Web Content Accessibility Guidelines (WCAG)

CSCI 497T/597T

WCAG 2.0

- Web Content Accessibility

https://www.w3.org/TR/WCAG20/

- Developed by
  - The World Wide Web Consortium (W3C) is an international consortium where member organizations, a full-time staff, and the public work together to develop Web standards.
- The W3C Web Accessibility Initiative (WAI), develops...
  - Guidelines widely regarded as the international standard for Web accessibility
  - Support materials to help understand and implement Web accessibility

WCAG 2.0

- 4 Principles: P-O-U-R
- 12 Guidelines:
  - twelve basic goals to make content more accessible
- 61 Success Criteria
- 3 conformance levels A, AA, AAA
- Extensive supporting materials, practical implementation guidance (to aid understanding)

POUR Principles

- Perceivable
  - Provide text alternatives for any non- text content
  - Provide alternatives for time-based media
  - Make it easier for users to see and hear content
- Operable
  - Make all functionality available from a keyboard
  - Provide users enough time to read and use content
- Understandable
  - Make text content readable and understandable
  - Web pages operate in predictable ways
  - Help users avoid and correct mistakes
- Robust
  - Maximize compatibility with other products, including assistive technologies.

Example 1: Text Alternatives

- Provide text alternatives for any non- text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language
- Good "alt" text conveys ***purpose*** or ***function*** of the image; appearance is less critical.
  - Same picture on different pages
    - Family site: "Picture of my aunt Sally."
    - Museum: "Oil-painting entitled *Sally by Moonlight* by Robert Caldwell in 1856."

  - Alt text should be as succinct as possible.
  - If decorative picture (no info content), then let alt="" The screen reader will pass it silently.
  - If clickable image (especially one with multiple different clickable regions), need alt text for each.

Example 1: Text Alternatives – CAPTCHA

- CAPTCHA notes
  - Providing more than two modalities of CAPTCHAs
  - Providing access to a human customer service representative who can bypass CAPTCHA
  - Not requiring CAPTCHAs for authorized users

Example 2: Time-based Media

- 1.2.2 Captions (Prerecorded)
  - Synchronized captions are provided for non-live, web-based video (YouTube videos, etc.), **(Level A)**
- 1.2.4 Captions (Live)
  - Synchronized captions are provided for all live multimedia that contains audio (audio- **(Level AA)** only broadcasts, web casts, video conferences, Flash animations, etc.)
- 1.2.6 Sign Language
  - A sign language video is provided for all media content that contains audio. **(Prerecorded)**
    (Level AAA)
- *NOTE:* If the audio or video is designated as an alternative to web content (e.g., an audio or sign language version of a web page, for example), then the web content itself serves as the alternative.

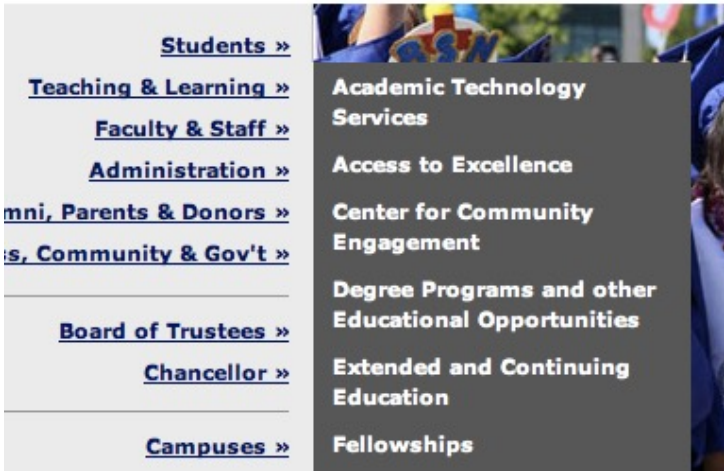
Example 2: Time-based Media – More on Captions

- Avoid websites with heavy sound/voice use.
  - Or it should be redundant with information presented visually through text, sign language, or pictures.
- Captions are more than just "subtitles" in a foreign language film. They include: who is speaking, vocal emotion/stress, sound effects, background noises, key musical cues, and information about where to place the text boxes on the screen (near speaker, avoid stuff).
- Videos or animations of ASL interpreting can be better than captions for complex or high-speed information.

Key idea: Just because there are letters displayed visually on a screen, this isn't a guarantee that the information is accessible for deaf website users.

Example 3: Keyboard Accessible

- Screen reader users use their keyboard as their primary means of navigating the computer.
- Many people with motor disabilities also use input devices that simulate keyboard-only, not mouse.
- Elements of a webpage that depend on clicking or movement of the mouse will be problematic.
  - Menus which require you to aim your mouse on top of them before the options appear.
  - Animated/moving elements on the screen which someone must click.
  - "Flash" animated elements on a webpage that aren't set up to allow keyboard button interaction.



