CSCI 311

WEB ACCESSIBILITY

The Plan

Look at the importance of building accessible sites

What accessibility means

Accessibility guidelines

Examples

Motivating Example

One extreme: What it is like to navigate websites if you're visually impaired

- ◦ Bad: https://www.youtube.com/watch?v=xpP_Km5L46E
- ◦ Better: https://www.youtube.com/watch?v=dEbl5jvLKGQ
- ◦ Some ways to do this: https://www.youtube.com/watch?v=vAAzdi1xuUY

What does "accessible" mean?

All people have access content or functionality

Equal access to information and services

Includes:
◦ visual impairments
◦ motor/mobility impairments
◦ auditory impairments
◦ seizures
◦ cognitive or intellectual impairments

Web Accessibility at a Glance

Perceivable

Operable

Understandable

Robust

Perceivable

Text alternatives to non-text content

Captions and descriptions for multimedia

Provide content in multiple ways

Make it easier to see and hear

Operable

All functionality from keyboard

Allow sufficient time to read and interact

Don't cause seizures

Help users navigate

Understandable

Text should be understandable and readable

Make content predictable

Allow users to avoid and fix mistakes

Robust

Maximize compatibility with current and future user tools

Minimum checks

Page title

alt text for images

Headings

Contrast ratio

Resize text

Keyboard access and focus

Forms, labels, and errors

Moving, flashing and blinking content

Multimedia alternatives

Basic structure check

Adapted from: https://www.w3.org/WAI/eval/preliminary

Page Title

Used by:
◦ Screen Readers

◦ bookmarks

◦ search engine results

Should be
◦ meaningful: tell the user where they are

◦ concise: don't make user listen to pointless long title

alt text

What if users can't see an image?

Ask yourself:
- is it decorative? or content?

Put description in alt attribute
- For decorative images use null alt text (alt="")

Guidelines:
- accurate and equivalent
- succinct
- not redundant
- no: "image of…" "button to…"

Examples

Images and alt text examples
- For each example, determine what alt text would be best
- Pay attention to:
  - Context
  - Purpose of image
  - What other information is given

Headings

Provide meaningful hierarchy:

- h1
  - h2
    - h3
      - h4
    - h3
  - h2

Headings and Spacing

Example: Spacing highlights relationship between content

❌ Little spacing and unclear relationship	✔ More spacing and clearer relationship

https://www.w3.org/WAI/gettingstarted/tips/designing.html

Contrast

Some people need high contrast
- ◦ provide a minimum contrast

Others need low contrast
- ◦ let users change the contrast
- ◦ Don't lock them in with images that cannot be adjusted
- ◦ provide alternative views

High contrast is easier to read   Low contrast is harder to read

Resize text

Let people zoom in and out
- ◦ Test your design with different levels of zoom
- ◦ Well designed text will display properly
- ◦ Check text wrapping

Text overflow fails

Demo: textresize.html

Keyboard access and focus

Don't force people to use a mouse (many can't, and some won't)

Make sure the tab order makes sense

Make sure you can tab to everything (necessary)

Make sure you can tab out of everything

Make sure it is clear where the focus is, visually

Focus fails

Demo: focusfails.html

More than just correct order:
- Also need to make current focus clear

focusSuccess.html

Forms, labels, and errors

Make sure form elements are marked up correctly with labels
- ◦ use the 'label' 'for' 'id'

Check the tab order to form elements

Make sure required fields are marked clearly
- ◦ don't rely on colour alone
- ◦ Makes sure the * is in the marked-up label

Make sure instructions are clearly associated with the form (before)

Make sure errors are clear

Moving, Flashing, or Blinking Content

Scrolling/flashing/blinking content can
- be inaccessible
- interfere with navigation
- cause seizures

Techniques:
- provide pause/play/hide
- avoid auto-starting it

Provide Multimedia alternatives

Audio and podcasts are unavailable to the deaf or hearing impaired

Video is unavailable to the blind or vision impaired
- ◦ ensure there are captions or a transcript (or both!)
- ◦ look for cc button
- ◦ [check the captions for accuracy!!](#)
- ◦ is the speaker identified in the captions?
- ◦ described audio is good too

Players need to be controllable by keyboard

Avoid auto-start

Basic Structure

Screen readers make use of the structure of your page
- As we've seen the structure is different from the visual layout

To check your page for structure:
- replace all images with their alt text
- turn off all css
- ask yourself: does the way/order the information is presented make sense still?
  - are the headings before the related content?
  - is alt text meaningful and informative?

Structure and Navigation

Be consistent across pages within the site
- naming
- style
- position

Let users know where they are:
- breadcrumbs
- headings

Provide multiple ways

Other things to consider

Links

Use of colour

Links

URLs aren't fun to read
- ◦ provide meaningful anchor text, descriptive, correct
- ◦ don't rewrite the url as the link text

Colour

Don't use **only** colour to imply meaning
- to indicate what action should or shouldn't be taken
- prompting a response
- to make something stand out

Provide alternatives
- Text in addition to colour
- Shape in addition to colour
- Position in addition to colour

Before and After examples

Before and After Demos

More readings

[WebAIM on Screen Readers](#)

[WebAIM on alt text](#)

[WebAIM on TabIndex](#)

[Long Text for Complex Images](#)