

Web Accessibility Awareness

WEB ACCESSIBILITY WORKING GROUP
California State Los Angeles Accessible Technology Initiative

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Introduction

As the web becomes an increasingly important tool and resource, it is essential that it offers equal access and opportunity to everyone, with or without disabilities. Accessible web sites empower people with disabilities to participate, navigate, interact, and contribute to the web. Most importantly, it allows them to integrate with and participate in the mainstream society, and to learn and to live independently. Web accessibility is the right thing to do.

This handout is designed to communicate with the campus community about the importance of web accessibility, to provide information on the legal requirements, CSU policies, guidelines, and to recommend evaluation tools for conformance to accessibility. Please visit the CSU Accessible Technology Initiative (ATI) web site [<http://www.calstatela.edu/ati>] for information on our commitment to this CSU Mandate.

What is Web Accessibility?

When web resources are accessible, people with disabilities can use the information as effectively as those without disabilities. More specifically, when web content is accessible, people with disabilities can perceive, navigate, interact with, and contribute to the web without having to rely on single sense or ability. Web accessibility encompasses all disabilities, enabling access to the web through consideration of visual, auditory, physical, speech, cognitive, and neurological disabilities.

Web accessibility also benefits people with changing abilities due to aging and those with temporary disability (e.g., from injury).

Laws Impacting Higher Education

AMERICANS WITH DISABILITIES ACT OF 1990 (ADA)

The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination on the basis of disability in employment. The ADA was designed to protect those with a disability or persons with a relationship or association with an individual with a disability.

A disabled person is defined by the ADA as an individual with a physical or mental impairment that substantially limits one or more major life activities; a person who has a history or record of such an impairment, or who is perceived by others as having such an impairment.

SECTION 504 OF THE REHABILITATION ACT (1973)

A federal law passed in 1973 that protects qualified individuals from discrimination based on their disabilities. It is the first federal civil rights law prohibiting discriminatory practices on the basis of disability.

The nondiscrimination requirements of the law apply to employers and organizations that receive financial assistance from federal department or agency.

“No qualified individual with a disability shall be excluded from, denied benefits of, or be subjected to discrimination under any program or activity that receives Federal funding.”

Section 504 regulates:

- Effective communication with people who have hearing or vision disabilities.
- Accessible new construction and alterations.
- Enhancements and accommodations to ensure equal access to employment and programs.

SECTION 508 OF THE REHABILITATION ACT (1973)

Signed into law in 1998, Section 508 of the Rehabilitation Act of 1973 is a law requiring electronic technology used by any federal government department and agency to be accessible. In 2000, the Access Board produced and issued the Section 508 accessibility standards for all electronic and information technologies, which include a section from point A to P for web-based intranet and internet information and applications (see Appendix I - Section 508 Standards).

U.S. Department of Education's enforcement regulations require state governments compliant with Section 508 and its standards.

CHANCELLOR'S EXECUTIVE ORDER 926 (EO 926)

Chancellor's Executive Order 926 states that "The purpose is to document and make explicit the system wide policies for the disability support and accommodation program and to engender monitoring and full compliance with all of the disability support and accommodation elements noted herein."

EO 926 mandates that all CSU systems must adhere to Section 508 standards. Accordingly, all CSULA web sites must follow these requirements and comply with the CSULA web accessibility policy developed consistently with federal and state laws, regulations and standards.

CSU ACCESSIBLE TECHNOLOGY INITIATIVE (ATI) PROJECT

The Accessible Technology Initiative (ATI) reflects the California State University's (CSU) ongoing commitment to provide access to information resources and technologies to individuals with disabilities. This commitment is articulated in Executive Order 926 (EO 926), the CSU Board of Trustees Policy on Disability Support and Accommodations:

"It is the policy of the CSU to make information technology resources and services accessible to all CSU students, faculty, staff and the general public regardless of disability."

- **Vision:** To create a culture of access for an inclusive learning and working environment.
- **Mission:** To help CSU campuses in carrying out EO926 by developing guidelines, implementation strategies, tools and resources.
- **Principle:** To apply universal design, an approach to the design of products and services to be usable by the greatest number of people including individuals with disabilities.
- **Strategy:** To stimulate collaboration to effect changes that will ultimately benefit all.

Appendix I - Section 508 Standards

A. Checkpoint (a) – image tags

A text equivalent for every non-text element shall be provided and must be readable by the current version of screen reader supported by the campus. The current software and version for CSULA users is JAWS for Windows 9.0.

Importance: Assistive technologies such as screen readers cannot read images, neither can search engines. If image tags are not given for images used as links, screen readers will read the whole URL, which can cause confusion for listeners.

