
THE UNIVERSITY
of ADELAIDE
Web and Database Computing
adelaide.edu.au
UX: Accessibility

Accessibility: What & Why?

Accessibility

- We want to ensure our website is open to as many users as possible.
- Some users have disabilities/impairments that prevent them from using our web application the same as our target audience
  - Vision impairments
  - Physical impairments
  - Cognitive impairments
- Ensuring our website is usable by everyone improves user experience for **all** users.
- Also makes our website more easily understood by search engines and other automated systems.

Web Content Accessibility Guidelines

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

The W3C Web Content Accessibility Guidelines provide formal recommendations on how to ensure our websites are accessible.

Based on 4 principles:

1. **Perceivable** - Information and user interface components must be presentable to users in ways they can perceive.
2. **Operable** - User interface components and navigation must be operable.
3. **Understandable** - Information and the operation of 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, including assistive technologies.

If any of these are not true, users with disabilities will not be able to use the Web.

Accessibility Guideline - Perceivable

- Text Alternatives
  - Ensure that all non-text elements on a page have some for of text alternative available
  - Use alt attribute on images and title attribute on other non-text elements.
- Media
  - Ensure that media in a page, whether visual or auditory has accessibility options available
  - Add closed captions to video and transcripts to audio.
  - Sign language or audio-only videos
- Adaptable content
  - Provide options for presenting content in different ways that may be easier for someone to use
  - Give users a choice of font-size or a simplified layout
  - Add metadata so that it be used by assistive software or converted to other formats by the user.
- Distinguishable
  - Ensure text is clear, a reasonable size, has good contrast and is well spaced.
  - Ensure colours have good contrast and are accessible to colour-blind people
  - Avoid pop-up and hover items; these can be difficult to work with

Accessibility Guideline - Operable

- Keyboard Accessible
  - Make all functionality available from a keyboard.
  - Use standard form controls (accessible by default), or use the tabindex attribute.
- Enough Time
  - Provide users enough time to read and use content.
  - Avoid timed interactions where possible to give users as much time as needed.
- Seizures and Physical Reactions
  - Do not design content in a way that is known to cause seizures or physical reactions.
  - Avoid high-contrast flashing content.
- Navigable
  - Provide ways to help users navigate, find content, and determine where they are.
  - Use consistent and accessible menus and breadcrumbs
- Input Modalities
  - Make it easier for users to operate functionality through various inputs beyond keyboard.
  - Allow for/expect a variety of pointer/touch-based input methods
  - Fitt's Law

Accessibility Guideline - Understandable

- Readable
  - Make text content readable and understandable.
  - Try to write content as explicitly as possible, minimising acronyms and implied tone.
- Predictable
  - Make Web pages appear and operate in predictable ways.
  - Try to keep your site's design consistent with standard practices
- Input Assistance
  - Help users avoid and correct mistakes.
  - Provide feedback to the user when they make a mistake.

Accessibility Guideline - Robust

- Compatible
  - Maximize compatibility with current and future user agents, including assistive technologies.
  - Validate!
  - Use metadata and semantic HTML

Accessibility and Design

Colours

- Poor colour choice can be offputting at best, unusable at worst.
- People with colour blindness may not be able to differentiate between normally different colours.
- Aim for a contrast ratio of 4.5:1 for small text, or 3:1 for large text (>= 24pt)
- Use a colour checker to help:
  - http://colorsafe.co/
  - https://webaim.org/resources/contrastchecker/

Fonts

- Some fonts are optimised for on-screen display (vs print).
- Sans-serif fonts generally more easily read on screens.
- Avoid blinking or moving text.

Summary

- It is important to design our websites to be usable by users with impairments and disabilities.
- Making our websites more accessible makes them more usable for everyone.
- Making our websites more accessible makes them easier to index by search engines.
- Follow the Web Content Accessibility Guidelines to ensure your pages are accessible.

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