Introduction to Best Practices for Web Accessibility

HEADINGS
SEMANTIC MARKUP
ALTERNATIVE TEXT
WEB ACCESSIBILITY
CAPTIONS
TEXT LABELS
TRANSCRIPTS

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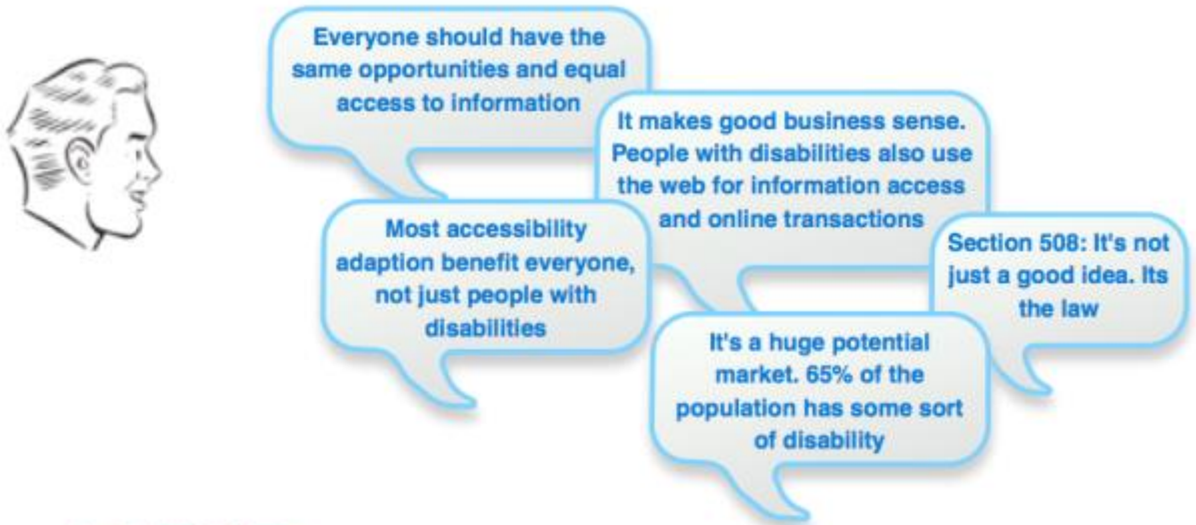
Why is Web Accessibility Important?

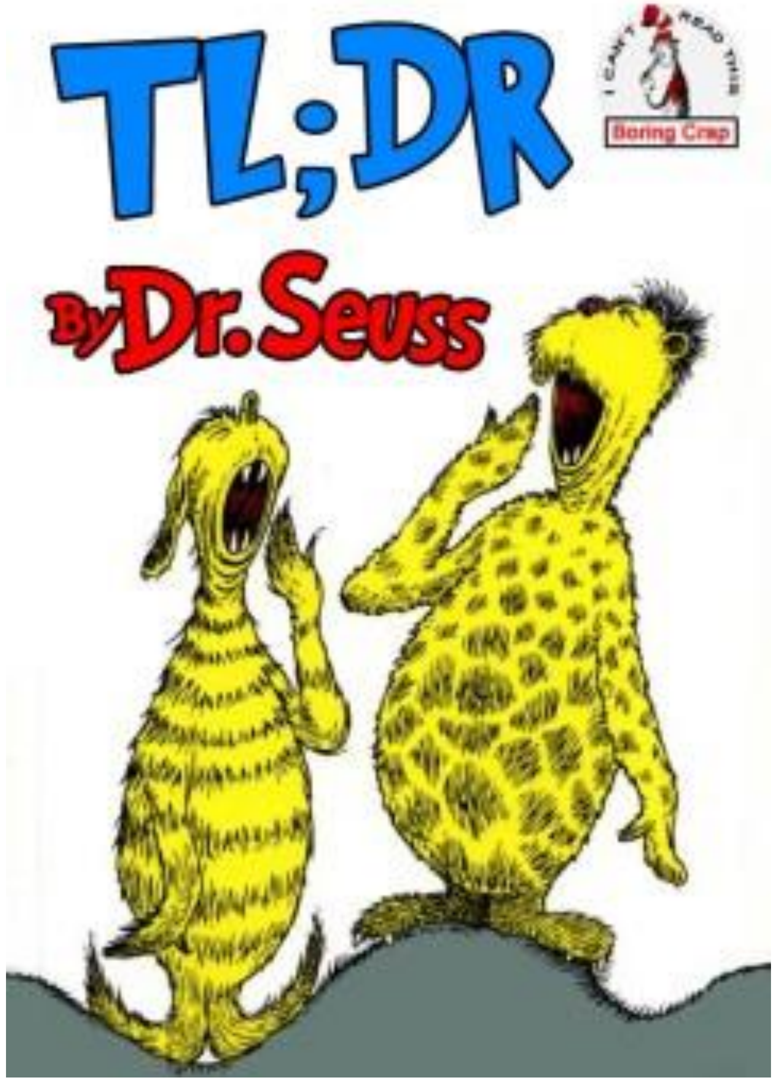
- Required by many organizations, including CSU
  - federal and state laws and/or organizational policies
- Basic human right
  - everyone should be able to access information on the web
- Social inclusion, non-discrimination, equality
  - regardless of ability, age, location, language
- Business case, overlap with other best practices
  - usability, mobile-friendly, device independence, search engine optimization (SEO), performance
- [W3C: Why: The Case for Web Accessibility]


