

Web Accessibility and Why You Should Care

Abstract

Making your web site accessible to people with disabilities is relatively easy, and highly compatible with good overall web design. It's also socially responsible and, in many cases, legally mandated. You can improve accessibility of your web site, while also improving general usability and improving search engine access to your site.

What is Web accessibility?

Web accessibility is making web sites usable by people with various disabilities, through a combination of good design and the use of assistive devices. This article focuses on the design side of the equation.

The most obvious class of people who need assistive technology to use the web are the blind: various devices are available to vocalize the content of web pages, providing, in effect, an auditory browser. However, a remarkable number of different disabilities (and other similar issues) each imply their own set of special needs from the web:

- Blindness
- Limited vision
- Color blindness
- Aging-related conditions
- Repetitive stress disorder (can't use mouse)
- Deafness
- Dyslexia
- Cognitive disorders
- Mentally disturbance
- Epilepsy
- Lack of education
- Language limitations

Some of these categories (e.g. language limitations) may not be disabilities in the legal sense, but all bring up issues for sites that need to be accessible to the affected groups of people.

For example, a mental health clinic might have design concerns for its web site exceeding any standard accessibility guidelines.

Why should you care?

You may be saying to yourself at this point, "That's all well and good, but why should it matter for my web site?" Admittedly, not all of it matters to everyone. If you are selling cars, it's probably OK if your site is not readily usable by the blind. If you are an academic site discussing post-modern literature, you probably don't

Most of the considerations in making your web site accessible to the blind also make it highly accessible to search engines. Just like an assistive reading device, Google's web spider - maybe the single most important visitor to your site - basically sees your site as text. If the only way to navigate your site is through Javascript or Flash animations, then Google probably can't find most of your web site and won't index it.

need to think about the needs of the language-limited.

For most sites, inclusion of the disabled is, first and foremost, good citizenship. Under the Americans With Disabilities Act (ADA), if you are a government agency or an organization that receives government funds (including almost any sort of educational institution), this particular sort of good citizenship is a legal requirement. If you are a business... well, the matter is yet to hit the courts, but if your web site proves to be, for example, a barrier to disabled people seeking employment with your company, you might well find the hard way that this has become a legal requirement for you as well.

However, there are fringe benefits to considering the disabled when you design a web site.

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or Flash animations, then Google probably can't find most of your web site and won't index it. Conversely, almost any web site that is designed to be readily used by blind people will also be readily spidered by search engines.

Design for the disabled tends to mean better usability, better cross-browser compatibility, and better performance over low-bandwidth connections. All of your users potentially benefit from this.

Text-only access and voice access aren't only for the disabled. Tackling these issues is a big step toward a site that supports various wireless mobile devices, such as cell phones.

Accessibility considerations tie in closely with the next generation of web technology, what the World Wide Web Consortium calls "the semantic web." While this isn't the place to talk about the semantic web in any detail, one key to the concept is to separate content from presentation. When you think about voice access - just like when you think about small screens on wireless mobile devices - you pretty much automatically think about content separately from how to present it via a graphical browser. It's all the same conceptual leap.

While we are at it, designing for disabled humans also tends to mean designing for what one might call "disabled browsers." Not everyone has the latest and greatest browser and, for security reasons, not everyone turns on every feature of their browser or downloads every available plug-in. If your site works well in a text-only mode, then it probably will "degrade gracefully," rather than becoming useless on even the most crochety of browsers.

The importance of this will differ for different web sites. Nonetheless, we believe that for most sites, designing with the needs of the disabled in mind actually makes a better information architecture, a more usable site for all, and a more search-engine-friendly web site.

What constitutes web accessibility?

That's all well and good, but what exactly constitutes web accessibility? Is there a standard? As the old joke goes, "The nice thing about standards is that there are so many to choose from." In one article, we can't turn you into an instant expert on web accessibility, and unless you will

be "hands on" designing a site, you don't really need to be an expert, you just need to know the turf and have an expert available to work with. For those who would like to become experts, here's a list of primary sources and tools: If you are working for the federal government, you certainly want to start from the ADA Section 508 Standards, which Federal agencies must follow for their own new web pages. If you are

During 2007 the first cross-over will happen, with more users accessing [the internet] via phone than PC. When you think about voice access - just like when you think about small screens on wireless mobile devices - you think about separating the content from it's graphical presentation in a browser. It's the next conceptual leap.

not working for the federal government, much of this is still worth understanding. A good starting point to find U.S. Government guidelines is <http://www.ada.gov/websites2.htm>, which, among other things, leads to documents about the Section 508 standards.