B. Checkpoint (b) - captions

Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation. That is, a visual equivalent of audio content is required for all types of multimedia that include video, audio, music, Flash animation, real-time streaming media, and prerecorded audio and video presentations.

Importance: Synchronized captioning allows users with hearing impairments to take in the presentation, combined with relevant body language associated with speech. In addition, most assistive technologies do not have plug-ins that handle multimedia formats.

C. Checkpoint (c) - color

Web pages shall be designed so that all information conveyed with color is also available without color.

Importance: Visitors both with full vision and with various forms of color blindness require sufficient contrast to read text easily. If images are used as background, make sure that the contrast is adequate so that color-blind users can distinguish the information (text) from the background.

D. Checkpoint (d) - readability

Documents shall be organized so they are readable without requiring an associated style sheet.

Importance: Many low vision visitors who use specialized web browser will disable the page author's style sheet and may substitute a custom style sheet with their own. If styles are used to substitute for semantic markup, low vision and text-only readers will not be able to follow the structure of the page.

E. Checkpoint (e) – server-side image maps

Redundant text links shall be provided for each active region of a server-side image map.

Importance: The image map uses images that act as links (hot spots) when they are clicked. However, people with visual disabilities do not know where the links are. Thus, text links next to the map is required to allow screen readers to identify and choose the links.

F. Checkpoint (f) – client-side image maps

Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

Importance: People with visual disabilities do not know where the links are. Thus, each clickable area must be identified with its link target and must be reachable via tab order.

G. Checkpoint (g) – table headers

Row and column headers shall be identified for data tables using special attributes to avoid confusion when screen readers are reading the content.

Importance: Simple data tables are those consisting of only one column header, and possibly one row header, for each data cell. Unless the HTML code explicitly associates each data cell with its column and/or row header, visitors using text readers will hear only a string of unintelligible data values. The summary attribute of the <table> element should also be provided for text-only users so they can understand the purpose of the table.

H. Checkpoint (h) – table headers and ID attribute

Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

Importance: Complex data tables are those in which there is more than one level of header for any column or row. Additional markup such as the <thead> element can be used to further clarify the table structure.

I. Checkpoint (i) - frames

Frames shall be titled with text that facilitates frame identification and navigation. Name each frame so users know what the purpose is and whether it contains navigation links or content.

Importance: Untitled frames cannot be navigated by assistive technology. Some assistive technologies might not support frames at all. Thus, the use of frames is deprecated by the W3C in favor of element positioning with style sheets.

J. Checkpoint (j) – screen flickering

Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 hertz (cycles per second) and lower than 55 hertz.

Importance: Flickering and flashing page elements are associated with epileptic seizures for some viewers. They are also disruptive to many readers with cognitive disabilities or low vision. Screen flickering can become an irritant to almost everyone.

K. Checkpoint (k) – text-only alternative

A text-only page, with equivalent information or functionality, shall be provided when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

Importance: Since creation of text-only pages increases the maintenance costs and difficulty in verifying that content is truly equal in different versions of the page, this method is usually used as a last resort.

L. Checkpoint (l) - scripts

When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

Importance: Many assistive technology users will not be able to access functionality that is provided only with mouse-triggered events enabled by scripts (e.g., JavaScript). Even users of standard browsers may have scripting disabled for security or other reasons. Scripts should enhance content and not replace it. Web pages should be able to function normally if scripting is turned off.

M. Checkpoint (m) – plug-ins

When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with checkpoints (a) through (l).

Importance: If you need your users to download a plug-in before viewing your content, you must provide a link to the plug-in, and the link itself must comply with Section 508 guidelines. The web site that the plug-in resides in must follow Section 508 guidelines as well.

N. Checkpoint (n) - forms

When electronic forms are designed to be completed on-line, the form shall allow those using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

Importance: Assistive technology users need to access form controls independently of how they are presented on the screen. They also need to receive all of the cues that normal browsers provide (e.g., which fields are mandatory and if any errors have been made in completing the form).

O. Checkpoint (o) - skipper

A method shall be provided that permits users to skip repetitive navigation links or very long lists of links.

Importance: Pages that contain repetitive links, which users may want to skip, should contain a method for users to jump over such links to get straight to the page content.

P. Checkpoint (p) – time delay

When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Importance: Users may have a variety of difficulties when a timed response is required from a Web form. One possible situation requiring timed response would be in an examination. While it is impractical to allow all students to request more time, other accommodations such as a customized version of the test or a special testing center may have to be provided.

