

Non-Visual Accessibility Checklist for Web Sites

Maryland Department of Budget and Management

If your web page has:	COMAR 17.06.02.05 Para	Compliance and Accessibility Solution
Images or non-text elements, including: ▪ image bullets ▪ decorative images ▪ photographs ▪ form image buttons ▪ sliced images ▪ image map area tags ▪ spacer images ▪ ASCII art ▪ images used to verify form submissions ▪ other graphics ▪ audio clips/files ▪ applets	(A) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	▪ Include an alt attribute with a brief description for every image and non-text element. ▪ Use appropriate text that is clear and provides the image's function and content, and context if necessary. ▪ Avoid using the words "Image of" or "Graphic of" in the alt attribute value. ▪ For image bullets, decorative graphics, and portions of sliced graphics that don't contain content, in the tag, use the alt attribute with a null (empty) value – i.e. alt="". ▪ Avoid using the longdesc attribute in the tag to provide a description of an image, as this attribute is not well supported. ○ If a graphic requires a lengthy description, create a separate HTML page with the description and link the image to the page. ▪ Use HTML and CSS to format text, instead of creating graphical text. ▪ Provide a text document or HTML page with the transcript of an audio file.

Videos and other multimedia presentations	(B) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	▪ Include a synchronized text caption track for video presentations that have sound. This can be achieved by: ○ adding a Synchronized Multimedia Integration Language (SMIL) track to Quicktime and Real Media files; or ○ adding a Synchronized Accessible Media Interchange (SAMI) track to Windows Media files. ▪ Include audio descriptions for visual presentations.
Text or any non-text element with colors that provide meaning or symbolism	(C) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	▪ Avoid using a color alone to provide information For example, instead of stating that "All fields in red are required", you may markup required fields in red, but also add a character (such as an asterisk) to denote required elements: *Name: - Address: *E-mail Address: Check your site to be sure there is sufficient contrast between background and foreground elements. A tool for checking this can be found at http://www.rampweb.com/toolbar/colorcontrast.html
Cascading style sheets (CSS)	(D) Documents shall be organized so they are readable without requiring an associated style sheet.	▪ When style sheets are disabled in a user's web browser, your web page should be readable, with information flowing in proper context. ▪ Use <i>external</i> style sheets to markup your content. ▪ Do not override user-defined styles by using !important.

Server-side image map	(E) Redundant text links shall be provided for each active region of a server-side image map.	▪ Convert the map to a client-side image map. If conversion isn't possible, include text links for each graphical link represented in the image. ▪ Make sure each <area> tag has an alt attribute. Title attributes are also helpful to provide brief, additional information.
	(F) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	
Data tables	(G) Row and column headers shall be identified for data tables.	▪ Do not use the <pre> tag to visually format data and give it the appearance of a table. ▪ Header rows should be coded using <th> not <td>. ▪ Use the scope attribute for vertical or horizontal (column or row) header cells. NOTE: (Window Eyes does not recognize the scope attribute). ○ Alternately, use the id and header attributes for cells—this is generally more complicated and less helpful, but it is the only way to make complex tables accessible. ▪ Try to use percentages instead of pixels to set cell, column, and table widths. This will help avoid crowding cells for people using screen magnification software. ▪ Use the table summary attribute, as appropriate, but do not use it on layout tables.
	(H) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.	
Frames or inline frames (<iframe>)	(I) Frames shall be titled with text that facilitates frame identification and navigation.	▪ Avoid using frames if possible. ▪ If you must use frames, add the title attribute, with meaningful text, to each <frame> tag. ▪ Within each frame, be sure to include text that clearly identifies each frame. ▪ Always include the <noframes> </noframes> tag when using frames. Within these tags, add a list of links for the various frames making sure the link text is clear and concise.

