Attachment 27:

P08-005 Accessibility of

Web-Based Information and Applications

New York State, Department of Health

Electronic Death Registration System

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New York State Information Technology Policy	CIO/OFT Policy Number: NYS-P08-005
IT Policy Name: *Accessibility of Web-Based Information and Applications*	**Effective Date:** 01/14/2009
	Agency Head: Melodie Mayberry-Stewart State Chief Information Officer Director Office for Technology **Administered and Published By:** Enterprise Strategy & Acquisitions Office

1.0 Purpose and Benefits of the Policy

The purpose of this technology policy is to make state agency web-based intranet and Internet information and applications accessible to persons with disabilities. This policy incorporates New York State specific standards and best practice guidelines to provide the mechanism for state agencies to comply.

2.0 Enterprise IT Policy Statement

Section 2 of Executive Order No. 117 provides the State Chief Information Officer, who also serves as Director of the NYS Office for Technology, the authority to oversee, direct and coordinate the establishment of information technology policies, protocols and standards for State government, including hardware, software, security and business re-engineering. Details regarding this authority can be found in NYS CIO/OFT Policy NYS-P08-002, Authority to Establish State Enterprise Information (IT) Policy, Standards and Guidelines.

3.0 Scope of the Policy

This policy applies to all State government entities, as defined in NYS Executive Order No. 117.

4.0 Policy Statement

It is the policy of the state that all web-based intranet and Internet information and applications (hereinafter referred to as "content") made available by state agencies to the general public, state employees, and any other persons, are accessible to persons with disabilities. This policy applies to the design, creation and maintenance of the content.

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4.1 State Agency Content Accessibility for Persons with Disabilities

All new content, high-traffic pages (defined as home pages and critical path pages) and medium-traffic pages will comply with this policy immediately. Low-traffic pages will be brought into compliance when the content of the page changes.

4.2 Notice and Contact Information

State agencies will post contact information (email address and telephone number), with respect to accessibility for persons with disabilities, on their web sites to enable individuals to contact the state agency. Such links will be posted, at a minimum, in the footer of the state agency's home page and be clearly distinguished from any other link found in that footer.

4.3 Procurement of Web Site Design, Development and Maintenance

On and after the effective date of this policy, all solicitation documents, contracts and any amendments hereto executed on and after such date, that include content design, creation and maintenance, will include the following clause:

> Any web-based intranet and Internet information and applications development, or programming delivered pursuant to the contract or procurement, will comply with New York State Enterprise IT Policy NYS-P08-005, *Accessibility of Web-Based Information and Applications a*s such policy may be amended, modified or superseded, which requires that state agency web-based intranet and Internet information and applications are accessible to persons with disabilities. Web content must conform to New York State Enterprise IT Policy NYS-P08-005 Appendix A, as determined by quality assurance testing. Such quality assurance testing will be conducted by (state agency name, contractor or other) and the results of such testing must be satisfactory to (state agency name) before web content will be considered a qualified deliverable under the contract or procurement.

The above clause will also apply to the extent that a state agency contracts with a public or private entity, and such contract requires the creation, development, implementation, or hosting of web-based content on behalf of, or for, a state agency. The requirement of this part specifically includes the outsourcing of any of the services identified in this part. However, portions of an intranet, the Internet or an extranet that are outside the control of the state agency or the third-party will not be affected.

5.0 Policy Compliance

This policy is effective August 1, 2008. The Enterprise Strategy and Acquisitions Office (ESAO) will review the policy at least once every two years to ensure relevancy. The ESAO may also assess agency compliance with this policy. To accomplish this assessment, CIO/OFT may issue,

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from time to time, requests for information to covered agencies, which will be used to develop any reporting requirements as may be requested by the NYS Chief Information Officer, the Executive Chamber or Legislative entities.

6.0 Definitions of Key Terms

A complete listing of defined terms for NYS Information Technology Policies, Standards, and Best Practice Guidelines is available in the "NYS Information Technology Policies, Standards, and Best Practice Guidelines Glossary" (http://www.oft.state.ny.us/policy/glossary.htm).

