

Accessible Web Page Principles

- [Benefits of Accessibility](#)
- [Planning Presentations and Websites](#)
- [Word Processing](#)
- [Characteristics of Images, Tables, and Frames with Screen Readers](#)
- [Practical Steps](#)
 - [Images](#)
 - [ALT Tags](#)
 - [Linked Text](#)
- [Presentation Software](#)
 - [PowerPoint Presentations](#)
- [Validating Web Pages](#)
 - [Doctor HTML](#)
 - [Bobby](#)
 - [W3C HTML](#)
- [Cascading Style Sheets](#)
- [Other Links](#)
- [ALA Editions Book Available for Free Online](#)
- [Web Authoring Tools](#)

~~~~~

### **Benefits of Accessibility**

When graded sidewalks and curbs were introduced to assist persons using wheelchairs, it didn't take long for us to realize that graded curbs also helped many others, such as parents with infant strollers or senior citizens with mobility issues but were still ambulatory.

Likewise some approaches that make it easier for persons with disabilities to use the web also help other users. To design more accessible presentations and websites, we inevitably make pages more efficient to access through the browser and increase the speed with which files are downloaded particularly over modems.

Ethernet connections sometimes help us forget that not everyone can download pages and files as fast on a modem as we can on the campus. With a few guidelines and web tools, selecting more accessible options will broaden access to our potential students with lower-end hardware and software.

### **Planning Presentations and Websites**

Organizing presentation materials for distribution over the web presents some challenges not found in print media. For those creating original documentation for presentation, it is always a prudent policy to provide a text-only version of any documents. This ensures the most basic level of accessibility.

If a print document might later be hosted on the web, save time by learning what functions will easily translate to the web and which will not. Since most software provides more than one way to format documents, select the software that easily converts as a part of formatting the original text document to simplify conversion to the web later.

## Word Processing

Most word processing packages now have a "Save as HTML" function. It is important to note is that this function will have mixed results based on how HTML-friendly the original documents was in its creation. Here are a few things to keep in mind in constructing an original word processing document for which you intend to then create a file that can be hosted on the web.

- Tabs and Indents using pull-down menus may either not translate or will be replaced with a single space in HTML code.
- Multiple spaces in a document will be translated as one space.
- Indentation at the beginning of a paragraph or hanging indentation will not translate.

To help the document be more readable without using these features, use block style paragraphs with one line in between paragraphs. Use the word processing program's icons instead of the pull down menus for creating indented paragraphs or text with bullets. Using the program's icons for this function will translate more effectively into HTML code. If you are unsure how any particular word processing program feature will convert to HTML code, try saving the document with the various options in it then see how it looks in the browser. This will help reveal what methods will be most efficient in converting to the HTML format.

## Characteristics of Images, Tables, and Frames with Screen Readers

In addition to these word processing-based issues, there are issues to consider with images, tables, and frames when it comes to the use of screen readers for persons with visual disabilities.

Not all of those coming to your web page will have the latest technology. Providing the most accessible pages for the broadest audience or simply providing alternative text pages is a very significant decision on the part of any organization.

Though the technology is changing rapidly, screen readers will have difficulty reading a page constructed with frames. Screen readers may acknowledge the first frame and then not be aware that any other frames even exist. Some readers read tables but do not necessarily read the entire content of the table cell at one time, rather reading the first line of each column then reading the second line in each column.

## Practical Steps

There are some basic steps to providing accessible web pages. Handling images, providing ALT tags, and linking text in a way that is user-friendly for persons using a screen reader are important first steps.

### *Images*

Images cannot be read by screen readers. However, HTML code provides an ALT tag option. This allows for a description of the image to be entered into the document which can then be read by the screen reader. Within the word processing program or the web document creation program, the option is provided to enter text to describe the image and, if the image is linked, to tell the user where the link on the image or icon will take them. The screen reader will read the ALT tag text for the user but the text is invisible to those not using a screen reader.

### *ALT Tags*

The inclination for most page creators is to ignore the ALT tag, providing no information about the image. Others will type in "image" or "click here". To be more accessible to screen reader users, use the ALT tag to actually describe the

image and/or where the link will take the person. Within the image tag, the following notation are examples of what could be entered to create a more descriptive option for the screen reader to speak to the users:

"Picture of the Niagara Falls in the winter night with colored lights reflecting off of the water and the snow covered rocks below."

"Line drawing of an oak tree in the spring. Link on this image takes users to the home page for the Central High School Library."

### ***Linked Text***

Linking text is another easily overlooked point of accessibility. Often page creators will create links that highlight the words "click here" and provide the link to a new URL or are anchored farther down in the document. Screen readers have an option to jump from link to link within a given document. In a case where the "click here" option is used, the screen reader would jump from one link to the other. All the user would hear would be "click here", "click here", "click here", "click here", "click here", "click here", on to the end of the document.

