



WEB ACCESSIBILITY

HCI & WEB DESIGN

ACCESSIBILITY

- Design for different groups of users, e.g.:
 - Provide option to change text size for visually impaired users
 - Use relative measurements so that content on the page resizes with the user's settings
 - Provide alternate text for images, for those using a screen reader

SCREEN READERS

- Try out an online screen reader, here:
 - <https://webanywhere.cs.cmu.edu/wa/webanywhere/>
- Web accessibility – through the eyes of a screen reader:
 - <https://www.youtube.com/watch?v=d5oZf9ULAyw>

WEB CONTENT ACCESSIBILITY GUIDELINES (WCAG)

- Web Content Accessibility Guidelines (WCAG) 2.0 defines how to make Web content more accessible to people with disabilities.
- At a glance:
 - <https://www.w3.org/WAI/WCAG20/glance/>
- Full specification
 - <https://www.w3.org/TR/WCAG20/>

WCAG 2.0

1. *Perceivable*

- 1.1 Provide **text alternatives** for non-text content.
- 1.2 Provide **captions and alternatives** for audio and video content.
- 1.3 Make content **adaptable**; and make it **available** to assistive technologies.
- 1.4 Use **sufficient contrast** to make things easy to see and hear.

2. *Operable*

- 2.1 Make all functionality **keyboard accessible**.
- 2.2 Give users **enough time** to read and use content.
- 2.3 Do not use content that causes **seizures**.
- 2.4 Help users **navigate and find** content.

WCAG 2.0

3. *Understandable*

3.1 Make text **readable and understandable**.

3.2 Make content appear and operate in **predictable** ways.

3.3 Help users **avoid and correct mistakes**.

4. *Robust*

4.1 Maximize **compatibility** with current and future technologies.

CONFORMANCE LEVELS

- A: 'must fix' problems that seriously affect a page's usability
 - e.g. no alternate text provided for image
- AA: 'should fix' problems that are important for access
 - e.g. insufficient contrast
- AAA: other problems to consider
 - e.g. provide explanations for jargon

ACCESSIBILITY TESTING

- AChecker is a tool that checks compliance with the WCAG guidelines.
 - <http://achecker.ca/checker/index.php>

ACCESSIBLE WEBSITES: EXAMPLES

- <https://www.usa.gov/>
 - Can use the tab key to navigate content; option to skip to main content is provided
- <http://www.bbc.com/>
 - Provide a link to an accessibility help section with several guides

DESIGNING ACCESSIBLE WEBSITES

- <https://www.digitalartsonline.co.uk/features/interactive-design/how-design-websites-for-disabled-people-in-2017/>
- Article discusses how designing for disability benefits everyone
- Links to six posters designed by Home Office Digital, which provide useful do's and don'ts for accessible design

Designing for users of screen readers



Do...

describe images and provide transcripts for video

`<alt>`

follow a linear, logical layout



structure content using HTML5

`<h1>`
`<nav>`
`<label>`

build for keyboard-only use



write descriptive links and headings

[Contact us](#)

Don't...

only show information in an image or video



spread content all over a page



rely on text size and placement for structure

36pt, bold
Header

force mouse or screen use



write uninformative links and headings

[Click here](#)

Designing for users with low vision



Do...

use good colour contrasts and a readable font size

Aa

publish all information on web pages



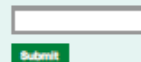
use a combination of colour, shapes and text

Start >

follow a linear, logical layout



put buttons and notifications in context



Don't...

use low colour contrasts and small font size

Aa

bury information in downloads



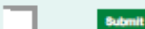
only use colour to convey meaning



spread content all over a page



separate actions from their context



Designing for users with dyslexia



Do...

use images and diagrams to support text



align text to the left and keep a consistent layout



consider producing materials in other formats (for example, audio or video)



keep content short, clear and simple



let users change the contrast between background and text



Don't...

use large blocks of heavy text



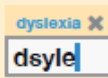
underline words, use italics or write in capitals

DON'T DO THIS

force users to remember things from previous pages - give reminders and prompts



rely on accurate spelling - use autocorrect or provide suggestions



put too much information in one place



Designing for users who are D/deaf or hard of hearing



Do...

write in plain language

Do this.

use subtitles or provide transcripts for videos



use a linear, logical layout



break up content with sub-headings, images and videos



let users ask for their preferred communication support when booking appointments



Don't...

use complicated words or figures of speech



put content in audio or video only



make complex layouts and menus



make users read long blocks of content



make telephone the only means of contact for users



Designing for users on the autistic spectrum



Do...

use simple colours



write in plain language

Do this.

use simple sentences and bullets



make buttons descriptive

Attach files

build simple and consistent layouts



Don't...

use bright contrasting colours



use figures of speech and idioms



create a wall of text



make buttons vague and unpredictable

Click here!

build complex and cluttered layouts

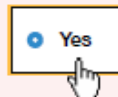


Designing for users with physical or motor disabilities



Do...

make large clickable actions



give form fields space



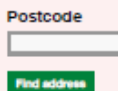
design for keyboard or speech only use



design with mobile and touchscreen in mind



provide shortcuts



Don't...

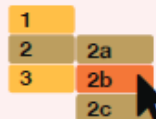
demand precision



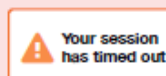
bunch interactions together



make dynamic content that requires a lot of mouse movement



have short time out windows



tire users with lots of typing and scrolling