7.0 CIO/OFT Contact Information

Submit all inquiries and requests for future enhancements regarding this policy to:

Attention: Enterprise Strategy and Acquisitions Office
Enterprise Strategy and Governance Services
New York State Office of the Chief Information Officer and Office for Technology
State Capitol, ESP, P.O. Box 2062
Albany, NY 12220
Telephone: 518-473-0234
Fax: 518-473-0327

E-mail: oft.sm.policy@oft.state.ny.us

The State of New York Enterprise IT Policies may be found at the following website:
http://www.cio.ny.gov/policy/technologypolicyindex.htm

8.0 Revision Schedule and History

Date	Description of Change
06/21/2004	Original Policy Release.
10/25/2005	Revised to add procurement language and to make minor changes to the standards.
08/01/2008	Revised to update the standards and eliminate any exceptions to the policy.
01/14/2009	NYS P08-005, NYS S08-005, and G06-001 Best Practice Guidelines are combined as one document numbered NYS P08-005.

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Appendix A – NYS P08-005

NYS Specific Standards for Accessibility of Web-Based Information and Applications

The following standards apply to state agency content including, but not limited to, web-based applications, plug-ins, programmatic objects, on-line documents, forms and multimedia.

A.1 Text Equivalents for Non-Text Content

A.1.1. A text equivalent will be provided for all non-text element(s). Non-text elements will include, but are not limited to, images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), and programmatic objects, ASCII art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video.

A.1.2. Ensure that equivalents for dynamic content are updated when the dynamic content changes.

A.1.3. Ensure that pages with scripts or other programmatic objects are usable with current assistive technology.

A.1.4. A text equivalent will be provided for all non-text element(s) through the following means: alt, longdesc, or in element content.

A.1.5. An alt attribute will convey the same information, in a textual manner, as intended by the non-text element.

A.1.6. Graphics which are strictly for decoration, such as bullets, will have an alt attribute defined with no value (e.g., alt="").

A.1.7. An alt attribute, within an image element, will not exceed 150 characters.

A.1.8. A longdesc attribute is required within an element if alt text exceeds 150 characters. A descriptive link will also be provided.

A.1.9. From the date of this standard forward, alternative text versions of web sites, if used, should be dynamically generated to insure that each site contains equivalent information and functionality at all times, available for use by people with disabilities, mobile users, users with low-bandwidth connections, and those users who simply prefer a non-graphical interface. Manually updated alternatives are discouraged.

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A.2 Use of Color for the Conveyance of Information

A.2.1. Information will be conveyed in a manner that is not solely dependent on color as the primary means of informing a user how to interpret information.

A.2.2. Foreground and background colors will provide sufficient contrast.

A.3 Document Structure

A.3.1. Web pages will be created using the most current web document specifications (e.g., HTML, XML, XHTML).

A.3.2. HTML pages should include a document type declaration (sometimes referred to as a DOCTYPE statement) and are valid according to the HTML version specified by the document type declaration. XHTML, SVG, SMIL, and other XML-based documents reference a Document Type Definition (DTD) or other type of XML schema. In absence of a document type declaration, HTML pages must still enable user agents, including assistive technologies, to accurately interpret and parse content.

A.3.3. The use of deprecated elements or attributes is not allowed (e.g., the usage of FONT, CENTER and APPLET are deprecated).

A.3.4. Web pages will be created using style sheets to achieve formatting and stylistic effects whenever possible.

A.3.5. All natural language usage will be clarified using the lang attribute when the written language is not English.

A.4 Navigation and Links

A.4.1. Web pages will be designed to enable users to skip repetitive navigation links, for example, by using a "skip navigation" or "skip to content" link close to the top of the page.

A.4.2. All text links will indicate the destination or purpose.

A.4.3. All state agency web pages will allow the user to return to that state agency's home page.

A.5 Flicker/Blink

A.5.1. Web site screen elements will not have a flicker rate with a frequency between 2Hz and 55Hz (2 to 55 flashes per second).