Outside of the government, the main place to start is the World Wide Web Consortium's Web Accessibility Initiative (WAI). The WAI is the leading international effort to define what constitutes web accessibility and how it can be achieved. In particular, they offer a checklist that is a very useful place to start in evaluating the accessibility of a web site.

Beyond that, you need a tool set. The text-based **Lynx browser** is a great way to see what your web site "looks" like to a blind person or a web spider. The the Lynx viewer lets you approximate this through a normal browser. The online **Bobby tool** does a fairly good analysis of the possible stumbling blocks in a particular web page. All of these tools are free, although Bobby also sells a more sophisticated version of their software.

For those who don't want to become experts, but just want a sense of what this is about, here

are some typical examples of web accessibility issues:

Javascript and Flash can make for slick, exciting user interfaces for the fully abled, but they are unusable for the blind and can be sheer hell on someone whose hand isn't steady on the mouse. (Flash is also utterly incompatible with search spiders.) Although these can look great, they should never constitute the only way to navigate around the site. Lux's own site has dynamic, Flash-based navigation at the top of the page, but offers a text-based navigation bar at the bottom of the page, as well as a complete text-based site map.

Blinking graphics can trigger epilepsy. They are also very distracting to people with certain cognitive disorders.

Assistive browsing devices expect meaningful text in the links. If your link text is just "Click Here," or if you link from a graphic with no alternate text provided, blind users will often be confused.

Graphical icons that look fine to most of us may look entirely different to the colorblind. Similarly, if certain information is highlighted just by choice of color, the colorblind will not be aware of those highlights, nor will others who are using certain assistive technologies.

Most of the web is highly accessible to the deaf. However, as multimedia becomes more important, some information is only available through the audio tracks of video clips. Generally, a text version should be provided as well.

A lot of this can be addressed just by adhering to two principles:

If you are presenting information other than in a textual form, offer a textual form as well. The most obvious example of this is to provide alternative text for images.

In your HTML markup, stick to semantics and content. Let your stylesheet handle the presentation issues (font sizes, text color, etc.). This provides more relevant information to assistive devices and allows partially sighted users to override your decisions with their own personalized stylesheets. A good example of this is that if your HTML distinguishes whether a particular piece of italicized text is to be emphasized or is to be cited (as a book title), a voice browser can speak the text more appropriately.

Unsurprisingly, though, the devil is in the details. The move to accessible web design can involve almost as much of a learning curve as the move from paper to the web. And as always, new constraints can be expected to bring out great ideas from site architects and designers.

Further Reading

Further Information About Web accessibility
The World Wide Web Consortium maintains Web Accessibility Initiative (WAI) home page is <http://www.w3c.org/WAI>. This is probably the best place to start looking into web accessibility on a worldwide basis. Their checklist for accessibility is at <http://www.w3.org/TR/WCAG10/full-checklist.html>.

A good starting point to find U.S. Government guidelines is <http://www.ada.gov/websites2.htm>, which, among other things, leads to documents about the ADA Section 508 standards. You can find a good summary of the legal requirement for government and educational web sites to take web accessibility into consideration at <http://www.rit.edu/~easi/law/weblaw1.htm>. The starting point to learn about the semantic web is, once again, with the World Wide Web Consortium: <http://www.w3.org/2001/sw>. The text-based Lynx browser can be found at <http://lynx.browser.org> and the Lynx viewer at <http://www.delorie.com/web/lynxview.html>. Bobby is at <http://bobby.watchfire.com/bobby/html/en/index.jsp>.

Article Courtesy of:

LUX

1008 Western Ave. Suite 601

Seattle, WA 98104

phone 206 328 9898

fax 206 328 9899

www.luxworldwide.com