

# Special Feature

## ABA Resolution and Report on Website Accessibility

[*Editor's Note:* Below is the resolution and report urging those in the legal profession to make their websites accessible to persons with disabilities, which were submitted by the American Bar Association's (ABA) Commission on Mental and Physical Disability Law. The ABA's House of Delegates passed the resolution at its 2007 Annual Meeting. Following the resolution and report is an article that discusses how to make your website accessible to blind persons, create accessible web-based multimedia presentations, and check your website for accessibility problems.]

### Resolution

RESOLVED, That the American Bar Association urges that websites provided by lawyers, judges, law students, and other individuals or entities associated with the legal profession,

including law firms, the courts, other legal employers, law schools and legal publishers, be created and maintained in an accessible manner which is compatible with reasonable technologies (known as assistive technology) that permit individuals with visual, hearing, manual, and other disabilities to gain meaningful access to these web sites.

### Report

#### *Introduction*

In May 2006, Michael S. Greco, the Immediate Past President of the ABA, at the first ever ABA National Conference on the Employment of Lawyers with Disabilities (ABA National Conference) held in Washington, DC, emphasized the "importance of ensuring that people with disabilities are fully integrated into the legal profession." Full integration is a fundamental component of the ABA's long-standing commitment set forth in the Association's Goal IX to "promote full and equal participation in the legal profession by . . . lawyers with disabilities." In today's technologically-driven world, making legal websites and the information on those websites fully accessible to lawyers, paralegals, clients, and the public who use those websites is one of the most important aspects of disability integration. This resolution, therefore, calls on the entire legal profession to create and maintain websites that are fully accessible to persons with disabilities.

### *What Does the Resolution Cover?*

The resolution is intended to cover "all websites that are intended for lawyers, judges, law students and other individuals or entities associated with the legal profession, including law firms, the courts, other legal employers, law schools, legal publishers and clients." In other words, all legal websites should be included, whether they are publicly or privately supported. The intent is to be as broad as possible, recognizing that both the legal profession itself and law students, lawyers, judges, clients, and the public who rely on the legal profession will benefit if the legal profession is accessible to all.

### *Why Is This Resolution Necessary?*

There is a direct link between the accessibility of legal websites and the ability of people with disabilities to find employment with legal employers, work as lawyers and paralegals, access legal information and services, and obtain competent legal representation. If lawyers, judges, law students, paralegals, clients, and the public cannot use most, many, or even some legal websites, the legal profession is weakened as result because all the individuals with disabilities who are excluded view the profession as being less than it could or should be.

Based on the Commission's experience working inside the ABA and with outside legal groups, including bar examiners, law schools, law firms, the federal government, and legal publishers at the ABA National Conference, it is clear that website accessibility is a goal that is recognized as being necessary by many in the legal profession, but has not yet been attained. Part of the difficulty is that many entities within the legal profession are not yet prepared to take the necessary steps to ensure that their websites are fully accessible, either because they are unaware of the limitations of their websites and/or are not yet comfortable in making the necessary changes. One of the important purposes of this resolution is educational: to make the legal profession fully aware of website accessibility problems and to provide resources to ensure that legal entities have the means at their disposal to ensure that they consider and implement accessibility principles when websites are being developed and modified.

In addition, there have been several publicized incidents, in which website accessibility problems have resulted in litigation or threats of litigation. Perhaps the most notable example is *National Federation of the Blind v. Target Corp.*,<sup>1</sup> in which a California federal court held that a major American corporation was subject to liability under Title III of the Americans with Disabilities Act (ADA) if its website was shown to be inaccessible to its patrons. The point is not so much that there is a likelihood of litigation if legal websites are not accessible—to date no such lawsuits have been reported—but that such inaccessibility problems persist and violate the spirit of the ADA and the Association's commitment to make the legal profession accessible.

### **Relevant ABA Policies and Initiatives**

The ABA has a long history of working for the inclusion of lawyers and citizens with disabilities. In February 1991, the ABA's House of Delegates resolved to make member benefits accessible to members with disabilities "to the maximum extent feasible."<sup>2</sup> At that time, the ABA created a Task Force on Member Benefits for Disabled Lawyers, which presented guidelines on how to best implement the ADA within the ABA and the legal profession, and to make the ABA's programs and activities accessible to lawyers with disabilities. Moreover, the ABA's Board of Governors changed the name and mission of the Commission to include both mental and physical disabilities, rather than mental disabilities alone.