A.5.2. A mechanism will be in place to allow users to turn off screen elements that flicker.

A.5.3. The use of the blink element is prohibited.

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A.6 Timed Responses

A.6.1. When a programmed timed response is used on a web page, a notification will be provided on that web page identifying the time limits and providing the option to extend or remove the limit.

A.6.2. Client-side auto-refresh or client-side auto-redirect will not be used without a mechanism in place to first alert the user.

A.7 Tables

A.7.1. All data tables should have a summary attribute.

A.7.2. In data tables appropriate markup must be used to provide context for each table cell.

A.8 Frames, Context, and Orientation

A.8.1. If frames are used:

   a. Each frame must be identified with a descriptive title attribute that describes the purpose of each frame(s) and how they relate to each other.
   b. For title text greater than 150 characters a longdesc attribute will be used.

A.9 Image Mapping

A.9.1. Image mapping will be client-side based.

A.9.2. Redundant text links will be provided for each active region of a client-side image map.

A.10 Audio Only

Information will not be conveyed by single audio (audio clip sounds to provide instructions, warnings or other information) alone.

A.11 Multimedia

A.11.1. Audio

State agencies will provide synchronized text captions for multimedia content containing speech, or other audio necessary to understand the content, in accordance with the following schedule:

   a. By January 1, 2009, 50 percent of all multimedia content containing speech, or other audio, will be captioned.
   b. By January 1, 2010, 100 percent of all multimedia content containing speech, or other audio, will be captioned.

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A.11.2. Video/Visual

State agencies will provide a video description for multimedia content that contains video, or other visual information necessary for the understanding of the content, in accordance with the following schedule:

a. By January 1, 2009, 50 percent of all multimedia content containing video, or other visual information necessary for the understanding of the content, will include a video description.
b. By January 1, 2010, 100 percent of all multimedia content containing video, or other visual information necessary for the understanding of the content, will include a video description.

A.11.3. Webcast

State agency webcasts will have synchronized captioning of the speech, or other audio content contained in the webcast, in accordance with the following schedule:

a. By January 1, 2009, 50 percent of all webcast hours residing on the web site will include captioning.
b. By January 1, 2010, 100 percent of all webcast hours residing on the web site will include captioning.

A.11.4. Webcasting Open Meetings

As of the effective date of this standard, all state agency open meeting webcasts, as defined by the State Open Meetings Law and required by Executive Order 3, will have synchronized text captioning of the speech, or other audio content contained in the webcast or linked from the agency web site, within seven days of the event.

A.12 Scripting

A.12.1. If web pages utilize scripting languages to display content or create interface elements, the information that is provided by the script will be identified with functional text that can be read by assistive technology devices.

A.12.2. All functionality of the web page must be operable through the keyboard, or a keyboard interface. In the event that functionality provided by scripting languages cannot be read by assistive technology devices, there must be an alternative means of accomplishing the same task that can be read by such devices.

A.12.3. A mechanism (e.g., a text notice – "the following link will open a new browser window") will be in place to alert the user prior to the opening of an additional web browser window or a redirect that disables a browser's back button. Instructions must be provided to allow user to return to the original page.

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A.12.4. If a web page or web-based application generates an operating system-based alert panel, focus must be moved to the alert panel.

A.12.5 . All documents with client-side scripting will provide equivalent content or functionality in another format.

A.13 Forms

A.13.1   On-line forms will allow people using assistive technology devices to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

A.13.2. A label element will be used for all input elements.

A.13.3. Form elements will be in logical tab order.

A.14 Downloadable/Embedded Objects

A.14.1. Word processing documents, spreadsheets, and programmatic objects (e.g., Flash or Shockwave objects) must be served in a manner that can be read and used with assistive technology whenever possible. When documents that cannot be read with assistive technology are used, links to accessible versions of the documents are required.

A.14.2. When hardware, software and assistive technology devices are controlled by a state agency, downloadable documents (e.g., word processing documents, spreadsheets, Portable Document Format (PDF)) available through an intranet or extranet will be allowed.