		o When using iframes, make allowances for older browsers that don't support iframes. Put the content that would appear in the iframe between the <iframe></iframe> tags. You may mark up and format the content within the <iframe> container—be sure the text within this container follows all accessibility/508 compliance requirements.
Animations, blinking, flashing, etc.	(J) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	▪ Avoid using flashing and blinking text. ▪ Do not use <blink> or <marquee> tags. ▪ If you must use animations, give your user the option to turn on the animation instead of automatically playing it. ▪ Allow users to choose between HTML and Flash and other multimedia-enhanced content rather than auto-detecting it on a user's system and then auto-directing the user to enhanced content. ▪ Check <applet> and <object> tags to find flashing items. ▪ Bear in mind that the change from light to dark in animations causes flickering. ▪ Use software or an online tool to determine a page's flicker rate, as it's difficult to gauge with a visual review. One such tool is located at http://www.webaccessibile.org/test/check.aspx
Any page that can't be made compliant through best practices	(K) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.	▪ Remember that using text-only pages does not guarantee accessibility or even Section 508 compliance. It's better to find an accessible solution than to rely on text pages. ▪ Make sure your text-only page contains the same functionality and/or content as the page it replaces. ▪ If you must use a text-only page, its content must be updated when the page it replaces is updated. ▪ NOTE: This method should only be used as a last resort.
JavaScript, ActiveX, etc.	(L) When pages utilize scripting languages to display content, or to create interface elements, the	▪ Be sure that any content generated by a script is available and accessible if a user has scripts disabled within the browser. This is easily done with the <noscript></noscript> container tags. Content

	information provided by the script shall be identified with functional text that can be read by assistive technology.	may be marked up/formatted within these tags. ▪ If using JavaScript, avoid using the onChange, onDoubleClick, onMouseDown, and onMouseUp event handlers—these will not work with all types of assistive technology. If possible, also avoid using onBlur and onFocus—these are confusing for users. ▪ Do not use the onClick event handler to activate check boxes, select lists, or radio buttons. ▪ If onMouseOver and onMouseOut handlers are used to convey information, rather than used as image "effect", provide the information through other means. ▪ Avoid coding images—at least those that contain content—inside JavaScript, as alt text can't be provided with the tag. ▪ If you must use AJAX to update a page with new content, use visual cues and text to notify the user that new information appears on the page.
Applets, plug-ins, or calls to outside applications that a user may or may not have	(M) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with [Section 508] §1194.21(a) through (l) .	▪ You must include a link to the application, applet, or technology that users need to access your content. This link must be included on the specific page where the application is referenced—not on a "general information" page on your site. For ease of use, make sure the link is close in proximity to the application reference. ▪ Word Viewer 2003 is at http://www.microsoft.com/downloads/details.aspx?FamilyId=95E24C87-8732-48D5-8689-AB826E7B8FDF&displaylang=en ▪ Portable Document Format (PDF) Reader is at http://www.adobe.com/products/acrobat/readstep2_allversions.html ▪ Excel Viewer 2003 is at http://www.microsoft.com/downloads/details.aspx?FamilyId=C8378BF4-996C-4569-B547-75EDBD03AAF0&displaylang=en ▪ Power Point Viewer 2007 is at http://www.microsoft.com/downloads/details.aspx?FamilyId=048DC840-14E1-467D-8DCA-19D2A8FD7485&displaylang=en ▪ You must be sure that the application, applet, or technology that the user needs to review your content is compliant with the software

		requirements in Section 508 §1194.21(a) through (l) (visit this link for specific requirements). ▪ For the most accessible solution that will not disable the ability to use assistive technology, do not embed applications (such as RealPlayer, Windows Media Player, etc.) within your web page. Allow the user to personally open these applications. ▪ Be aware that not all versions of some assistive technology/software will be able to access Java applets; and, in some cases, older versions will access applets when newer versions can't.
Forms/form elements	(N) When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	▪ Use the <label> tag to associate text with form elements, such as text boxes, radio buttons, select/drop-down boxes, etc. Make sure the <label></label> container tags surround the text that relates to the form element (not the input field), thus making it an <i>explicit label</i>. ▪ Do not use <i>implicit</i> labels. This is when the <label></label> tags surround the text and the form element. ▪ If there is no text to associate with the form element, use the title attribute in the form element's tag. ▪ Use the <fieldset> and <legend> tags as appropriate to associate related blocks of information.
Repetitive navigation links, whether they are text or graphic-based	(O) A method shall be provided that permits users to skip repetitive navigation links.	▪ Provide a link to allow users to skip to each page's main block of content. ▪ If this link must be obscured, do not use the display: none attribute in CSS to hide it, as users of mouse-alternative devices will not be able to access it (and will cause non-compliance). ▪ Use the phrase "skip to main content" instead of "skip to content" to ensure screen readers will properly enunciate the text. ▪ If using <div> tags outside of <table> tags to format your content, be aware of the bug in Microsoft IE 6 (fixed in Microsoft IE 7) that breaks links within pages. This bug can cause skip links to fail Section 508 compliance. The workaround for this bug is shown below. ▪ Currently the code is:

		. This should be changed to the following: &nbsp; Users should also be informed that internal links are being used to aid in navigation. A simple sentence at the top of the page will suffice. For example: [NOTE: This page contains internal links to help you navigate the content.]
Timed elements	(P) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	▪ Make sure that a user can request extra time to complete any timed task on your page. ▪ Do not cause a page to expire, "time-out", disappear, or cancel due to inactivity without asking the user if he/she needs extra time.

