

# Accessibility

As the Internet becomes a part of our daily lives, it is important for web site developers to consider the many obstacles individuals with disabilities face when accessing the Internet.

## What is Accessibility?

According to the World Wide Web Consortium (W3C), content is accessible when it may be used by someone with a disability. A 1997 report by the U.S. Census Bureau categorizes 19.6% of the U.S. population as having some sort of disability. Within that group are individuals with visual impairments, hearing impairments, cognitive impairments and motor impairments. An essential part of web design today is designing for people with disabilities. Many U.S. government and educational institutions are required by law to provide accessible Web content that follows accessibility guidelines established by the World Wide Web Consortium (W3C) and standards set forth in Section 508 of the U.S. Federal Rehabilitation Act.

However, even for the commercial web designer this needs to be carefully considered as you may be excluding a sizeable fraction of the public from enjoying the benefits of your web site and for some commerce related sites be losing potential sales.

## Accessibility Standards

Accessibility standards help web content developers identify and address accessibility issues. The Web Content Accessibility Guidelines (WCAG) from the W3C was the first major effort to establish guidelines for accessible design. This standard consists of fourteen guidelines, each with three checkpoint levels for web developers to meet. Priority One checkpoints ensure that the page itself is accessible. Priority Two checkpoints ensure that certain groups will be able to access information on the web page. Priority 3 checkpoints ensure that all content on the page is completely accessible. Thankfully for the developer these standards can be easily found online. Below are some resources that are vital to this.

BEAR SWAMP LUMBER  
COMPANY

3585 Greenwood Drive  
Conway, SC 29527  
843-397-8622  
sales@bearweb.com

Phone: 843-397-8622  
Fax: 843-397-8622

Email: sales@bearweb.com

## Resources

W3C Web Content Accessibility Guidelines: <http://www.w3.org/TR/WCAG10/>  
W3C Web Content Accessibility Guidelines Curriculum: <http://www.w3.org/WAI/wcag-curric/>  
Adaptive Computer Technology Training Center (Canada): <http://www.ec.gc.ca/act/>  
Guidelines for U.K. Government Web Sites: <http://www.nics.gov.uk/bds/isservices/wads/pubs>  
Introduction to Web Accessibility: <http://www.Webaim.org/info/intro>  
About Section 508: <http://www.section508.gov/About508.htm>

## Design and Implementation Considerations

Users with disabilities frequently rely on hardware and software to make web content accessible to them. These tools, known as assistive technologies, range from screen readers to touch screens and head pointers. Blind users of the web frequently use software called a screen reader to read the contents of a web page out loud. Two common screen readers are JAWS® from Freedom Scientific™ and Home Page Reader from IBM®. Screen readers enable users to hear the contents of a web page rather than read them. However, a screen reader can only read text, not images or animations. Therefore, it is important that images and animations have text descriptions associated with them that the screen reader can read. This text is called alternative text, or “alt” text. Users with mobility issues may rely on the keyboard instead of the mouse to navigate web pages. For individuals with nerve damage, arthritis or repetitive motion injuries, use of the mouse may not be comfortable or possible. Using only the tab and enter keys on the keyboard, it is possible for these individuals to negotiate a page with ease. Many users of the Internet have this capability and are simply unaware of it. In Microsoft® Internet Explorer, pressing the Tab key moves the “focus” of the browser between all available links on a page. Pressing the Enter key activates links, much like clicking a mouse.

In some cases, users may employ touch screens, head pointers or other assistive devices as well. A touch screen allows an individual to navigate the page using her or his hands without the fine motor control required by the mouse. A head pointer is simply a stick placed in one’s mouth or mounted on a head strap used to interact with a keyboard or a touch screen. In these cases, it is very important that essential components of the page work without a mouse. Rollovers, dropdown menus and interactive simulations are all examples of elements that are typically dependent on the mouse for user interaction. These elements must ensure that keyboard-defined events are included along with mouse-defined events. A quick test using the keystrokes available in Internet Explorer may provide a valuable glimpse of the issues a page may present users with disabilities.

There is much more to consider of course and we recommend reviewing many of the resources available online for more information. One key consideration is testing and validation, which is normally required for government web sites.

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843-397-8622  
sales@bearweb.com

## **Bearweb.com Accessibility Compliance Services**

We can review and test your website for compliance with the web accessibility requirements of Section 508 or W3C Guidelines. As part of this assessment you are provided detailed reports, along with specific recommendations of changes that need to be made. However, we go beyond this level, to include investigations of how your site works for the visually impaired including testing with 'home page readers' with live demonstrations and simulations to visually determine how your web site appears to the color-blind user. If you need to know more feel free to contact us.