A.14.3. Agencies with web sites that use downloadable or embedded objects must provide reasonable accommodations for individuals who do not have the software necessary to read or use the objects, either on the web site directly or by providing contact information that gives such individuals access to the information or function.

A.14.4. Documents in Portable Document Format (PDF) should be properly marked up to support assistive technology whenever possible. If PDF's are created from scanned images, a link to an accessible version of the document is required.

Appendix B – NYS P08-005

Best Practice Guidelines for Implementing NYS Specific Standards for Accessibility of Web-Based Information and Applications

The purpose of this best practice guideline is to provide guidance to *state agencies* in meeting the NYS Information Technology Policy, P08-005, Accessibility Of State Agency Web-based Information and Applications.

This Best Practice Guideline follows the order of the Standards numbered A.1 – A.14.4 in P08-005. Where applicable, references to the WCAG 1.0 (http://www.w3.org/TR/WCAG10) and Section 508 (http://www.section508.gov/index.cfm?FuseAction=Content&ID=12) standards are noted in the best practice guideline.

For additional help in meeting the P08-005 standards, refer to the NYS Forum IT Accessibility Committee's Accessibility Checklist, which provides a Pass/Fail guide for each standard. This checklist can be found at the NYS Forum website at:
http://www.nysforum.org/accessibility/resources/nyspolicy/checklist_by_standard.html.

NYS Technology Standard	Best Practice for Implementation
A.1 Text Equivalents for Non-Text Content	
A.1.1. A text equivalent will be provided for all non-text element(s). Non-text elements will include, but are not limited to, images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), and programmatic objects, ASCII art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video. (Formerly NYS S04-001 checkpoint 1.1)	If the non-text element is used for presentational purposes only and does not serve a functional purpose (see Standard A.1.6), then the "text" equivalent may be nothing at all. However, the alt attribute **must** be present whether any text is included. There is some disagreement – even among those with disabilities – over whether non-text elements used as "eye candy" should have alternative descriptions attached. Some disabled users would rather make their own assessments as to whether an image serves any useful purpose; other users would prefer not to be distracted by images that are not meaningful.
A.1.2. Ensure that equivalents for dynamic content are updated when the dynamic content changes. (Formerly NYS S04-001 checkpoint 1.2)	Avoid maintaining separate web sites based on users' abilities. You can ensure that ALL users can access a site by implementing standards-compliant code or dynamically generating sites while repurposing content for different presentation styles.

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A.1.3. Ensure that pages with scripts or other programmatic objects are usable with current assistive technology. (Formerly NYS S04-001 checkpoint 1.3 [change: no requirement to ensure content usable with scripting turned off, nor any requirement for equivalent])	If you are using scripts or other programmatic objects, ensure that those scripts or programmatic objects can be used with assistive technology. The only practical way to ensure that is to have a user of assistive technology perform a usability test for you.
A.1.4. A text equivalent will be provided for all non-text element(s) through the following means: alt, longdesc, or in element content. (Formerly NYS S04-001 checkpoint 1.4)	Any non-text element such as images, animations, video presentation, etc., must contain a text equivalent. For an image, that text equivalent would be an alt attribute or a longdesc attribute; for an animation or video presentation, the text equivalent might be to add captions to the content.
A.1.5. An alt attribute will convey the same information, in a textual manner, as intended by the non-text element. (Formerly NYS S04-001 checkpoint 1.5 [change: extended beyond image to "non-text element"])	If an image is intended to convey information, the information should be included in the text of an alt attribute. For example, if you use an image of a magnifying glass to indicate a search function, the alt attribute for that image should be "search" not "magnifying glass."
A.1.6. Graphics which are strictly for decoration, such as bullets, will have an alt attribute defined with no value (e.g., alt="""). (Formerly NYS S04-001 checkpoint 1.6)	If you are using custom graphics as list bullets, we recommend using CSS to present them. For any other sort of decoration, such as a stylized glyph without any meaning, leave the alt attribute's value blank.
A.1.7. An alt attribute, within an image element, will not exceed 150 characters. (Formerly NYS S04-001 checkpoint1.7)	An alt attribute's value should not exceed 150 characters in length. If the image cannot be adequately described within 150 characters, the description should be moved to a longdesc attribute.
A.1.8. A longdesc attribute is required within an element if alt text exceeds 150 characters. A descriptive link will also be provided. (Formerly NYS S04-001 checkpoint 1.8)	If an image is complicated enough to require more than 150 characters of explanation (see checkpoint A.1.7, above), it is probably complex enough to require further explanation for at least part of the audience. Provide a longdesc attribute with a link to a text document that offers a fuller description or more in-depth explanation. It is also a good idea to provide a text link to the longer explanation, as it