As discussed above, the ABA in 1999 amended Goal IX to add lawyers with disabilities. As a result, it has been ABA policy to work towards the "full and equal participation" of lawyers with disabilities in the legal profession.<sup>3</sup> At the same time, the Commission's mission was changed to "promote the ABA's commitment to justice and the rule of law for persons with mental, physical, and sensory disabilities and their full and equal participation in the legal profession."

Also, in February 2002, the ABA's House of Delegates adopted a resolution to make all courthouses and court proceedings accessible to people with disabilities.<sup>4</sup> The report to this resolution made it clear that courthouses and court proceedings should be viewed broadly to include "lawyers, judges, jurors, litigants, court employees, witnesses, and observers." This recommendation that courthouses and court proceedings be accessible encompasses the websites of courts and the lawyers who practice in those courts.

### **Relevant Laws**

A number of federal and state laws support the principle that in general legal websites should be accessible to persons with disabilities. In particular, Titles I–III of the ADA and Section 508 of the Rehabilitation Act are the most pertinent, although various state laws also pertain.

Because the ADA was enacted in 1990, it does not mention websites and the Internet specifically, but its broad principles clearly apply in a number of respects. Title I deals with employment and making places of employment accessible to persons with disabilities. As part of President George W. Bush's New Freedom Initiative, the federal government issued proposals in 2002 to make telework opportunities more available to people with disabilities.<sup>5</sup> The next year, the Equal Employment Opportunity Commission, as part of its charge to implement Title I, issued a fact sheet discussing telework as a reasonable accommodation.<sup>6</sup> That guidance made clear that the federal government endorses the proposition that computers and things, like the Internet, which have sprung out of computer-related technology and become a major part of the work environment, are covered by Title I.

Title II covers all non-employment programs, services, and activities provided by state and local governments.<sup>7</sup> When discussing ways that these requirements may be satisfied, the statute mandates

"the removal of architectural, communication, or transportation barriers."<sup>8</sup> The Internet is clearly a "mode of communication"; in fact, many state and local governmental entities in some situations require that citizens communicate over the Internet using websites. Moreover, whenever state and local governments or their contractors receive federal funding, they are supposed to comply with the accessibility requirements of Section 508 of the Rehabilitation Act.

The critical language of Title III states: "No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation."<sup>9</sup> Recently, in *National Federation of the Blind v. Target Corp.*, *supra*, the California federal court found that that blind customers stated a claim under ADA Title III by alleging that Target's website was inaccessible to them. The court explained that Target's argument that Title III only covers brick-and-mortar stores was misplaced. Not only has the Eleventh Circuit held in *Rendon v. Valleycrest Productions, Ltd.*<sup>10</sup> that an off-site screening process discriminated against contestants with disabilities who wanted to participate in a television show, but a Florida federal court determined that Southwest Airline's inaccessible website violated Title III by preventing customers with disabilities from purchasing tickets online at virtual ticket counters.<sup>11</sup> Similarly, with regard to Target, the California federal court concluded that many of the website's benefits and privileges are services of the Target stores and, thus, the plaintiffs' allegations that they were denied such access stated a cognizable cause of action under Title III.<sup>12</sup>

Finally, in 1998, Congress amended the Rehabilitation Act of 1973 to require that federal agencies make their electronic information technology (EIT) accessible to people with disabilities.<sup>13</sup> As a general rule, the law applies to all federal agencies when they develop, procure, maintain, or use EIT. Under the provisions of Section 508, federal agencies must give disabled employees and members of the general public access to information that is comparable to the access that is given to non-disabled employees and citizens. The law further requires that the Architectural and Transportation Barriers Compliance Board develop, and periodically update, compliance standards.<sup>14</sup>

### **Making Websites Accessible**

Website accessibility means altering websites or files linked from websites in order to make the content contained in them readily available to people with disabilities. Most website accessibility problems pertain to people with visual impairments, although they also affect persons with hearing and manual impairments. A few of the more common problems and solutions are discussed below.

