

# Web Accessibility and Low Vision

by Aries Arditi, PhD

In recent years, the web has grown vastly in areas as diverse as commerce, entertainment and information, as well as being a tool for simply staying in touch with friends and relatives.

Because the web has become so pervasive in everyday life, accessibility to those with disabilities, and to older people experiencing age-related vision loss, has the potential to become an important political as well as technical issue. Laws, including the Americans with Disabilities Act (ADA) of 1990 and Section 508 of the Rehabilitation Act of 1973, demonstrate that our society views accessibility as a civil right, and is, at least from a legislative standpoint, committed to requiring reasonable provisions to access for all.

Yet currently, most websites have poor accessibility and most web designers are poorly informed about accessibility issues. Many common authoring tools generate content that is difficult for people with disabilities to access. In addition, our courts have not yet provided sufficient interpretation of laws requiring accessibility. One of the as yet unresolved issues is whether all websites available to the public must comply (under the ADA). Another area still open to interpretation (in the case of both the ADA

and Section 508) is the unambiguous specification of what constitutes compliance.

## Seeking Guidance for Enhancing Accessibility

How does one make websites more accessible to people with impaired vision? There now are quite a few good sources for guidelines (some are listed on page 3). Most are intended to enhance accessibility for users with hearing and motor, as well as visual, impairments. These guidelines encourage good practices to make things more usable for people who may be accessing a site using assistive technology, such as a screen reader. For example, they recommend that text alternatives (such as the “alt” and “longdesc” html tags) be provided for images, image maps and descriptions for video, so that important information is not lost to those who are blind. They also recommend logical and consistent presentation structure and the use of style sheets (which facilitate global changes in presentation style).

In addition, if web designers use features such as java, scripts or frames in web pages, they should make alternative provisions for users who have browsers that cannot interpret such features. Finally, the guidelines make

recommendations about typography, color and contrast that are intended to help people with low vision. Many of these practices have the beneficial side effect of making things more usable for people who are blind or have other disabilities.

## Accessibility for Users Who Are Blind vs. Those with Low Vision

Making a site accessible to a person who is blind and who, therefore, will be accessing the site without vision is generally a matter of designing it so that the user can access important information efficiently using his or her own assistive technology (usually a screen reader). This is not always easy, but at least all users who are blind access the site using similar technology — some kind of speech synthesis, converting text to speech.

Accessibility for low vision users, on the other hand, can be quite different. Low vision encompasses an enormous range of visual capabilities, sometimes requiring little or no screen magnification, and sometimes magnification of 20 or 30 times or more, in which only a few letters of text may fill the entire screen. Some low vision users need only simple enhancements such as enlarging fonts and/or changing color

schemes — accessibility features that are available through the most popular browsers (including Internet Explorer, Netscape and Opera).

However, users who require high levels of magnification face special problems. For example, moving a mouse or other scrolling device to navigate a line of text while reading is difficult. Even more difficult is using it to find the beginning of the next line. Also, when the page is highly enlarged, it is extremely difficult to integrate successive views of the page into a “big picture” that can be used for searching, skimming and other kinds of non-sequential reading. Screen magnification software helps, but does not solve, these difficulties.

Low vision users may benefit from a wide range of page style changes in color, typography, animation rate, background images and more. Accessible web designs for low vision, then, must take into account a wide range of access methods, and provide many more features, corresponding to the wide range

of visual capabilities of the low vision population. Paradoxically, providing access to users who do not see at all may be easier than doing so for those who see but with low vision. Because providing access to those with low vision is so much more complicated, specifying exactly what constitutes good accessibility and compliance with laws or standards makes web accessibility for low vision a particularly thorny issue, one which will have to be addressed in the very near future.

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#### **Further reading on making websites accessible:**

- **The World Wide Web Consortium’s Web Accessibility Initiative** home page, [www.w3c.org/WAI](http://www.w3c.org/WAI), is chock full of simple tips for making sites accessible, and also has guidelines for software developers of authoring tools or browsers.
- **Web Accessibility for People with Disabilities**, by Michael G. Paciello (Gilroy, CA: CMP

Books, 2000), and **Constructing Accessible Web Sites**, by Jim Thatcher et al (Birmingham, UK, Glasshaus, 2002), are excellent, comprehensive sources covering all disabilities.

- **Site Seeing**, by Eric Velleman and Henk Snetselaar (Zeist, The Netherlands: Bartiméus, 2000), is another excellent source focusing on how to make websites accessible to people who are visually impaired.
- **Effective Color Contrast: Designing for People with Partial Sight and Color Deficiencies; and Making Text Legible: Designing for People with Partial Sight** — These booklets, written by the author, were created with print media in mind, but offer guidelines that are, for the most part, applicable to web design. Both are available free from Lighthouse International by calling (800) 829-0500, or online at [www.lighthouse.org/color\\_contrast.htm](http://www.lighthouse.org/color_contrast.htm) and [www.lighthouse.org/print\\_leg.htm](http://www.lighthouse.org/print_leg.htm).

## **Remember: Quick Tips Are Not Solutions!**

### **Lighthouse International ACTS (Accessibility Consulting and Testing Solutions)**

We can help you or your organization/company meet accessibility — and usability — goals for your website as well as for a variety of on- and offline technologies and products, and print materials.

Contact **Scott Havens** at (212) 821-9342 or E-mail: [shavens@lighthouse.org](mailto:shavens@lighthouse.org) for more information about our confidential ACTS services.