Web Accessibility: Guidelines for Administrators

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Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA) prohibit discrimination against individuals with disabilities and mandate that public programs and services be accessible to people with disabilities. Both the Department of Justice and the U.S. Department of Education Office for Civil Rights have issued rulings and statements that support the position that web content is covered by this legislation. Section 508 of the Rehabilitation Act requires that the web pages and other information technology of federal agencies be designed to be accessible to employees and visitors with disabilities. Those who provide websites, software, and other technology for the federal government must assure that their products meet accessibility standards.

How can administrators in educational institutions, libraries, companies, and other organizations assure that the websites their employees create and maintain are accessible to people with disabilities? Without technical expertise themselves, how do they direct their staff in this area? This publication provides guidance to non-technical administrators regarding how to assure that websites in their organizations are accessible to everyone. To more easily link to the resources referenced, use the online version of this publication at *http://www.washington.edu/doit/Brochures/Technology/web_admin.html*.

What are the primary web accessibility issues?

It is important to consider that some website visitors:

- cannot see graphics because of visual impairments,
- cannot hear audio because of hearing impairments,
- use slow Internet connections and modems or equipment that cannot easily download large files, and
- have difficulty navigating sites that are poorly organized with unclear directions because they have learning disabilities, speak English as a second language, or are younger than the average user.

People use a variety of technologies to access the web. For example, a person who is blind may use a speech output system that reads aloud text presented on the screen. A person with a mobility impairment may be unable to use a mouse and may rely on the keyboard for web browsing; they may use speech recognition software or an alternative keyboard. To help you and your staff understand how individuals with disabilities access web and other electronic resources, read the publication and view the video presentation:

> Working Together: People with Disabilities and Computer Technology
> *http://www.uw.edu/doit/Video/wt_dis.html*

People with some visual, hearing, or mobility impairments cannot access website resources that require the use of sight, hearing, or the mouse.

What is universal design?

To create resources that can be used by the widest spectrum of potential website visitors rather than an idealized average, webmasters can apply universal design principles. This requires that they consider the needs of individuals with disabilities, older persons, people for whom English is a second lan-

guage, and those using outdated hardware and software. They should routinely think of the broad range of characteristics their site visitors might have and design it to make their resources accessible to everyone. This is the same approach that modern architects take in designing buildings; they build in ramps, elevators, accessible restrooms and other features to assure that the facility will be accessible to individuals with a wide range of abilities and disabilities. Consult the following publication for more information about universal design:

> Universal Design: Process, Principles, and Applications
> *http://www.uw.edu/doit/Brochures/Programs/ud.html*

What are examples of accessible web page design strategies?

To design an accessible website, your staff can avoid inaccessible data types and features or they can provide alternative methods and formats for content access. For example, since some PDF files can be inaccessible to people who are blind and using text-to-speech systems, you can avoid using PDF files on your website or you can provide text-based versions of the content along with the PDF documents. This practice provides benefits to non-disabled website users as well, including search capabilities and greater speed in access. Applying universal design strategies to website design is not difficult, but does require learning about typical access challenges and their solutions. You and your staff can learn about accessible website design by reading the publication and viewing the following video presentation:

> World Wide Access: Accessible Web Design
> *http://www.uw.edu/doit/Video/www.html*

As is emphasized in these materials, designing a well-organized website helps visitors navigate through the information presented. A few other simple suggestions include the following:

- Maintain a simple, consistent page layout throughout your site.
- Keep backgrounds simple. Make sure there is enough contrast.
- Use the most current HTML.
- Include text descriptions for graphical elements on your page.
- Make link text descriptive so that it is understood out of context.
- Use resizable fonts.
- Provide a skip navigation link at the top of each page.
- Design uncluttered pages.
- Provide audio description or transcripts of video content.

You should notify site visitors that you are concerned about accessibility and encourage them to tell your technical staff of accessibility barriers. For example, the DO-IT home page at *http://www.washington.edu/doit/* includes the following statement:

> *The DO-IT pages form a living document and are regularly updated. We strive to make them universally accessible. You will notice that we minimize the use of graphics and photos, and provide descriptions of them when they are included. Video clips are open-captioned, providing access to users who can't hear the audio. Suggestions for increasing the accessibility of these pages are welcome.*

What accessibility standards exist that our organization can adopt?