People with visual impairments use two different types of software to navigate the Internet. Those who have some useable vision typically use screen magnification programs (which enlarge the images that appear on the screen), while those with little or no vision typically use screen-reading programs (which verbalize,

through synthesized speech output, the contents of the screen).

For those who use screen magnification software, the key is to make sure that there is a high degree of contrast between the text of a website and its background. Many websites have added accessibility features to their websites that allow users to select their own personal color schemes. A good example of this is found on the website of the American Foundation of the Blind at <http://www.afb.org>.<sup>15</sup>

Making web content accessible to people who use screen-reading programs is, for the most part, relatively simple. It usually involves adding some small strings of code to the underlying website code. The most common accessibility problems faced by screen reader users are “missing alt-text attributes” and a lack of “label tags.” The alt-text attribute is a textual alternative to information that is primarily provided through visual means. By using alt-text attributes, a webmaster can provide users of screen readers access to information that appears as textual links, graphical links, image maps (a series of links combined into one image), to provide captions for pictures and more. Adding the alt-text attribute to websites does nothing to alter the site’s visual presentation, except that the text that comprises the alt-text attribute will appear as a pop-up when a mouse is moved across an item that contains such an attribute.

The primary use of the label tag is to communicate what response is required in form fields. Form fields are, mostly, boxes on websites that ask users to enter data such as their names and addresses. However, form fields can be presented as either check boxes or combo boxes as well. Adding label tags to these three kinds of form fields will do much to make a website accessible to people who use screen readers. The tags can also be used to provide textual descriptions of buttons that are part of websites. Adding both the alt-text attribute and label tags require nothing more than the small amount of time it takes a trained web designer to type the additional code.

Many legal and non-legal organizations use Adobe’s Portable Document Format (PDF) file type as their preferred method of document delivery on the Internet. However, using PDF files can present severe problems for blind and visually impaired lawyers who are trying to read those documents using screen readers. While many PDFs can be made accessible, the process, depending on the complexity of the document, can be very difficult. For documents created with “style tags,” Adobe’s “accessibility assistant” does a good job of adding the needed accessibility tags automatically. However, if the document contains tables, images, and other more intricate details, accessibility tags will need to be added to each document individually using Adobe’s accessibility tools. Also, PDFs that originate as scanned images cannot be made accessible without first running the file through an optical character recognition program (software that turns images of letters and words into text) and then manually editing any mistakes made by the software during the translation process. Given these complexities, a number of people and organizations choose instead to offer their online documents in HTML. For more information on creating accessible PDF files, visit <http://www.adobe.com/accessibility>.

People with hearing impairments have a very different problem with regard to web-based content—accessing information that is

provided strictly through audio means. This problem can be overcome by adding captions to any file on a website that contains audio. The Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH television in Boston, Massachusetts, has created Magpie, a free media access generation tool that will enable persons to add captions to video presentations. Magpie can also be used to add video description (narrations of what is happening on the video) to files that contain video. More information about Magpie can be found at <http://ncam.wgbh.org/webaccess/magpie>.

One final accessibility problem to consider is that any task that only can be completed by using a mouse is not going to be accessible to people with certain manual and visual impairments. By allowing dual options (mouse or keyboard) for completing web-related tasks, websites will not exclude people who cannot use a mouse.

### ***What Existing Guidelines Are Relevant to Website Accessibility?***

There are several relevant sets of guidelines for making websites accessible. Two of the most prominent are described below. Adhering to either guideline will guarantee that a website is, at least close, to being fully accessible. Experience and feedback from website users will help determine whether a particular set of guidelines is incomplete with regard to a particular website or website page. The first set of guidelines details what is necessary to be compliant with federal requirements, while the second, more universally accepted guidelines details what is needed to be fully accessible as a practical matter.

As was mentioned earlier, the federal Architectural and Transportation Barriers Compliance Board develops, and periodically updates, compliance standards to implement Section 508 of the Rehabilitation Act. The Access Board has promulgated guidelines for federal agencies to follow when creating websites and web-related content. For more information about the Access Board’s compliance standards, visit <http://www.access-board.gov>.

