

Universal Web Design

Usable by All to the greatest extent possible

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Internet users with older technology

Problem:

Some Internet users may have older computer equipment and do not have space for newer browser versions or plug-ins. Some users may use computers at public libraries or other public agencies and are restricted from downloading new software. These users can't view page features that are coded to require the latest software.

Solution:

Make sure web site is compatible with older browsers. Ensure that a version of the site can be accessed without Java applets or plug-ins.

Resource:

Web page backwards compatibility viewer: <http://www.delorie.com/web/wpbcv.html>

Internet users with slow modems or ISPs

Problem:

Some users may access the Internet through slower dial-up services, such as a free Internet Service Provider (ISP). Others may only have local access numbers available through a smaller local provider. Still, others may have older and/or slower modems. Pages, especially graphics, may take longer to load. Users may become impatient waiting for slow pages to load.

Solution:

Do not fill a page with large graphic files. Minimize and reduce size of graphic files. Include "height" and "width" tags with all images to speed up load time. Remember the 8 second rule--most Internet users will lose interest after 8 seconds.

Resources:

To test load time:

Dr Watson: <http://watson.addy.com/>

Online tool, to reduce graphic size:

GIF Wizard: <http://www.gifwizard.com/>

Net Mechanic: <http://www.netmechanic.com/accelerate.htm>

GIF Crunch (free): http://www.auniverse.com/webmasters/gif_crunch.htm

Internet users who are colorblind

Problem:

Some Internet users can't distinguish between different colors. They may not be able to see some colored text against some colored backgrounds. Similarly, they may not be able to choose an item referred only by color (i.e. click on the green button).

Solution:

Make sure that there is sufficient contrast, and that pages would be readable on a black and white monitor. Do not rely on color alone to direct users or to give users navigation cues.

Resource:

To test your page:

Color checker: <http://www.vischeck.com>

or print your web page to a black and white printer to analyze contrast between colors.

Internet users who have reduced vision

Problem:

Various Internet users, such as older adults, may set their browsers for large font sizes or use screen enlargers. Text in graphics may not be readable because images can't be enlarged or look pixilated when enlarged.

Solution:

Use relative rather than absolute units (e.g. use percentages for table widths instead of pixels). Include "alt" text for all images. Limit or eliminate text within graphics.

Resource:

To test pages, adjust your browser:

- Turn off style sheets.
- Increase font size (at least to 20 pt. or largest font possible).

Internet users who are deaf

Problem:

Auditory information is not usable.

Solution:

Provide transcripts for audio clips. Provide captions for video clips.

Resource:

MAGpie, a caption tool:

<http://ncam.wgbh.org/webaccess/magpie/>

Internet users who are blind

Problem:

Blind Internet users use screen access software that translates screen information into synthesized speech or Braille. Some may use this software with a traditional browser such as Microsoft Internet Explorer or with a text-only browser such as Lynx. Or they may use a browser package with built in speech features. Screen access software only reads text NOT graphics. So images, photos and graphics alone are not useable.

When a web page is divided into different frames, screen access software can't read the frames together. Each frame is visited separately. Some screen access software reads pages left to right. This confuses users when layouts use tables with multi-columns or in certain formats on forms.

Blind users often surf the Internet by jumping from link to link using the TAB key. Blind users generally do not use a computer mouse. Visual users often scan pages and can easily find navigation links that are in multiple places. However, this redundancy is cumbersome for many blind users who must read the entire page.

Splash screens or timed updates for a page force a blind user to start reading the page again from the top each time they are activated.

Solution:

Provide text descriptions for all images in "alt" tags and if needed, longer descriptions with links to a description page.

Make sure that links follow a logical TAB order. Ensure that links make sense out of context (i.e. don't use "click here"). Don't write scripts that require mouse usage. Include keyboard alternatives. Include a "skip navigation" link or an alternative version of site that does include redundant links.

Avoid frames, if possible. Provide frame titles that communicate their purpose. Provide an alternative version to view site with "NO FRAMES" .

If tables are used for layout purposes, make sure that the page makes sense when read row by row from left to right. Follow guidelines for making tables accessible.

On forms where the heading for the input field is not adjacent to the field, use the "label" tag. Provide an alternative method for users to submit electronic forms such as a "mail to" link.

Provide alternative way to access your site other than a Java applet or plug-in that is inaccessible to screen access software. Allow users to avoid splash screens or other displays that are updated on a timed basis.

Resources:

View page in a text based browser: <http://www.slcc.edu/webguide/lynxit.html>

To view page with a screen reader: <http://www-3.ibm.com/able/hpr.html> free trial)

Table linearizer: <http://www.w3.org/WAI/Resources/Tablin/>

Internet users with motor impairments

Problem:

Some Internet users with motor impairments and may not use a traditional computer mouse. They may opt to use an alternative mouse or use a keyboard.

Solution:

Make sure that all functions can be performed from the keyboard as well as a mouse. Make sure the TAB order is logical.

Include a method for skipping over long lists of links or lengthy content.

Consider including keyboard alternatives for frequent links.

Resource:

To test your page:

Navigate using the keyboard; make sure TAB traverses all links in logical order.

Internet users with cognitive or language impairments

Problem:

Internet users probably will process information differently. Some users may have problems remembering, reading lengthy text, difficulty understanding complex layouts, and/or other learning disabilities.

Solution:

Simplify the layout and create a consistent navigation format. Include a site map. Consider adding a simple search engine within the local site. Organize information in manageable chunks. Supplement text, where appropriate, with graphics or auditory instructions.

Resource:

To test your page:

Have persons of different ages and abilities try your site, check for navigation ease and comprehension.

Other resources and tools

Universal Design and Accessibility Resources:

Web Content Accessibility Guidelines: <http://www.w3.org/TR/WAI-WEBCONTENT/>

Section 508 Guidelines: <http://www.access-board.gov/sec508/guide/>

The AWARE Center: <http://aware.hwg.org/> (online courses regarding accessibility)

Webable: <http://www.webable.com>

Section 508 Web Tutorial: <http://vba1.interactive-media.com/508/>

Bobby: <http://www.cast.org/bobby/>