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	might benefit non-disabled visitors as well. NOTE: The industry-wide best practice for alternative text maximum length is now 80 characters. Source: http://www.gawds.org/show.php?contentid=28
A.1.9. From the date of this standard forward, alternative text versions of web sites, if used, should be dynamically generated to insure that each site contains equivalent information and functionality at all times, available for use by people with disabilities, mobile users, users with low-bandwidth connections, and those users who simply prefer a non-graphical interface. Manually updated alternatives are discouraged. (NEW)	With the increasing popularity of dynamic web sites, it is now more possible than ever to create separate sites for different populations. Since dynamic sites are generated from the same core data, it is possible to generate more than one version for different segments of your audience. Care must be taken to be sure that equivalent information is provided to all segments of the audience.
A.2 Use of Color for the Conveyance of Information	
A.2.1. Information will be conveyed in a manner that is not solely dependent on color as the primary means of informing a user how to interpret information. (Formerly NYS S04-001 checkpoint 2.1)	Any information conveyed by color should also be conveyed by a secondary means, such as an asterisk: *Required items are shown in red and marked with an asterisk.* If a visitor is red/green colorblind, they will still be able to interpret a required item by the asterisk.
A.2.2. Foreground and background colors will provide sufficient contrast. (Formerly NYS S04-001 checkpoint 2.2)	Check for colorblind safeness by submitting a page's URL to VisCheck: http://www.vischeck.com/vischeck/. The service is free.

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A.3 Document Structure	
A.3.1. Web pages will be created using the most current web document specifications (e.g., HTML, XML, XHTML). (Formerly NYS S04-001 checkpoint 3.1)	See A.3.2 below. The NYS Validation Tool will provide feedback on the validity of a web page's code. Also: 1) Use the W3C's free CSS validator at: http://jigsaw.w3.org/css-validator 2) Use the W3C's free HTML/XHTML validator at: http://validator.w3.org/ 3) Use the W3C's free link checker at: http://validator.w3.org/checklink
A.3.2. HTML pages should include a document type declaration (sometimes referred to as a DOCTYPE statement) and are valid according to the HTML version specified by the document type declaration. XHTML, SVG, SMIL, and other XML-based documents reference a Document Type Definition (DTD) or other type of XML schema. In absence of a document type declaration, HTML pages must still enable user agents, including assistive technologies, to accurately interpret and parse content. (Formerly NYS S04-001 checkpoint 3.2 [change: former checkpoint required a valid document type declaration; this one does not])	While the standard now says that a document type declaration *should* be included, it is important to note that validation tools (including the NYS Validation Tool) will not be able to test your document without a document type declaration. For a list of valid DOCTYPEs, see: http://w3.org/QA/2002/04/valid-dtd-list.html You should make sure that your documents include one of these valid DOCTYPEs. Also, to promote interoperability, SGML – the parent markup language for HTML, XHTML, and XML – requires that each subset (e.g., HTML) specify its document character set (e.g., <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />. For a listing of valid character sets, see: http://w3.org/TR/html401/sgml/entities.html