The World Wide Web Consortium (W3C) develops and maintains the protocols used on the web to insure interoperability and promote universal access. The W3C's Web Accessibility Initiative (WAI) has developed

guidelines for web authors. As Tim Berners-Lee, Director of the W3C puts it: "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."

In 2001, the U.S. Architectural and Transportation Barriers Compliance Board (Access Board) developed accessibility requirements for web pages of federal agencies, a requirement of Section 508 of the Vocational Rehabilitation Act. The list of guidelines provides a good model even for organizations that are not covered entities under Section 508.

Many organizations have adopted the W3C Web Content Accessibility Guidelines or Access Board standards. You and your staff can learn more about these two alternatives by accessing the following resources:

W3C's Web Accessibility Initiative
http://www.w3.org/WAI/

Section 508 Guide: Web-Based Intranet and Internet Information and Applications
http://www.access-board.gov/sec508/guide/1194.22.htm

Find out if your state, district, school, or other parent organization has adopted web accessibility guidelines or standards. (Consult *http://www.w3.org/WAI/Policy/USA-States.html*.) If so, promote their use within your organization. If not, consider adopting the Section 508 or W3C standards.

What about video and other multimedia presentations on the web?

If your organization includes video clips, audio clips, or other multimedia on your website your staff should include captions on video presentations and transcripts for audio clips so that they can be accessed by individuals who are deaf. The following publication provides more detailed information.

Creating Video and Multimedia Products that are Accessible to People with Sensory Impairments
http://www.washington.edu/doit/Brochures/Technology/vid_sensory.html

The following publications may also be useful to you and your staff.

Guide to Section 508 Standards: Video and Multimedia Products
http://www.access-board.gov/sec508/guide/1194.24.htm

Consumer Facts—Closed Captioning
http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html

Are accessible websites ugly and uncreative?

No. Saying that employing standards will create an unappealing website is like saying that a sturdy foundation under a building will result in an ugly structure. Both accessible and inaccessible websites can be ugly and boring. And, there are both accessible and inaccessible websites that are attractive and creative in design. Using standards, including accessibility standards, merely creates a foundation on which consistent websites are efficiently created and maintained.

Will complying with standards increase web development time?

Experienced web authors use standards of all sorts—for example, HTML (HyperText Markup Language), XHTML (Extended HyperText Markup Language), and CSS (Cascading Style Sheets). Some time is needed to select and learn standards. But ultimately, applying standards can reduce development time. Standards-compliant web pages can be

more quickly erected and updated and can be easily maintained and expanded by staff. Standards can ultimately lower development costs, lower maintenance costs, increase your organization's presence on the web, improve your organization's image, and expand your audience.

Can my organization use a web authoring tool to create accessible websites?

Yes. Any web authoring tool (e.g., Dreamweaver, FrontPage) can be used to create an accessible website; it can also be used to create an inaccessible one. Almost all web authoring tools have accessibility features built in, but some adjustment to the settings in the software default settings may be needed to produce compliant code. The following publication provides more information:

> Authoring Tool Accessibility Guidelines
> *http://www.w3.org/TR/ATAG10/atag10-chktable.html*

Can I check the accessibility of my organization's websites?

A thorough check of the accessibility of your websites to people with disabilities requires web development technical expertise. However, there are a few simple tests that administrators without technical expertise can employ to test for some accessibility features of websites. They include the following tests:

- Turn off the graphics-loading feature of your web browser and access your website (for example, in Internet Explorer select "Preferences" on the tool bar; under "Web Browser" select "Web Content"; deselect "Show pictures"). The content you see is similar to that which will be read to a person who is blind by their text-to-speech software. Can you access the content of your website without the graphics images? On an accessible site, you can.
- Check to see that all content presented in color can be understood if you could not distinguish one color from another.
- Turn the sound off on your computer (for example, in Internet Explorer select "Preferences" on the tool bar; under "Web Browser" select "Web Content"; deselect "Play sounds"). Can you access all of the content? On an accessible site, you can.
- Re-size font size (for example, in Internet Explorer, under the "View" menu, select "Text Zoom" and select a large font size). Do the font sizes on your website change? On an accessible site, they will.
- Unplug your mouse and test to see if you can access all critical content on your website with the keyboard alone. On an accessible site, you can.