Example 4: Contrast

The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following:

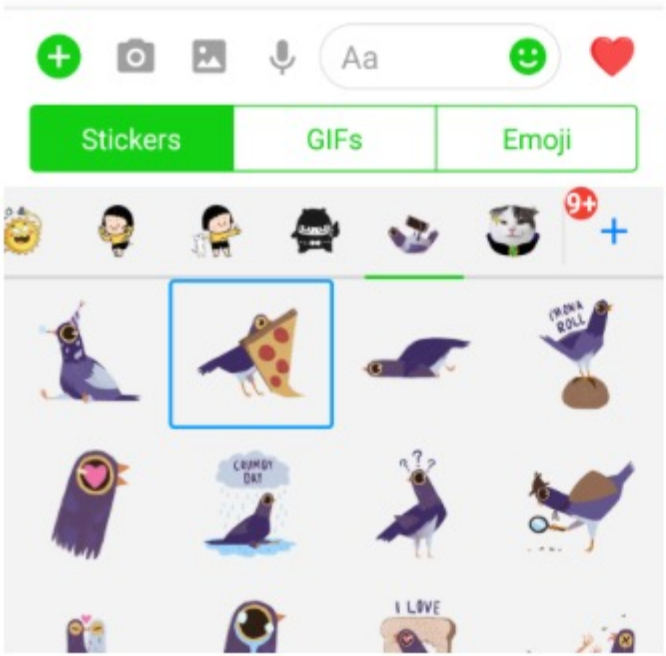
- **Large Text:** Large-scale text and images of large-scale text have a contrast ratio of at least 3:1;
- **Incidental:** Text or images of text that are part of an inactive user interface component, that are pure decoration
- **Logotypes:** Text that is part of a logo or brand name has no minimum contrast requirement.

WCAG for Mobile (2015)

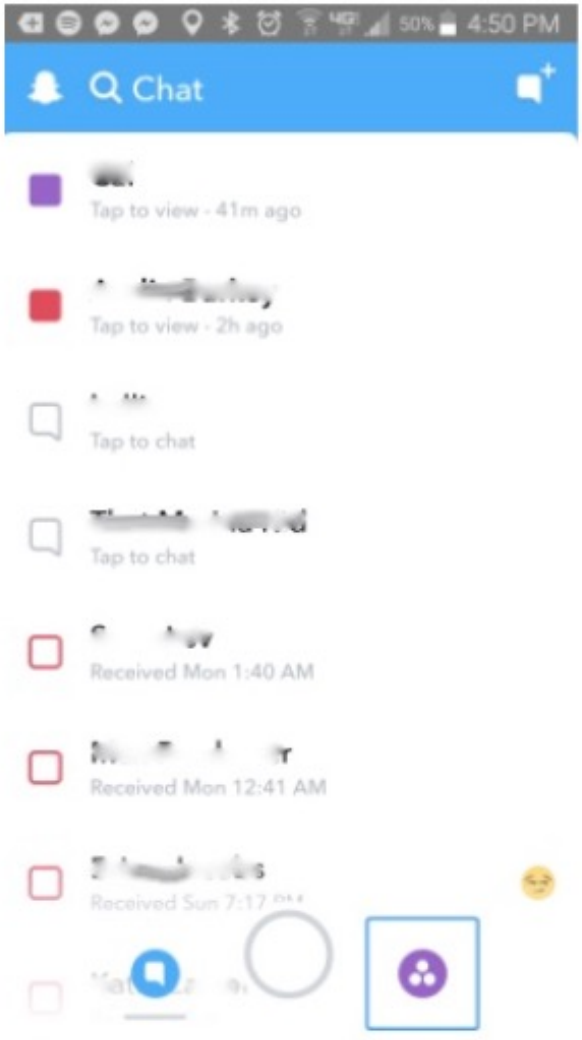
- Mobile accessibility considerations primarily related to Principle 1: Perceivable
  - Small screen size
  - Zoom/magnification
- Mobile accessibility considerations primarily related to Principle 2: Operable
  - Touchscreen gestures
  - Keyboard control for touchscreen devices
  - Touch target size and spacing
- Mobile accessibility considerations primarily related to Principle 3: Understandable
  - Changing screen orientation
  - Consistent layout
  - Positioning important page elements before the page scroll
  - Provide clear indication that elements are actionable
- Mobile accessibility considerations primarily related to Principle 4: Robust
  - Provide easy methods for data entry

https://www.w3.org/TR/mobile-accessibility-mapping/

WCAG for Mobile



WCAG for Mobile



Silly song about WCAG:

https://www.youtube.com/watch?v=gtuna2AWvqk&feature=youtu.be

WCAG-EM Report Tool

- **Website Accessibility Evaluation Report Generator**
  - https://www.w3.org/WAI/eval/report-tool/#!/#%2F