Everyone should have the same opportunities and equal access to information
It makes good business sense. People with disabilities also use the web for information access and online transactions
Most accessibility adaption benefit everyone, not just people with disabilities
Section 508: It's not just a good idea. Its the law
It's a huge potential market. 65% of the population has some sort of disability

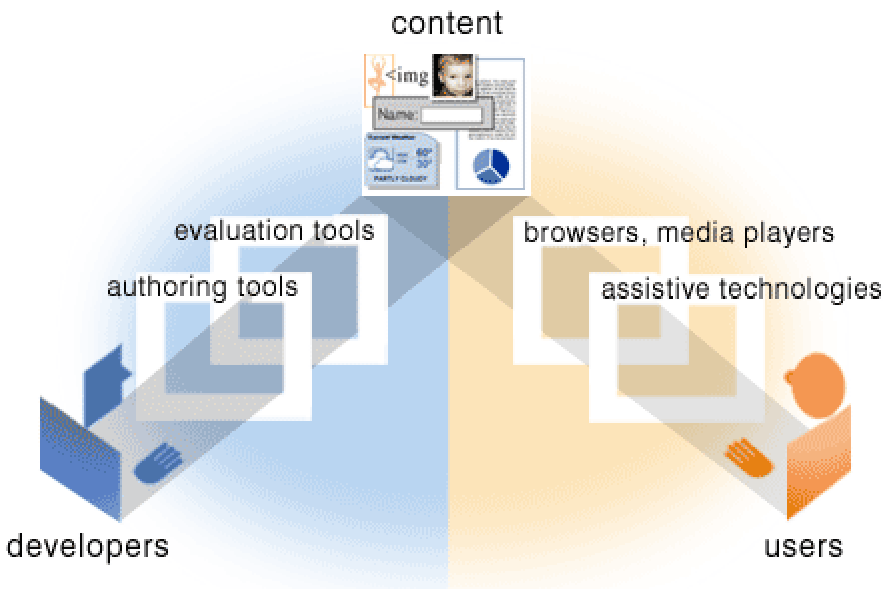
Source: Don't Make Me Think By Steve Krug

Laws, Policies, Standards, Guidelines

- Americans with Disabilities Act (ADA) – laws
- Section 508 – recommendations for complying with legal requirements
- Web Content Accessibility Guidelines (WCAG) 2.0 – detailed guidelines
- CSU Policy: Accessibility of Electronic Information and Technologies