The World Wide Web Consortium, which was founded by Tim Berners-Lee, the inventor of the World Wide Web, developed the Web Accessibility Initiative (WAI). These accessibility guidelines are considered to be more comprehensive than those for Section 508 compliance. Also, the WAI guidelines are updated more frequently than are the Section 508 guidelines. For these reasons, the WAI guidelines have become the most referenced and used guidelines. For information about the WAI guidelines, visit <http://www.w3c.org/wai>.<sup>16</sup>

### ***Conclusion***

For over 15 years, the ABA has been committed to making the legal profession accessible to persons with disabilities. As the attendees of the ABA National Conference on the Employment of Lawyers with Disabilities found, our profession still has a long way to go. One critical component of making the legal profession accessible to people with disabilities is universal website access. This resolution

is an essential step towards this goal.

Respectfully submitted,

Scott C. LaBarre, Chair  
Commission on Mental and Physical  
Disability Law  
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1. 452 F. Supp. 2d 946 (N.D. Cal. 2006).
2. ABA Res. 102 (1991).
3. The ABA's goals can be found at <http://www.abanet.org/about/goals.html>.
4. ABA Res. 110 (2002).
5. 67 Fed. Reg. 78,790 (Dec 26, 2002), at 2002 WL 31868817.
6. Telework As a Reasonable Accommodation, at <http://www.eeoc.gov/facts/telework.html>.
7. 42 U.S.C. §12132.
8. *Id.* at §12131(2).
9. *Id.* at §12182(A).
10. 294 F.3d 1279 (11th Cir. 2002).
11. Access Now v. Southwest Airlines, 227 F. Supp. 2d 1312 (S.D. Fla. 2002).
12. National Fed'n of the Blind v. Target Corp., 452 F. Supp. 2d 946 (N.D. Cal. 2006).
13. 29 U.S.C. §794d.
14. The Access Board's web accessibility standards have been codified at 36 C.F.R. §1194.22(a). For more information about Section 508 and its requirements visit <http://www.section508.gov>. For information about the Access Board's compliance standards visit <http://www.access-board.gov>.
15. To learn more about screen magnification programs, see Amy Salmon, "The Sound of Computing: A Review of Three Screen Readers," 7:1 AFB ACCESSWORLD© (Jan. 2006), at <http://www.afb.org/afbpres/pub.asp?DocID=aw070103&select=1#1>.
16. To read the settlement reached between the blind and visually impaired community and Bank of America, visit [http://www.icdri.org/ATMs/bank\\_of\\_america\\_atm\\_settlement\\_a.htm](http://www.icdri.org/ATMs/bank_of_america_atm_settlement_a.htm).

## Website Accessibility and Persons with Disabilities

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This article will not try to convince you that making your website more user-friendly is a smart business decision.<sup>1</sup> Nor will this article discuss the societal benefits of an Internet that can be accessed by as many people as modern technology will allow.<sup>2</sup> Instead, this article will illustrate the most common accessibility problems encountered by

people with disabilities, in particular vision and hearing impairments, encounter on the web; demonstrate how easy it is to fix most of these problems; point to additional resources for each topic; and identify tools for determining how accessible your website is. While this article is written with the average user in mind, it assumes that readers are designing websites and, therefore, have a working knowledge of web-related content, codes, authoring tools, and document types.

The recommendations that are contained within this article are based on the Web Content Accessibility Guidelines (WCAG), produced by the World Wide Web Consortium's Web Accessibility Initiative.<sup>3</sup> Because the WCAG are scheduled to undergo a major revision later this year, the scope of this article is limited to the core concepts of website accessibility.<sup>4</sup> If, while designing your website, you encounter an accessibility-related issue not discussed here, consult the WCAG.

References to the work of Web Accessibility in Mind (WebAim)<sup>5</sup> are made throughout this article. WebAim has produced excellent resources related to creating accessible web content. In addition to its extensive online materials, you can order a CD of materials related to the creation of user-friendly web-based content and receive related training.