What web accessibility tests can my technical staff use?

Your technical staff can test the usability of your websites with:

- different computer platforms.
- a variety of monitor sizes and screen resolutions, including a handheld display unit.
- a variety of web browsers.
- at least one text-based browser (e.g., Lynx) or multi-media browser with graphics-loading features turned off.
- the display color changed to black and white.
- the font changed to a different size.
- a browser's sound-loading features turned off.
- the keyboard alone.

In addition, technical staff can use accessibility testing software that will point out website content that could be inaccessible. There are many alternatives. Links to other accessibility evaluation tools can be found at *http://www.w3.org/WAI/ER/existingtools.html*.

Does accessible design benefit people without disabilities?

Yes, people using handheld display units, people in noisy or noiseless environments, those who speak English as a second language, people using different web browsers or screen resolutions, people using phone web services, and people with different learning styles can benefit from accessible web design.

What steps can I take to ensure the accessibility of my organization's website?

Designing an accessible website is not difficult, when accessibility is considered along with the other design issues considered at the beginning of a project. Redesigning an inaccessible site can be very time-consuming, and costly in the business world. Consider taking the following steps to assure the accessibility of websites in your organization:

- **Select web accessibility guidelines or standards.** If you work for a federal agency or contract with the federal government or sell to the federal government, Section 508 standards are a good choice. Consider adopting standards or guidelines adopted by your state. Examples of web accessibility policies that have been adopted by states can be found at *http://www.w3.org/WAI/Policy/USA-States.html*.

- **Require that web staff document web design standards and include within them standards for web accessibility.** It is probable that the Webmaster in your organization is using standards of various types (e.g., HTML, XML, XHTML, CSS). If they haven't done so already, have them write up a document summarizing these standards, and include accessibility standards among them. If web development tools are used, require that designers apply the accessibility guidelines and features of these tools.

- **Disseminate web accessibility policy, guidelines, and procedures throughout the organization and provide regular training and support.** Make sure everyone who works on website content and design understands the importance of accessibility and has the technical support they need to apply accessibility guidelines.

- **Consider developing a plan to phase in compliance with web accessibility guidelines for existing web pages, with a date at which all web pages will be compliant.** Require that new pages meet accessibility guidelines. A good time to make web pages accessible is when they undergo a significant revision. Another approach is to make minimum accessibility updates (for example, put alternative text for simple graphics images throughout the organizations web pages) for all pages, with a more thorough update at the time of significant revisions to a specific site.

- **Put processes in place to assure compliance with accessibility standards.** Have technical staff develop a process for testing web pages for accessibility.

- **Place a statement on your home page that assures visitors of your commitment to providing accessible web resources. Inform visitors where to report accessibility barriers and to make requests for accommodations.** Develop procedures for responding quickly to requests for disability-related accommodations and to repair accessibility problems with web pages.

- **Ensure web-development contracts offered by your organization require that the websites created meet accessibility**

standards. If you hire contractors to develop web resources for your organization, include a statement in the contract that requires that the web pages created meet your accessibility standards or guidelines.

Resources

AccessIT (National Center on Accessible Information Technology in Education)
http://www.uw.edu/accessit/

AccessSTEM (Alliance for Students with Disabilities in Science, Technology, Engineering and Mathematics)
http://www.uw.edu/doit/Stem/

Americans with Disabilities Act of 1990
http://www.usdoj.gov/crt/ada/adahom1.htm

DO-IT (Disabilities, Opportunities, Internetworking, and Technology)
http://www.uw.edu/doit/

EASI (Equal Access to Software and Information)
http://people.rit.edu/easi/index.htm

NCAM (National Center for Accessible Media)
http://ncam.wgbh.org/

Electronic and Information Technology Accessibility Standards (Section 508)
http://www.access-board.gov/sec508/standards.htm

W3C's Web Accessibility Initiative (WAI)
http://www.w3.org/WAI/

WebAIM (Web Accessibility in Mind)
http://www.webaim.org/

About DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs and careers such as those in science, engineering, mathematics, and technology. Primary funding for DO-IT is provided by the National Science Foundation, the State of Washington, and the U.S. Department of Education. This material is based upon work supported by the National Science Foundation under Cooperative Agreement No. HRD-0227995. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

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