As an alternative, providing the text naming the link and the URL is more user friendly. For example, providing a link for a college or university faculty handbook <http://www.collegename.edu/fachand.html> and linking both "Faculty Handbook" and "<http://www.collegename.edu/fachand.html>" within the document. Both would be read by the screen reader and both will be seen on the web page. This is a case of making the web page more accessible to both sighted users and those with visual disabilities.

## **Presentation Software**

One of the most common presentation software used by presenters is PowerPoint. Rather than discard the PowerPoint presentation in favor of web pages, presenters can convert their current PowerPoint presentation into a web-deliverable presentation. Since this is such a common program, we are including some basic information for those interested in preserving their work created in PowerPoint and distributing it via the web.

### ***PowerPoint Presentations***

More recent versions of PowerPoint allow a presenter to save the presentation to .html format which will include a link to a text version of the each slide. Like converting word processing files, it is important to note that not every item in the PowerPoint presentation will be converted in readable format. Inserted images and other objects do not necessarily convert to text. However, the vast majority of the presentation is usually translated well.

As an alternative for those items that are not translated well, the HTML files created using the "Save as HTML" function can be amended in an HTML editor to add the missing text or description of the image. Again, providing a document containing all of the text of the presentation is a helpful option for users.

During the process of saving PowerPoint presentations to HTML, one selection allows for the placement of the navigation buttons above, below, to the left or to the right of the slide on the HTML page. Screen reader users will be better served by having the navigation buttons at the top of the page, where they will be one of the first things encountered on the page.

## **Validating Web Pages**

Once a web page has been created, there are several options for validating the code. Validation checks for coding accuracy in the document. Good coding allows for web pages to be more efficiently viewed by users because clean coding works better and faster with browsers. In this way, the validation process also eliminates problems for screen readers.

There are several validators available through search engines. Depending on the expertise and preferences of the person validating the page, some are more and others less user-friendly for those who are unfamiliar with web coding. Trying out a number of validation services on the same web page is a good way to test which validator will be most

usable and understandable for web page creators.

These online validators help determine the clarity of the coding. However, web access has emerged to be somewhat of a contentious topic. Part of the lack of clarity is the speed with which technology changes and the resultant dissimilarity across systems. Additional differences in assistive technology contributes greatly to the flux in dealing with accessibility of web documents. Amidst all this flux, several standards have emerged. Paying close attention to creating clean coding as noted above provides more effective, accessible pages for all web users.

A search on Yahoo or some other search engine will provide links to a number of validators. The output from these services can help uncover the inconsistent coding, absence of ALT tags or other issues that will cause browsers and screen readers problems.

[http://dir.yahoo.com/Computers\\_and\\_Internet/Data\\_Formats/HTML/Validation\\_and\\_Checkers/](http://dir.yahoo.com/Computers_and_Internet/Data_Formats/HTML/Validation_and_Checkers/)

### ***Doctor HTML***

One especially good validator presents the results in a very understandable form - Doctor HTML at <http://www2.imagiware.com/RxHTML>. Topic-based validation address a number of potential problem areas and also provides succinct summary. Reported results include document structure, table structure, form structure, image analysis, Image syntax, check spelling, hyperlink analysis, and command hierarchy.

This validation will indicate code changes that may improve the general web page efficiency for any browser. However, it does not specifically indicate accessibility. To take validation a step further and check accessibility, a validator such as Bobby can be used.

### ***Bobby***

Bobby will check the code, indicating whether or not the file is considered accessible. If the page is not accessible, the output from this validation is more difficult for a novice to follow. For beginning users, using Doctor HTML first, making corrections to the document, and then running the page through Bobby again may give the page creator more understandable results.

Bobby is a minimum accessibility test for web pages. Bobby validation can be found at <http://www.cast.org/bobby/> Bobby can give a general idea of how we are serving students with disabilities. Bobby examines Priority 1, the most basic level of accessibility for web sites. If a site fails Bobby, it is inaccessible. If it passes Bobby, the site still may be inaccessible because of information flow or other design flaws.

### ***W3C HTML***

Some of the more advanced accessibility validators exist for both web pages and web page as well as those using Cascading Style sheet coding. One such validator is the W3C HTML Validation Service another found at <http://validator.w3.org/> at Cascading Style Sheets found at <http://www.w3.org/Style/CSS/> and W3C's CSS Validation Service <http://jigsaw.w3.org/css-validator/> can be used to check web pages.

The W3C is actively involved in creating Internet standards. Most of their work is in defining the tools necessary for software developers to create web editors that are sensitive to disability issues. There are a series of web page objectives that will guide your work in creating accessibility- enhanced web pages. W3C offers a more comprehensive test for web pages, allowing for evaluation of those pages at three levels of priority. In addition, W3C provides author accessibility guidelines for the web, authoring tools, and a style sheet language called cascading style sheets (CSS).