Later in this article, you will see examples of codes that you can use to make your website more accessible. These strings of text will not make sense unless you are familiar with HTML.<sup>6</sup>

### Making Web Content Accessible to Blind People

To access computer-related information such as websites, blind people use screen reading programs, which communicate to users, via speech output or Braille displays, what appears on the computer screen. Screen readers cannot provide access to all web-based content. However, if your website is designed with accessibility in mind, almost anything is achievable through alternative methods. To learn more about screen readers, visit two leading screen-reading programs: Freedom Scientific (the maker of Job Access with Speech) and GW Micro (the maker of Window-Eyes).<sup>7</sup>

#### Adding Alternative Text

One of the biggest problems encountered by blind Internet users is the lack of alternative (alt) text. When a screen reader comes across an image that has not been assigned any alt text it may ignore the image all together, or find some other information associated with the image—in most instances a file name—and communicate that to the user.

For example, let us assume that that the image you are using as your "Contact Us" link is a file named image.jpg, and that you want the picture to have a width of 145 pixels and a height of 115 pixels. Your link would be constructed as ``. To add alt text to the link, all you need to do is add "alt="contact me" to the above code: ``. Now, anyone—regardless of visual acuity—can contact you.

## Decorative Images

Web designers frequently use graphics to make websites visually appealing. However, only images that communicate useful information are important to blind computer users. Website developers should use the null (or empty) attribute when assigning alt text to non-informational images. Without the null attribute, screen readers could report the file name of the image to the user.

To assign the null attribute to a decorative image use the following code: `<imgsrc="border.gif"width="82"height="88"alt=""/>`. The only difference between the code in this example and the code used to create the “Contact Us” link is that, instead of putting text after the word “alt,” you close the quote.

## Image Maps

There are two kinds of image maps: (1) client-side image maps, which are processed in the user’s browser, and (2) server-side image maps, which are processed on the server that hosts the website. Only client-side image maps can be made accessible. Consequently, to make a website accessible to blind computer users, you must refrain from using server-side image maps.

To make an accessible client-side image map, you must provide alt text for both the image and the hot spots (the areas that the users can click on). However, if the image does not contain any meaningful information, use the null attribute when assigning alt text to the description of the image. The alt text for each of the hot spots should be the same as the text contained in the image.

The following example from WebAim illustrates the coding of an accessible client-side image map: `<mapname="map"><areashape="rect"coords="7,9,191,54"href="#maps"alt="HOME"><areashape="rect"coords="7,68,191,114"href="#maps"alt="Products"><areashape="rect"coords="7,127,190,172"href="#maps"alt="Services"><areashape="rect"coords="6,186,190,229"href="#maps"alt="ContactUs"><areashape="rect"coords="7,245,189,289"href="#maps"alt="index"></map>`. While this string of code is extremely long, note that only the words contained after the word “alt”—“HOME”, “Products”, “Services”, and “Contact Us”—are related to making the image map accessible.

When creating client-side image maps, keep in mind that screen readers read the literal order of the HTML. Some commercially available website authoring tools do not put the `<area>` tags next to the `<img>` tags, making it very difficult for users of screen readers to figure out which alt text is associated with which hot spot.

## Final Notes on Adding Alt Text

Use the alt text attribute to communicate relevant information.<sup>8</sup> Because the alt text attribute cannot be assigned to background images, avoid using background images to communicate important information. If your background image is communicating valuable information, redo your code so that the image is in the foreground and

you can apply alt text to it. To avoid creating situations where screen readers will communicate exactly the same text twice, do not use alt text that is the same as text that already appears on the page.

## Creating Accessible Documents

Over the last few years, many entities have begun posting all or most of their online documents in PDF. However, it is very difficult to make PDFs that are completely accessible to blind computer users. While Adobe has made many accessibility-related improvements to its software, most notably the addition of the “accessibility assistant,” many problems persist, the most noteworthy of which are discussed. In short, you might want to avoid using PDFs, especially when the document you are posting is very complex.

### Adobe’s “Accessibility Assistant”

In general terms, the “accessibility assistant” can recognize when PDFs have not been properly tagged for accessibility purposes and, in a few minutes, add some of the missing accessibility tags. However, the “accessibility assistant” has some serious limitations, including its inability to properly tag tables, caption charts and graphs, and recognize some formatting. To make those aspects of your documents accessible, you will need to use the suite of accessibility tools that Adobe includes with Adobe Acrobat.