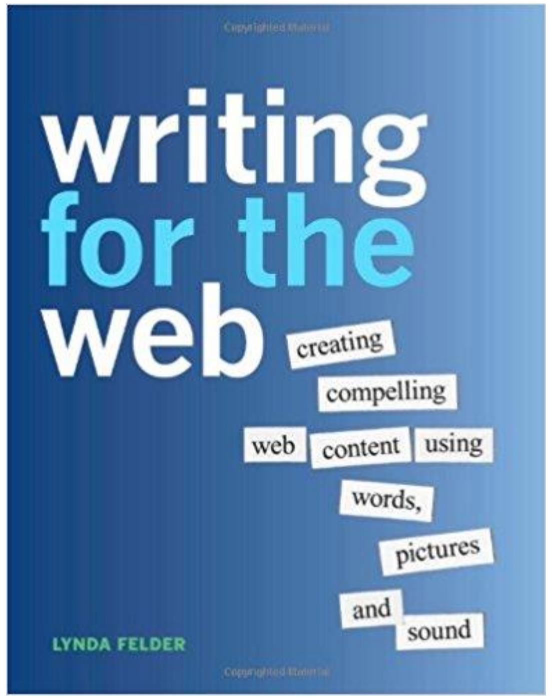
Disabilities

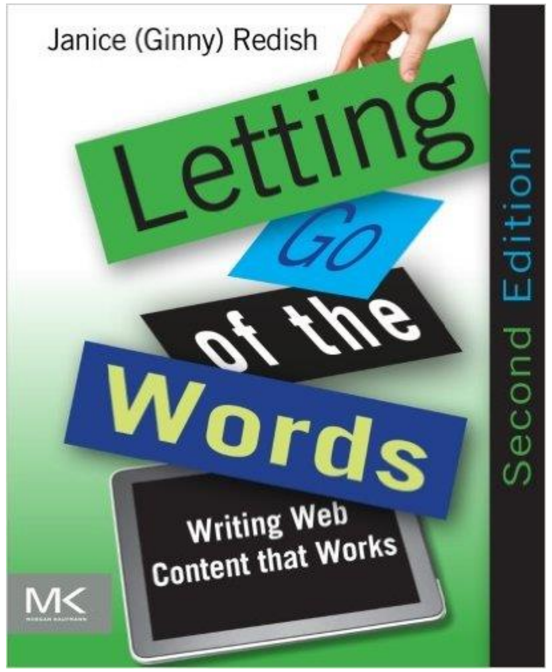


Category	Examples of Disabilities	Examples of Needs
Visual	Blind, low vision, color blindness	Screenreader, keyboard navigation, enlarged content, high contrast
Audial	Deaf, hearing impaired	Video captions, audio transcripts
Mobility	Limited motion, coordination	Keyboard navigation, large controls
Cognitive	Learning, memory, dyslexia	Simple content, layout, navigation

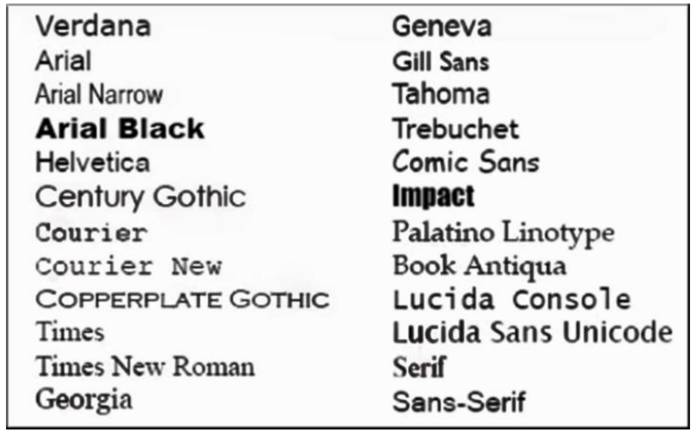
Content

- Be brief and minimalist, keep only what’s necessary
- Use structure, including logical outline, introduction and summary
- Use direct instructions, positive terms, active voice, strong verbs
- Avoid jargon, acronyms and abbreviations; use familiar words and short sentences
- Write for the target audience; check the reading level
- WebAIM: Writing Clearly and Simply

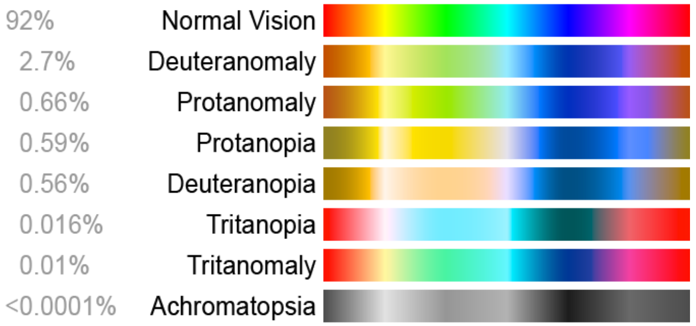

writing for the web
creating compelling web content using words, pictures and sound
LYNDA FELDER



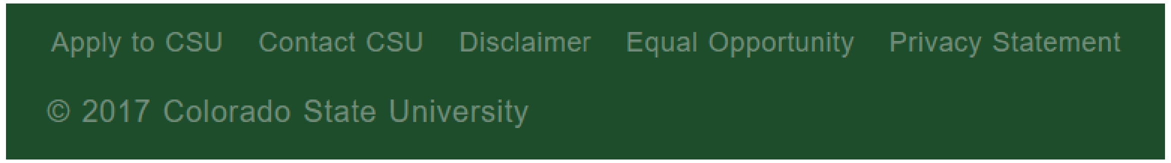
Visual Design


Verdana
Arial
Arial Narrow
Arial Black
Helvetica
Century Gothic
Courier
Courier New
COPPERPLATE GOTHIC
Times
Times New Roman
Georgia
Geneva
Gill Sans
Tahoma
Trebuchet
Comic Sans
Impact
Palatino Linotype
Book Antiqua
Lucida Console
Lucida Sans Unicode
Serif
Sans-Serif

- Fonts
  - Use few, easily readable font faces, with large enough, relative, easily distinguishable sizes.