Other Steps to Take	
Get the Big Picture	▪ Develop your site so that it doesn't rely on any particular hardware, platforms, or software.
Screen Reader Review	▪ Review your site with a screen reader. JAWS is the most widely used. ▪ Develop a "script" of how your site is supposed to be read. Check that the page is read in proper order, with and without cascading style sheets enabled. ▪ If words are not properly enunciated, change the wording of your text, if possible. ▪ Make sure all alternative text and title tags are read. ▪ Isolate all your links so that you can read them without surrounding content. Make sure the all link text still makes sense. This is how many people using screen readers will review your page.
Keyboard Review	▪ Navigate through your site with your keyboard (use the tab and enter keys to do this). ▪ This will ensure that visitors who use non-mouse assistive technology can still navigate through your site. ▪ Be sure when tabbing through each page, all content (text, individual links, form elements, and

	non-text elements) is tabbed to in proper order. If not, use the tabindex attribute as necessary.
Colorblindness Review	Review your page in black and white to ensure there is sufficient contrast between background and foreground elements.
Audience Review	Have several people who use different types of assistive technology review your pages/site and provide feedback on its ease of use and accessibility.
Content Review	- Be sure your site's content has been developed using plain language standards (see www.plainlanguage.gov). This will help users with low-English proficiency and/or cognitive disabilities better understand your site. - Avoid using repetitive and meaningless link names (such as "more", "click here", "continued"). If "more" is necessary in a list, use "More about health benefits" (or similar) to explain where the link is going.
Speech Recognition Review	- Navigate your site with speech recognition software to be sure your link text is easy to pronounce and direct the software. - Avoid using characters—such as #, }, and ^—that may confuse users when directing software.
508/Accessibility Tool Review	It is wise to use software/tools to review your page/site for potential problems; however, don't only rely on this method. A careful code review is necessary to ensure Section 508 compliance and accessibility is achieved.
Code Review	Be sure to validate your code as some accessibility issues can be caused by invalid code. Re-validate your code after any revisions.
Language Specifications	- Be sure to specify the primary language ("natural language") of each page's content. - Code any switch in language within each page (use the tag with the lang attribute; include the xml:lang attribute if coding in XML). Be sure the language is specified in converting documents to PDF. In the PDF, go to File > Document Properties > Advanced. Under language, select "English US".
Semantic Coding	Make sure your HTML only describes—not formats—your content. Use cascading style sheets to markup/format your page content. This is called semantic coding. It ensures that most web browsers and assistive technologies are able to display your code. It also improves search engine ranking.
Font Size	- Use ems instead of pixels to define your text size. This relative sizing allows screen magnifiers to better display text. - If you do use pixels, be careful when also defining line-height attributes. This can cause text to overlap.

Navigation Schemes	▪ Make sure your site and page navigation schemes are consistent. This helps users understand how to use your site and where to find information.
Acronyms and Abbreviations	▪ If you use acronyms and abbreviations in your pages, use the <abbr> and <acronym> tags, with title attributes, to markup this content. Also, for general web readability, when using acronyms, insert the acronym after the first use of the term in the text on each page. For example, the Department of Budget and Management (DBM) is publishing these web standards.
New Windows/Pop-ups	▪ Avoid opening new browser windows. If you must use them, make sure your users know that a new browser window will be opened.
Documenting Your Processes	▪ Document and archive all the testing you perform for Section 508 compliance and accessibility. ▪ If you have difficulty achieving compliance, also document this to show that an honest, extensive effort was made. Make sure you can provide the equivalent information to your site users in the most efficient method for your users. Be sure to have a plan outlined.
Develop a Policy	▪ Develop an accessibility policy for your site and be sure your agency/unit's leadership understands and supports it. ▪ Post your accessibility policy on your web site and include contact information for users to contact you if they have trouble accessing your site. This should be posted on each page. The footer is a good place for this policy. The policy statement should contain contact information for those who have problems accessing web pages on the site.