide a testable set of standards to serve as a baseline
 - Note: just meeting the standards does not guarantee accessibility
- Separated by publication date (2.0, 2.1, 2.2)
 - Each has three levels: A, AA, and AAA
- Each major area of disability (visual, auditory, physical, cognitive later editions cover neurological and speech)
- Four principles: Perceivable, Operable, Understandable, and Robust

Perceivable - Alternative Text

- Images, frames, etc. need to have a text description
- Be accurate and concise; don't add interpretation
 - What is the image conveying
- Limit description to a few words to a few sentences if needed
- Avoid redundancy
 - Never use "Image of..." or "Picture of..."
- Decorative images should be marked as such
- Images that are links should instead state the link destination



Description

178 / 1,000

A small white mug with a tiny loop handle, with a shot of deep brown espresso and a light brown crema on top. The mug sits on a small white saucer on a medium brown wooden table.

What is alt text?

Perceivable - Color Use and Contrast

- Avoid using color as the only indicator (links, emphasis, icons)
 - Underline or outline
 - Symbols
 - Patterns (charts)
- Color contrast for text to background should be a 4.5:1 ratio
 - Font size can impact this but is adjustable
 - AAA standard is 7:1

This is a low color contrast example.

- The above text is a 2.5:1 ratio. It is insufficient for its font size.
- This is a high contrast example on the same background.
 - This text is at the minimum 4.5:1 ratio.

Operable - Keyboard and AT

- Content must be reachable and usable by just the keyboard common need for physical disabilities
 - Screen readers also use keyboard commonalities
 - Need to also know where we are when we move via keyboard visual focus indication
- Users generally know how to work around these common problems but we want to provide them with a good experience, not an irritating one

This version:

https://www.w3.org/TR/2023/REC-WCAG21-20230921/

Latest published version:

https://www.w3.org/TR/WCAG21/

Latest editor's draft:

https://w3c.github.io/wcag/guidelines/22/

Operable - Headings and Structure

- Headings provide a method for finding content quickly
 - Both visible and programmatic large impact on AT users
- Conversely: too many headings used for emphasis "muddy the waters"
 - Use headings to signify content relation
- Create an outline using headings to easily identify blocks of content and subsets
 - Ex: A heading 2 starts a subject; subsets are started with a heading 3

- <h1> Welcome to Our Site
 - <h2> Our Services
 - <h3> Loan Program
 - <h3> IT Accessibility
 - <h3> Community Development
 - <h2> News and Events
 - <h3> Community Conference

Understandable - Readable and Predictable

Link Descriptions

- Use phrases for description and good targeting
- Don't hide links visually doesn't hide them from AT remove completely

Element Behaviors

- Use titles to add additional info about behavior (open in new window, dialog, etc.)
- Inputs opening a menu allows user to move into menu immediately
 - Do not automatically submit or record information

Robust - AT Compatibility

- Voice, eye gaze, screen readers, and other control inputs require proper coding (i.e. a link is coded as a link and not a button, or vice versa)
- Ensure feedback is given to users
 - Error messages, content changes on input are announced, etc.
- Provide alternatives (complex interactive widgets); communicate custom shortcuts easily

Testing & Designing

Automated Testing

Benefits

- Run through a page or entire site quickly
- Find errors in code and repetitions of errors
- Useful for maintenance and monitoring

Challenges

- Unable to consider context or judge quality
- Cannot mimic a user workflow or navigation methods

Examples

- WAVE (WebAim)
- aXe (Deque)
- ANDI (Section 508)
- SiteImprove
- JAWSInspect
- Accessibility Checker (Adobe and Microsoft documents)

Manual Inspection

Benefits

- Assess experience and quality (descriptions, interactions)
- Find errors automated testing cannot
- Best for in-depth remediation and improvement

Challenges

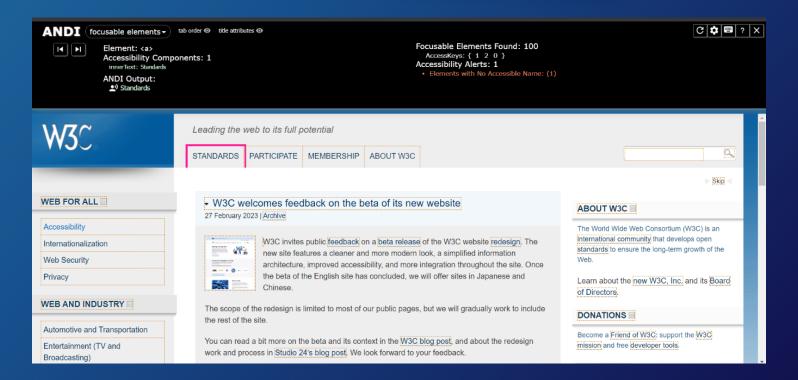
- Time-consuming, expensive (if contracting)
- Requires more knowledge and training for different types (AT use)
- Cannot handle large-scale reasonably

Examples

- Visual Inspection reading order, focus indication
- Keyboard Navigation pressing TAB to move around, follow order of operations
- Assistive Technology screen reader, voice control, etc.

Start Simple

- Visual Inspection
 - Anything appear low contrast?
 - Are links easily visible?
 - Headings and structure is clear and easy to follow?
- Interaction
 - Can you reach all links and buttons via TAB?
 - Do you know where you are (focus indication)?
 - Order of operations does opening a menu let you move into that menu or does it move to a different item?
 - Anything unexpected happen when you click a button or link?



Discussion and Contacts

- MDOD ITAI website
- Our email: nva.info@maryland.gov
- Previous Webinars: YouTube/users/MDTAPVideo