- Color
  - Don't rely on color or style alone to convey meaning.
- Contrast
  - Provide good contrast between background and text colors, and between link text and body text.
- Coding
  - Use templates and external CSS for consistent formatting, layout, fonts, colors, and white space.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Examples of Accessible Pages

- ACNS Accessibility Example Web Page
- WAI Before and After Demonstration
- University of Washington Accessible University

Navigation

- Navigation should be simple and consistent.
- Navigation links should come after the main content.
  - Or provide a link or method that allows users to skip repetitive navigation links.
- Display some content only to screenreaders.
  - Use absolute positioning off the screen instead of display:none or visibility:hidden.
- Links should describe the linked page and make sense if read out of context.
  - Avoid "click here" or "more"
- Buttons and tabs should be large enough for easy use.
- WebAIM: Links and Hypertext

HTML Structure

- Helps screenreaders and keyboard navigation (accessibility) and web crawlers (SEO)
- **Page title**: <title> - unique, descriptive
- **Headings**: <h1>-<h6> - properly nested
- **Emphasis**: <strong>, <em> - use instead of underlines or styles
- **Lists**: <ul>, <ol>, <dl>, <li> - unordered or ordered lists, navigation menus
- **Frames**: <frameset>, <frame>, <iframe> - only if necessary
- **HTML5**: <header>, <footer>, <nav>, <article>, <section>, <aside> - semantic elements

WAI-ARIA Landmarks

- Help users navigate rich Internet applications
  - Page structure
  - Scripted and dynamic content (JavaScript, AJAX)
  - Interactive controls and complex widgets
  - Supported by most screen readers and browsers
- Attributes (often not needed for HTML5-specific tags):
  - role: main, navigation, search, banner, article, contentinfo
  - aria-required, aria-disabled, aria-readonly
  - aria-label, aria-labelledby
- WebAIM: ARIA Landmarks

Tables

- Data tables: summary="…", <caption>, <th>, scope="col"
- Layout tables: role="presentation"
- Keep tables simple; minimize nested tables and cells spanning rows and columns
- WebAIM: Creating Accessible Tables

Images

- **alt** attribute: used to describe the content and function of images, image inputs, image map areas, and Java applets.
  - HTML code: <img src="/images/morgan.jpg" **alt**="Morgan Library" />
  - An image which is not a link, and merely decorative or explained in the page text, should use an empty alt attribute: alt=""
- Image maps: use client side rather than server side.
- Movement and animation (graphics or text): use sparingly or consider alternatives.
- WebAIM: Accessible Images

Multimedia

- When using PDF documents and Power Point presentations, ensure that they are accessible.
  - Also provide the information in HTML format. (See Adobe accessibility information.)
- When a plug-in, player, viewer or application is required to view essential content,
  - Provide a link to download the plug-in, such as Adobe Reader for PDF files.
  - If you are unsure if the plug-in meets accessibility standards, provide the information in an alternative format.
- Provide access to multimedia for users with visual or hearing disabilities
  - video captioning, audio transcripts, and audio descriptions of visuals
- Manual controls for multimedia (such as video, audio, and image carousels) should not require using a mouse.
- CSU Accessibility Guidelines: Creating Accessible Multimedia

Online Forms

- **Easy** to navigate, complete, and submit
  - **Instructions** positioned before the form elements; clearly identify required fields
  - **Keyboard** for navigation (e.g. Tab and arrows to move, Enter to submit) and logical tab **order**
  - **Label** form fields (e.g. text, dropdowns): <label for="name">Name:</label><input type="text" id="name" name=“name" />
  - **Group** related fields with <fieldset> and <legend> tags
- **Error handling**
  - **Validation**: both client and server
  - Error **messages** that clearly indicate the problem and solution
  - Error **correction** should be easy
  - **Alternative** way of providing the information requested, e.g. email
- [WebAIM: Creating Accessible Forms]

Accessibility Testing: Text to Speech

- Screenreaders
  - JAWS – Windows, commercial, CSU license
  - NVDA – Windows, free
  - VoiceOver – Mac, free (pre-installed)
  - ChromeVox – Chrome extension
- Text to Speech readers
- WebAIM: Designing for Screen Reader Compatibility