### Accessibility Tools

These tools may be cumbersome to learn and time-consuming to use. The most important thing you need to know about these tools is how to add accessibility tags to your documents. If you are creating your PDF from a file that was originally created in a word processor, like Microsoft Word, you can save yourself a great deal of time by using the word processor’s built-in style functions. Adobe is able to recognize those tags and can convert them to accessibility tags that will enable users of screen readers to know, for instance, where headings are. If your document is very simple—i.e., it does not include any tables, charts, graphs, graphics or other things that Adobe cannot recognize during the tagging process—you can, in most instances, make a very accessible PDF in a matter of minutes by allowing Adobe to add accessibility tags to the document. These tags do not, in any way, change the visual appearance of the document.

### Scanned Images

Adobe’s “accessibility assistant” cannot read—at all—scanned images, unless they are first run through an optical character recognition (OCR) program. However, OCR programs are not 100 percent accurate in their translations. Many things, such as the quality of the document being scanned, its formatting, the quality of the scanner, and more will influence the document’s readability. Thus, if you need to create a PDF from a scanned image, you will need to run it through an OCR package (one is included in the full version of

Adobe Acrobat), and then edit the document for the mistakes that the software will make during the translation process.

## Resources

For more information on how to make accessible PDFs, visit Adobe's accessibility page<sup>9</sup> and WebAim.<sup>10</sup>

## Text of Links

Users of screen readers will often navigate a page simply by using the tab key to move through the links on the page or having their screen reader show all of the links on a page in a dialogue box. This allows users to find out what is on the page without having to read through the entire page. However, this benefit cannot be realized unless the text associated with the link indicates where the link is going. For this reason, you should avoid making the text associated with your links nondescript phrases like "click here" or "read more."

## Data Tables

Tables are used to present data and give a page a more attractive layout. This article will cover data tables, but not layout tables as many accessibility advocates believe that cascading style sheets should be used to format web pages instead.<sup>11</sup> To learn more about making layout tables accessible, visit WebAim.<sup>12</sup>

When the proper HTML coding is added, users of screen readers can navigate tables one cell at a time and have the column and row headers read to them. Without proper coding, these users have to memorize the column and row headers to make sense of the data. When writing your code, you should use the `<td>` tag to signify data cells and the `<th>` tag to indicate headers.

In addition to labeling the data cells, column headers, and row headers, you must also use the scope attribute to show screen readers which data cells are associated with which headers. The following example from WebAim illustrates how to do this: `<tableborder="1" align="center"><caption>Shelly's Daughters</caption><tr><thscope="1" colspan="3">Name</th><thscope="col">Age</th><thscope="col">Birthday</th></tr><tr><thscope="row">Jackie</th><td>5</td><td>April 5</td></tr><tr><thscope="row">Beth</th><td>8</td><td>January 14</td></tr></table>`.<sup>13</sup> If this code were present, the user would see a table showing that Shelly has two daughters, Jackie and Beth; Jackie is five and was born on April 5; and Beth is eight and was born on January 14.

While the scope attribute is most effective for simple tables, like the one above, you should use the headers and id attributes where there is more than one logical level in a table, and you need to link more than two headers with a data cell. Here is another example, again from WebAim: `<tableborder="1"><caption>Shelly's Daughters</caption><tr><td>&nbsp;</td><thid="name">Name</th><thid="age">Age</th><thid="birthday">Birthday</th></tr><tr><thid="jackie">Jackie</th><tdheaders="birth jackie age">5</td><tdheaders="birth jackie birthday">April 5</td></tr><tr>`

`<thid="beth">Beth</th><tdheaders="birth beth age">8</td><tdheaders="birth beth birthday">January 14</td></tr><tr><thid="step">by marriage</th><thid="jenny">Jenny</th><tdheaders="step jenny age">12</td><tdheaders="step jenny birthday">February 14</td></tr></table>`. This table is the same as above, except that people will learn about Shelly's 12-year-old step daughter, Jenny, who was born on February 14.<sup>14</sup>

