

Website Accessibility

Introduction

When designing a website, one must consider its audience. Many members of that audience may have one or more disabilities that impair their access to our content. They may:

- Not be able to see, hear, move, or may not be able to process some types of information easily or at all.
- Have difficulty reading or comprehending text.
- Not have, or be able to use, a keyboard or mouse.
- Have a text-only screen, a small screen, or a slow Internet connection.
- Not speak or understand fluently the language in which the document is written.
- Be in a situation where their eyes, ears, or hands are busy or interfered with (e.g., driving to work, working in a loud environment, etc.).
- Have an early version of a browser, a different browser entirely, a voice browser, or a different operating system.

Content developers should consider these factors when creating websites so they can provide the widest possible audience of consumers with access to their information.

Overview

In general, try to write applications to the WC3 standard of HTML, not to a specific browser. Applying universal design concepts to your website will make it accessible to all Internet users, including those with disabilities, those with graphics turned off, and everyone using a variety of web browsers and versions (device independence).

Guidelines

- **Ensure that documents are clear and simple.**
Simple and clear documents will tend to degrade gracefully, allowing access to the content with little extra work by the content developer.
- **Provide clear navigation mechanisms.**
Clear and consistent navigation mechanisms are important to people with cognitive disabilities or blindness, and benefit all users.
- **Provide equivalent alternatives to auditory and visual content.**
Try to provide a text equivalent for every image element.
- **Don't rely on color alone.**
Ensure that foreground and background color combinations provide sufficient contrast when viewed by someone having color deficits or when viewed on a black and white screen.
- **Use markup and style sheets and do so properly.**
Use HTML rather than images to convey information and use style sheets to control layout and presentation.
- **Create tables that transform gracefully.**
Tables should be used to mark up truly tabular information ("data tables"). Content developers should avoid using tables to lay out pages ("layout tables"). Tables for any use present special problems to users of screen readers.
- **Ensure that pages featuring new technologies transform gracefully.**
Although content developers are encouraged to use new technologies that solve problems raised by existing technologies, they should know how to make their pages continue to work with older browsers and for people who choose to turn off features.
- **Ensure user control of time-sensitive content changes.**

Ensure that moving, blinking, scrolling, or auto-updating objects or pages can be paused or stopped.

- **Design for device-independence.**

A user may be accessing content via a web browser, a PDA, a cellphone, a screen reader, or by some other method. A user may interact with the webpage with a preferred input (or output) device -- mouse, keyboard, voice, head wand, or other. Do not design a site to be viewed on one type of device .

- **Use W3C technologies and guidelines.**

Techniques to Avoid

- Use of images to convey information without alternate text and titles for visually impaired users.
- Use of HTML "tricks" to enhance the visual display of your page instead of using a style sheet.
- Misuse of HTML elements like H1-6, UL, OL, BLOCKQUOTE, CITE, etc.
- Over use of color to convey information.
- Use of non-standard HTML.
- Opening many windows from the browser.
- Text in more than one language on a given page.

Accessibility Resources

Guides

- [Web Content Accessibility Guidelines 1.0 notes from WC3](#)¹
- [Dive Into Accessibility by Mark Pilgrim](#)². Free online book that deals with the fundamentals of how you can work with accessibility on the web.
- <http://www.section508.gov/> Government website about how to comply with federal accessibility laws.
- [IBM - Human Ability and Accessibility Center](#)⁴
- [Lighthouse International](#)⁵. This group provides guidelines for effective color contrast.
- [Web Accessibility](#)⁶, by Jim Thatcher.

Books

- [Constructing Accessible websites](#)⁷, by Jim Thatcher, et al.

Tools

- **TAWS Evaluation Tool**⁸
A free tool that offers an accessibility evaluation from their website, as a Firefox plugin and as a stand-alone Java application. Does W#C WCAG Priority 1-3 (no 508).
- **Fangs**⁹
Screen reader emulator for Firefox.
- **Betsie (BBC Education Text to Speech Internet Enhancer):**
www.bbc.co.uk/education/betsie/index.html.¹⁰ A free server-side solution that creates a text version of a webpage.
- **Colorfield™ Insight :**
Colorfield Digital Media, www.colorfield.com.¹¹ A tool which can be used to model and predict image legibility for the three most common forms of colorblindness
- **IBM Home Page Reader:**
IBM Human Ability and Accessibility Center, www.ibm.com/able¹². A talking web browser for blind and visually impaired users.

- **LYNX:**
Thomas Dickey, <http://lynx.isc.org/>. A text browser.
- **Macromedia Flash Accessibility:**
Macromedia Inc., www.adobe.com/resources/accessibility/flash8/best_practices.html¹⁴. This webpage outlines how to make Flash content accessible.
- **Media Access Generator (MagPie):**
WGBH National Center for Accessible Media, ncam.wgbh.org/webaccess/magpie/.¹⁵ A tool that can be used to add captions to three multimedia formats: Apple's QuickTime, the World Wide Web Consortium's Synchronized Multimedia Integration Language (SMIL) and Microsoft's Synchronized Accessible Media Interchange (SAMI) format. MAGpie can also integrate audio descriptions into SMIL presentations.
- **Mozilla:**
Access Mozilla, www.mozilla.org/access/.¹⁶ Internet Software for Persons with Disabilities, an Open Source Project.
- **PopChart:**
Corda Technologies, Inc., www.corda.com/products/popchart/¹⁷. Tool for creating graphs and charts with text descriptions attached that enables the visually impaired to understand the data.
- **Software accessibility guidelines:**
IBM Human Ability and Accessibility Center, www.ibm.com/able/guidelines/software/accesssoftware.html.¹⁸ This site contains general software guidelines.