Appendix II - Tools and Resources

Web Accessibility Laws and Standards

- **Section 508:** An official web site for information on Section 508. The web site also contains a searchable database of accessible products.
[<http://www.section508.gov>]
- **World Wide Web Consortium (W3C):** An international consortium where members, full-time staff, and the public work together to develop web standards. Their mission is to lead the World Wide Web to its full potential by developing protocols and guidelines that ensure long-term growth for the web. W3C establishes its own set of Web Content Accessibility Guidelines (WCAG) that contains additional measures for making pages more universally accessible. Web authors and developers are encouraged to also comply with the W3C guidelines.
 - W3C web site [<http://www.w3.org>]
 - WCAG [<http://www.w3.org/TR/WAI-WEBCONTENT>]

Web Accessibility Awareness

- **CSU ATI:** A web site that provides online tutorials for creating accessible content, list of sister campus ATI web sites, and the ATI newsletters.
[<http://www.calstate.edu/accessibility>]
- **CSULA ATI:** A web site that provides information on the progress of ATI at CSULA, outlining the responsibilities of the three working groups.
[<http://www.calstatela.edu/accessibility/ati>]
- **Accessibility 101:** Web-based training materials that provide short video tutorials with practice data files. Topics include web accessibility concept, accessibility testing, and how to apply accessibility principles to new and existing sites using standards-compliant markup and Cascade Style Sheets (CSS). CSULA network account is required in order to access the materials.
[<http://www.calstatela.edu/accessibility/video/principles.php>]
- **“Access for All” video segment:** A video segment that explains web accessibility and its importance. It was created by Candace Egan at CSU Fresno, the Community of Academic Technology Staff (CATS), and the CSU Center for Distributed Learning.
[<http://www.calstatela.edu/accessibility/video/web.php>]
- **“From Where I Sit” video segments:** A video series created by the CSU Chancellor’s Office, demonstrating testimonials on the barriers encountered by students in higher education and feedback from faculty members regarding student experiences.
[<http://www.calstate.edu/accessibility/resources/videos.shtml>]
- **“Building The Team: Faculty, Staff and Students working Together” video segment**
[<http://www.washington.edu/doit/Video/Wmv/team-h.asx>]
- **Cal Poly’s ATI Training video segment**
[http://www.mediaserver.calpoly.edu/ITS/ada/faculty_ada_awareness_384stream.mov]

Web Accessibility Guidelines

- **CSULA University Web Templates:** Updated downloadable university web templates that meet Section 508 standards.
[<http://www.calstatela.edu/accessibility/templates.php>]

- **DO-IT Web Access:** Online training modules on creating accessible materials. [<http://www.washington.edu/doit/Resources/accessweb.html>]
- **WebAim Introduction to Web Accessibility:** A web site that provides extensive information on creating accessible content for web delivery, print and video/audio. [<http://www.webaim.org/intro>]
- **Access eLearning:** Online training modules on creating accessible materials. [http://www.accesslearning.net/mod9/9_01.php]

Testing Web Pages and Web Tools

- **AccVerify:** A desktop application that allows users to test their web site content for quality, accessibility, and usability. AccVerify is free to all CSU faculty, staff, and students. Two links are provided below: step-by-step handout and software download. [<http://www.calstatela.edu/accessibility/tools.php>] [<http://www.calstatela.edu/accessibility/request.php>]
- **Manual testing tools**
 - **CSULA cheat sheet:** A simple online form that is designed to compliment automated evaluation tools for website accessibility with an emphasis on areas that can only be evaluated realistically by human judgment. This checklist is based on Tom Jewett's Manual Accessibility Evaluation and is edited to follow CSULA requirements. [<http://www.calstatela.edu/accessibility/manual.php>]
 - **Manual Accessibility Evaluation by Tom Jewett** [<http://www.tomjewett.com/accessibility/evaluation.html>]
 - **Testing for Accessibility by Jim Thatcher** [<http://www.jimthatcher.com/testing.htm>]
- **Accessibility toolbars**
 - **AIS Toolbar:** Free accessibility toolbar for Internet Explorer [<http://www.visionaustralia.org.au/info.aspx?page=614%20>]
 - **Firefox web developer toolbar:** Free accessibility toolbar for Mozilla Firefox [<https://addons.mozilla.org/firefox/60>]
- **Web development tools:** Tutorials for creating accessible online documents and media. [<http://www.calstatela.edu/accessibility/tutorials.php>]
- **Screen readers:** Free screen readers for download:
 - NonVisual Desktop Access for Windows [<http://www.nvda-project.org>]
 - FireVox for Mozilla Firefox [<http://www.firevox.clcworld.net>]

On-campus Support

Below is the list of campus support groups that can provide assistance in regards to web accessibility issues:

- Information Technology Services (ITS) Help Desk

Telephone: 3-6170

Location: Library Palmer Wing Lobby

E-mail: helpdesk@calstatela.edu

- eLearning Programs and Support (eLPS)

Telephone: 3-6594

Location: Fine Arts, Room 138

E-mail: teachme@calstatela.edu

- Department ITCs

Contact your ITC for assistance.