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A.3.3. The use of deprecated elements or attributes is not allowed (e.g., the usage of FONT, CENTER and APPLET are deprecated). (Formerly NYS S04-001 checkpoint 3.3 [change: the examples of deprecated elements and attributes were changed to better reflect the spectrum of deprecated elements and attributes])	The main idea here is to use elements and attributes *semantically* – that is, to enhance meaning, not just for their presentational features. For example, use headings h1-h6 to indicate the document's structure: h1 for the highest heading level in the document, h2 for the second heading level, etc. Use block quotes for actual quoted material, not to indent content. For a complete list of deprecated elements, see: http://www.w3.org/TR/html401/index/elements.html This list will indicate deprecated elements (see the letter "D" in the Depr. column). For a complete list of deprecated attributes, including the elements for which they are deprecated, see: http://www.w3.org/TR/html401/index/attributes.html
A.3.4. Web pages will be created using style sheets to achieve formatting and stylistic effects whenever possible. (Formerly NYS S04-001 checkpoint 3.4 [change: removes the requirement that web page information must be available if style sheet disabled])	Store styles in a central stylesheet and reference that stylesheet in each document. This leverages the power of stylesheets to minimize the work required to make universal changes to web site content. Use relative measurements in style sheets (e.g., use ems instead of pixels) because it can minimize the problems different display sizes and resolutions can cause for users of web pages. Test pages with style sheets turned off in the browser to ensure that all information is accessible, usable, and rendered in the proper order.
A.3.5. All natural language usage will be clarified using the lang attribute when the written language is not English. (Formerly NYS S04-001 checkpoint 3.5)	It is considered best practice to include lang="en" or lang="en-US" attributes in a page head even on pages using only English. Note those instances in which non-English words or phrases are being used with the lang attribute.
A.4 Navigation and Links	
A.4.1. Web pages will be designed to enable users to skip repetitive navigation links, for example, by using a "skip navigation" or "skip to content" link	The link to "Skip Navigation" should be visible so that sighted visitors with mobility impairments using the keyboard to navigate can benefit from the functionality.

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close to the top of the page. (Formerly NYS S04-001 checkpoint 4.1 [changes: provides specific implementation examples])	
A.4.2. All text links will indicate the destination or purpose. (Formerly NYS S04-001 checkpoint 4.2)	Avoid using non-descriptive link text such as "click here." Links may not be understandable out of context, such as "click here" or "more." Avoid having the same link text point to different target locations. Standardize navigation so that the navigation items appear in relatively the same place on all pages. Provide more than white space around links — for example, use the "pipe" character (	) to separate links. Without proper separation, screen readers may incorrectly read adjacent links as the same link.
A.4.3. All state agency web pages will allow the user to return to that state agency's home page. (Formerly NYS S04-001 checkpoint 4.3)	Optimize usability by picking a place for stable and repeating elements like logos or links to the home page. Users will quickly learn how to use a site if the layouts are consistent.
NOTE: Former NYS S04-001 checkpoint 4.4, regarding device independence, has been removed from the standard.	
A.5 Flicker/Blink	
A.5.1. Web site screen elements will not have a flicker rate with a frequency between 2Hz and 55Hz (2 to 55 flashes per second). (Formerly NYS S04-001 checkpoint 5.1)	Using blinking elements to attract the attention of visitors is annoying and is considered rude. Animation can be distracting to visitors with certain visual or cognitive disabilities. The currently accepted best practice is to not use blinking at all. (http://www.usabilitynews.com/ news/article1618.asp). However, if animations are used, set them to a slow rate, and set a time-out so that they stop after a certain time or number of loops.