Accessibility Testing: Web Browsers

- Keyboard-only navigation (keyboard focus, tab order, forms, dialog boxes, multimedia controls, navigation)
- Disable images, styles, scripts (using Web Developer extension)
- Change zoom level (everything or text only)
- Different browsers, operating systems, mobile devices

Accessibility Testing: Automated Tools

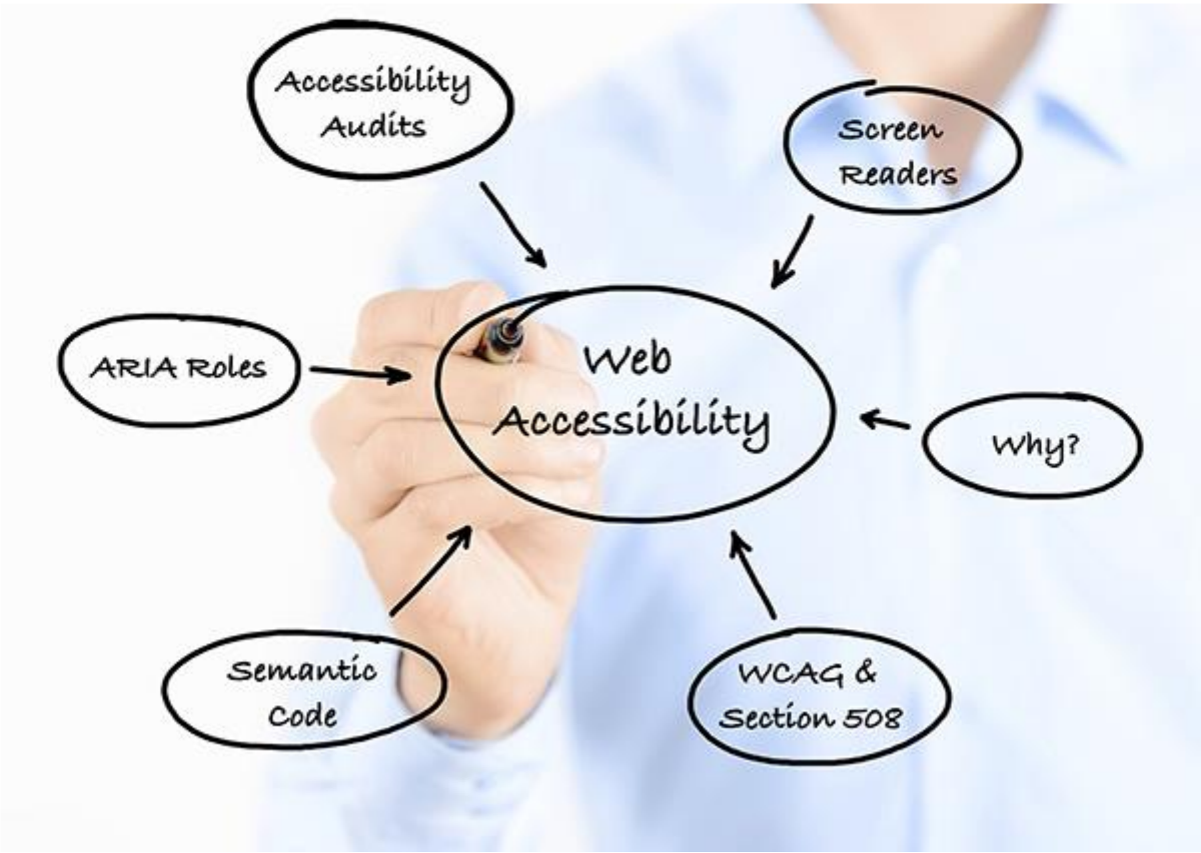
- WebAIM WAVE
- Other tools
- Related automated checks
  - code validation (especially HTML), broken links, spelling, readability, mobile, performance, security

Best Practices: Process

- Knowledge
  - regulations, standards, code, tools, techniques
- Holistic approach to design, development and testing
  - content, visual design, navigation, coding standards, usability, accessibility, security, performance, analytics, SEO, etc.
- Organizational strategy
  - policies, plans, procedures
  - site testing at launch time, site audit periodically (see example checklist spreadsheet)
- Human support
  - training and resources for developers and content providers
  - accessibility information and contact for end users
  - example: CSU Libraries: Website Accessibility

More Information

- CSU ATRC: Accessibility Resources for Web Developers
- CSU ACNS: Making Accessible Websites
- Web Accessibility in Mind (WebAIM.org)


Accessibility Audits
Screen Readers
ARIA Roles
Web Accessibility
Why?
Semantic Code
WCAG & Section 508