## Forms

Screen reader users accessing your forms will have difficulty if you use JavaScript to manipulate form data, submit forms, change elements within the form, or set focus. Do not use the JavaScript onchange event when users are given the opportunity to select items from a drop-down menu, as browsers are instructed to automatically go to a specific web page after users have selected an item from the list and released their mouse button. Screen reader users will use the arrow keys to navigate the drop-down list. Each time they press an arrow key, the onchange event will be triggered and their browser will take them to another page or refresh the content on the current page. So, if a screen reader user wants to select the twelfth item in a drop-down list, they will first have to select each of the first 11 items individually, i.e., select the first item, wait for the page to change, go back to the prior page, select the next item in the list, and repeat this 11 more times until they are shown the information that they are looking for.

Lastly, do not use JavaScript to change the location of the web browser. Instead, let users select a menu item and then use an adjacent button to move to the particular web page that they have chosen.<sup>15</sup>

## Control Types

When designing forms, the key is using the label tag to show screen readers what the purpose of each control in your form serves.<sup>16</sup> This section gives examples of the different types of form controls and illustrates how they can be made accessible.

### Input Control

The input control is used to allow users to enter text, like their name, in web forms. To make an accessible, use coding like this: `<label for="name">Name</label><input id="name" type="text" name="textfield">`.

### Checkboxes

Since checkboxes are self-explanatory, to make accessible use the following code: `<fieldset><legend>Choose your favorite animal:</legend><br><input id="dog" type="checkbox" name="checkbox" value="checkbox"><label for="dog">Dog</label><br><input id="cat" type="checkbox" name="checkbox2" value="checkbox"><label for="cat">Cat</label></fieldset>`.

### Radio Buttons

Radio buttons can be used when you want users to select one out of a list of choices. Use this code to make accessible:

```
<fieldset><legend>Choose your favorite city:</legend><br><input id="boston" type="radio" name="radio" value="boston"><label for="boston">Boston</label><br><input id="new york" type="radio" name="radio" value="new york"><label for="new york">New York City</label></fieldset>
```

### Select Control

The select control type allows users to select an item from a list of items. Do not use JavaScript in the construction of your drop-down menus. The following is a sample code for making an accessible drop-down list:

```
<label for="favfood">What is your favorite food?</label><br><select name="favfood"><option value="1">pizza</option><option value="2">hamburger</option><option value="3">cookies</option></select>
```

### Buttons

No special coding is required to make accessible buttons. As long as you use the standard button attribute, the buttons can be read by screen readers. However, if you use an image in place of a button, you must use alt text to label the image.

## Creating Accessible Web-Based Multi Media Presentations

### Captioning Your Website's Audio Portions

Just as the closed captioning of television programs has proven to benefit many people—not just those with hearing impairments—many visitors to your website will likely benefit from audio files that are properly captioned. The WCAG support a language called synchronized multimedia integration (SMIL), which has been incorporated into both the Quicktime and RealPlayer multimedia players.<sup>17</sup> SMIL controls the positioning, timing, and display of captions and audio/video multimedia. Microsoft's Windows Media Player comes with synchronized Accessible Media Interchange (SAMI).<sup>18</sup> A SAMI file contains the text of each caption and information used to synchronize the captions to the particular presentation.

### Providing Descriptions for Your Website's Video Content

Over the last few years, some television programs and movies have been audio described, so that blind and visually impaired people can access the strictly visual content of the shows/programs.<sup>19</sup> While relatively new, audio description is gaining a foothold within the blind/visually-impaired community.

### Getting Your Files Captioned and/or Described

The Carl and Ruth Shapiro Family National Center for Accessible Media (NCAM) has created the "Media Access Generator" (MAGPIE), which allows you to add captions and/or video descriptions to multimedia presentations.<sup>20</sup> NCAM has published on its website a set of guidelines for creating accessible multimedia.<sup>21</sup>

### Do Not Use Color to Convey Meaning

Because many people are colorblind, avoid communicating information solely by color.

### Creating Web Content Accessible to People with Photo Epilepsy

Make sure that your Flash content does not strobe between 2/55 times per second. Flash content that strobos between 2/55 times per second can cause seizures among people with photo epilepsy.