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	NOTE: Flickering or blinking can trigger epileptic seizures in sensitive individuals.
A.5.2. A mechanism will be in place to allow users to turn off screen elements that flicker. (Formerly NYS S04-001 checkpoint 5.2)	Avoid screen elements that flicker.
A.5.3. The use of the blink element is prohibited. (Formerly NYS S04-001 checkpoint 5.3)	Avoid using the blink element.
A.6 Timed Responses	
A.6.1. When a programmed timed response is used on a web page, a notification will be provided on that web page identifying the time limits and providing the option to extend or remove the limit. (Formerly NYS S04-001 checkpoint 6.1)	Display a prominent notice on the page to let users know that a time-out feature is in effect, and tell what the time-out interval is. Also display a link to a location where users may modify the time interval. Be sure to include contact information so that issues related to timed responses can be addressed by a user with disabilities.
A.6.2. Client-side auto-refresh or client-side auto-redirect will not be used without a mechanism in place to first alert the user. (Formerly NYS S04-001 checkpoint 6.2)	When using a redirect, include an interim page telling the user they are being redirected (along with a link to the page's new location, if applicable) and program a sufficient delay into the redirect so that visitors can read the notice. NOTE: When you redirect a user without letting them know, you break the way the browser's back button operates. This is a significant problem for non-visual users.
A.7 Tables	
A.7.1. All data tables should have a summary attribute.	Tables are no longer required to have a summary attribute, although it is strongly recommended that all data tables (i.e., tables not being used for layout

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(Formerly NYS S04-001 checkpoint 7.1 [change: tables were required to have a summary attribute; now should have summary attribute])	only) include a summary attribute that concisely describes the table.
A.7.2. In data tables appropriate markup must be used to provide context for each table cell. NEW	Individual cells within tables must be marked up in such a way that context – typically references to row and column headers – is provided. Use of the scope attribute, and for larger tables, use of id and header attributes, is recommended.
NOTE: Former NYS S04-001checkpoints 7.2, 7.3, and 7.4 were combined into the new A.7.2	
A.8 Frames, Context, and Orientation	
A.8.1. If frames are used: a. Each frame must be identified with a descriptive title attribute that describes the purpose of each frame(s) and how they relate to each other. b. For title text greater than 150 characters a longdesc attribute will be used. (Formerly NYS S04-001 checkpoint 8.2)	Descriptive frame titles are essential for those using assistive technology to access a page. A frame title of "left_side" provides no useful information to someone without a visual frame of reference; a frame title of "page_navigation" does.
NOTE: Former NYS S04-001 checkpoint 8.1 (frames/noframes) was eliminated from this updated version of the standards	
A.9 Image Mapping	
A.9.1. Image mapping will be client-side based. (Formerly NYS S04-001 checkpoint 9.1)	Client-side image maps are preferable to server-side image maps because of the wide variety of display configurations. Client-side image maps' hot spots are interpreted by the browser based on the browser's display.
A.9.2. Redundant text links will be	Redundant text links can also benefit search engine

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provided for each active region of a client-side image map. (Formerly NYS S04-001 checkpoint 9.2)	optimization, and will provide navigational features for those less experienced visitors who may not realize that an image is clickable. As noted in Standard A.4, such redundant navigation should be applied consistently, so that it is easy for visitors to find it.
A.10 Audio Only Information will not be conveyed by single audio (audio clip, sounds to provide instructions, warnings or other information) alone. (Formerly NYS S04-001 checkpoint 10)	One of the fundamental tenets of web accessibility is that information should, when possible, be offered in more than one format to accommodate the widest possible audience. In this case, providing an alternative to audio content accommodates those with hearing impairments. When providing a spoken word audio clip, provide a text transcript of what's being said. When providing an audio clip of a sound, provide a text description of the sound.
A.11 Multimedia	
A.11.1. Audio State agencies will provide synchronized text captions for multimedia content containing speech, or other audio necessary to understand the content, in accordance with the following schedule: a. By January 1, 2009, 50 percent of all multimedia content containing speech, or other audio, will be captioned. b. By January 1, 2010, 100 percent of all multimedia content containing speech, or other audio, will be captioned. (Formerly NYS S04-001 checkpoint 11.1 [change: timetable for compliance was updated])	The National Center for Accessible Media (NCAM) has published *Accessible Digital Media: Design Guidelines for Electronic Publications, Multimedia and the Web*, an extensive online resource for producing accessible content. These guidelines are available at: http://ncam.wgbh.org/publications/adm/index.html. In particular, Guideline H, which can be found at http://ncam.wgbh.org/publications/adm/guideline_h.html provides information on producing accessible multimedia.