### ***Cascading Style Sheets***

There are several versions of CSS. More recent CSS code versions may not be compatible with browsers such as Netscape 4.x and Internet Explorer 3.0, even though they partially support CSS. The CSS coding that makes pages user-friendly for screen readers may not be able to produce visually clean page layout for sighted persons who are

using a browser just one or two generations old.

CSS ver. 1 (recommended by W3C) will likely produce more usable pages for all users. In a year or two, the browser technology and CSS coding may converge. Until then, it is worth being aware that using more recent versions of CSS will not necessarily provide the broadest spectrum of accessibility for both sighted users and those who use screen readers. For more information, please see:

<http://buildercnet.com/Authoring/CSS/index.html>  
<http://www.microsoft.com/truetype/css/gallery/>

## Other Links

Some of the following links may provide additional information in planning accessible web delivery of information.

"2001 Colleges Focus on Making Web Sites Work for People With Disabilities" - <http://chronicle.com/free/2001/01/2001012601t.htm> by Andrea L. Foster article from The Chronicle of Higher Education

"Disabled Accessibility: The Pragmatic Approach" - <http://www.useit.com/alertbox/990613.html> - summarizes information on how to make web sites accessible. It includes a link to the Checklist of Checkpoints for Web Content Accessibility Guideline 1.0.

"Designing Accessible Tables" - <http://www.webaim.org/articles/accessibletables.php> By Jeff Isom

Do It web site from the University of Washington - <http://www.washington.edu/doi/>.< BR>  
[Standards for Electronic and Information Technology Under Section 508 of the Rehabilitation Act](http://www.access-board.gov/news/508-final.htm) - <http://www.access-board.gov/news/508-final.htm> Issued December 20, 2000.

University of Wisconsin TRACE web site - <http://www.TRACE.wisc.edu/>

Web Accessibility In Mind (WebAIM) - <http://www.webaim.org/>

## ALA Editions Book Available for Free Online

"Adaptive Technology for the Internet: Making Electronic Resources Available to All" by Barbara Mates is available online in accessible format. ALA Editions, the publishing imprint of the American Library Association, is offering the entire text, with HTML coding. This offering addresses the creation of electronic resources accessible to all users. The free publication is available at:

<http://www.ala.org/editions/openstacks/>

For libraries that must proactively and deliberately plan for the accessibility of electronic resources, this free online version clearly lays out how to become ADA compliant, publicize efforts, and welcome a new community of users to the library. Mates, head of the Cleveland Library for the Blind and Physically Handicapped, covers the need-to-know technologies including HTML coding for accessibility, screen readers, voice recognition systems and hearing assistance devices. For more information, please visit:

[http://www.ala.org/editions/openstacks/insidethecovers/mates/mates\\_to\\_c.html](http://www.ala.org/editions/openstacks/insidethecovers/mates/mates_to_c.html)

## Web Authoring Tools

Some tools offer more control at code level. Others are more user-friendly to beginning web developers. The important long range issue is how flexible is the program and the resulting pages accessible across platforms [2](#) and browsers. Testing documents on different computer platform and with different browsers is an important part of providing accessible websites for issues.

Providing a link on a web document where users can comment on the usability of the document is another important part of service. Since it is impossible to test every mode of distribution, users feed back can be a great asset to improving website accessibility. Periodic review of the status of accessibility related technology is worth while in providing website enhancements.

For more information about this topic or on the ACPA Standing Committee on Disabilities, please see <http://www.acpanche.edu/comms/disab/index.html>. To contact the Standing Committee on Disabilities, please send email to [Alice.Mitchell@ASU.EDU](mailto:Alice.Mitchell@ASU.EDU) or [sfs8@psu.edu](mailto:sfs8@psu.edu).

---

<sup>1</sup> Screen Readers - Software used by individuals who are blind or who have dyslexia that interprets what is displayed on a screen and directs it either to speech synthesis for audio output, or to refreshable braille for tactile output. Some screen readers use the document tree (i.e., the parsed document code) as their input. Older screen readers make use of the rendered version of a document, so that document order or structure may be lost (e.g., when tables are used for layout) and their output may be confusing. [Return to "Characteristics of Images, Tables, and Frames with Screen Readers"](#)

<sup>2</sup> Platform - Platform refers to what type of computer, or more specifically, what type of operating system the computer uses. For example, a Macintosh computer and an IBM-compatible computer are different platforms. Unix is yet another. [Return to "Web Authoring Tools"](#)

**This page is Bobby Approved.**



---

**Copyright 2001**

Compiled for the [American College Professional Association \(ACPA\) Standing Committee on Disability](#)

**All Rights Reserved**

*Updated: February 11, 2001*