### Checking Your WebSite for Accessibility Problems

The Web Accessibility Initiative has produced a suite of documents on this topic,<sup>22</sup> which, among other things, provide guidance on how to involve people with disabilities in determining how accessible your website is and how to choose the right tool for evaluating accessibility.

### Available Tools

No software or website information, by itself, can determine whether or not a particular website is accessible. The evaluation tools available have been designed to assist experienced web designers in finding possible accessibility-related problems, but are not sophisticated enough to replace the judgment of a skilled human being. If designing more user-friendly web content is new to you, these tools will be a great help to you as you learn what constitutes accessibility and what does not:

**Accessibility Check** is an online web tool that can check individual pages against a subset of the WCAG.<sup>23</sup>

**AccRepair** supports all three levels of the WCAG, as well as the Section 508 guidelines that are applicable to the federal government and some entities that contract with it.<sup>24</sup>

**Bobby** is a web accessibility testing tool designed to expose barriers to accessibility and encourage compliance with existing accessibility guidelines.<sup>25</sup>

**WABE**, from WebAim, has been designed to expose errors and highlight content where accessibility considerations require human judgment.<sup>26</sup>

Visit the Web Accessibility Initiative to learn about all of the available evaluation tools.<sup>27</sup>

## Conclusion

Proper website planning and regular maintenance eliminate most accessibility problems to begin with, and also prevent them from occurring. The greatest challenges are posed by existing web pages that were formatted without website accessibility in mind. While website barriers can be removed as changes to a website are made, existing pages must be made accessible, beginning with the most important and relevant pages, and ending with those likely to be altered or eliminated.

\*Jonathan Simeone, J.D., worked as a staff attorney for the ABA's Commission on Mental and Physical Disability. For questions and more information, contact him at [jpsimeone@comcast.net](mailto:jpsimeone@comcast.net) and visit the Commission's website at [www.abanet.org/disability](http://www.abanet.org/disability).

## ENDNOTES

1. The World Wide Web Consortium has published information relating to the financial aspects of creating accessible web content, at <http://www.w3.org/WAI/bcase/fin.html>.
2. The W3C has also written about the societal benefits of an accessible Internet, at <http://www.w3.org/WAI/bcase/soc.html>.
3. The Web Accessibility Initiative's home page, at <http://www.w3.org/wai/>.
4. The current version of the WCAG is available at <http://www.w3.org/WAI/intro/wcag10docs.php>.
5. <http://www.webaim.org/>.
6. W3C has a great deal of information about HTML, at <http://www.w3.org/html/>.
7. FreedomsScientific, at <http://www.freedomsscientific.com>. GW Micro's website, at <http://www.gwmicro.com>.
8. To learn more about adding alt text, visit <http://www.webaim.org/techniques/alttext/>. This page contains the sample image map that I used above.
9. <http://www.adobe.com/accessibility/>.
10. <http://www.webaim.org/techniques/acrobat/>.
11. To learn more about cascading style sheets, visit <http://www.webaim.org/techniques/css/>.
12. <http://www.webaim.org/techniques/tables/>.
13. <http://www.webaim.org/techniques/tables/data.php>.
14. To learn more about cascading style sheets, visit <http://www.webaim.org/techniques/css/>.
15. For more about JavaScript, visit <http://www.webaim.org/techniques/javascript/>.
16. To learn more about making accessible forms, visit <http://www.webaim.org/techniques/forms/>.
17. To learn more about SMIL, visit <http://www.w3.org/AudioVideo/>.
18. <http://msdn2.microsoft.com/en-us/library/ms971327.aspx>.
19. <http://main.wgbh.org/wgbh/pages/mag/services/description/>.
20. <http://ncam.wgbh.org/webaccess/magpie/>.
21. <http://ncam.wgbh.org/publications/adm/>.
22. <http://www.w3.org/WAI/eval/Overview.html>.
23. <http://www.w3.org/WAI/ER/tools/>.
24. <http://www.etre.com/tools/accessibilitycheck/>.
25. <http://www.hisoftware.com/access/repair.html>.
26. <http://www.watchfire.com/default.aspx>.
27. <http://wave.webaim.org/index.jsp>.

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