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A.11.2. Video/Visual State agencies will provide a video description for multimedia content that contains video, or other visual information necessary for the understanding of the content, in accordance with the following schedule: a.　　By January 1, 2009, 50 percent of all multimedia content containing video, or other visual information necessary for the understanding of the content, will include a video description. b.　　By January 1, 2010, 100 percent of all multimedia content containing video, or other visual information necessary for the understanding of the content, will include a video description. (Formerly NYS S04-001 checkpoint 11.2 [change: timetable for compliance was updated])	There is no best practice for this standard.

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A.11.3. Webcast State agency webcasts will have synchronized captioning of the speech, or other audio content contained in the webcast, in accordance with the following schedule: a. By January 1, 2009, 50 percent of all webcast hours residing on the web site will include captioning. b. By January 1, 2010, 100 percent of all webcast hours residing on the web site will include captioning. (Formerly NYS S04-001 checkpoint 11.3 [change: timetable for compliance was updated])	There is no best practice for this standard.
A.11.4. Webcasting Open Meetings As of the effective date of this standard, all state agency open meeting webcasts, as defined by the State Open Meetings Law and required by Executive Order 3, will have synchronized text captioning of the speech, or other audio content contained in the webcast or linked from the agency web site, within seven days of the event. NEW	This checkpoint clarifies the difference between the posting requirements for webcasts in general and Open Meeting Webcasts.

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A.12 Scripting	
A.12.1. If web pages utilize scripting languages to display content or create interface elements, the information that is provided by the script will be identified with functional text that can be read by assistive technology devices. (Formerly NYS S04-001 checkpoint 12.1)	Turn off scripting support in the browser and test the page. Is all of the information and functionality still available? If so, the page will pass. NOTE: When a screen reader accesses a page, a copy of the page is placed in the screen reader's buffer. Any interaction between the AT user and the page that changes the page will not be apparent to the AT user, as the change will not affect the copy of the page in the screen reader's buffer.
A.12.2. All functionality of the web page must be operable through the keyboard, or a keyboard interface. In the event that functionality provided by scripting languages cannot be read by assistive technology devices, there must be an alternative means of accomplishing the same task that can be read by such devices. NEW	Many people with disabilities cannot manipulate a mouse. Ensuring that all interaction with a web page can be accomplished via the keyboard ensures that almost everyone can use the page. In the event that a page cannot be made keyboard-accessible, an alternative must be offered that provides the same information and/or functionality in a keyboard accessible format.
A.12.3. A mechanism (e.g., a text notice – "the following link will open a new browser window") will be in place to alert the user prior to the opening of an additional web browser window or a redirect that disables a browser's back button. Instructions must be provided to allow user to return to the original page. (Formerly NYS S04-001 checkpoint 12.4)	Any time that clicking on a link breaks the use of the browser's forward/back buttons (new browser window, redirects, etc.), the user should be notified beforehand. It is particularly important to people with visual disabilities, as they have no other way of knowing that a new browser instance has been opened. Any time a new browser window of any type is spawned, users should be provided with an explicit way to close the new window and return to the original session.
A.12.4. If a web page or web-based application generates an operating system-based alert panel, focus must be moved to the alert panel. NEW	When a web page or web-based application uses an operating system API to generate an alert panel, focus must be moved to the alert panel.

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A.12.5. All documents with client-side scripting will provide equivalent content or functionality in another format. (Formerly NYS S04-001 checkpoint 12.5 [change: noscript alternative no longer required])	Client-side scripting relies on the user's platform, which cannot be reliably predicted in a public web site setting. In instances where scripting is the only way to provide needed functionality, server-side scripting (e.g., Java, PHP, etc.) may provide a better choice. To test: Turn off scripting support in the browser and test the page. Is all of the information and functionality still available? If so, the page will pass.
A.13 Forms	
A.13.1. On-line forms will allow people using assistive technology devices to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues. (Formerly NYS S04-001 checkpoint 13.1)	Try navigating the form using the keyboard. Does the cursor stop in the right place? Are you able to access and use all of the form controls?
A.13.2. A label element will be used for all input elements. (Formerly NYS S04-001 checkpoint 13.2)	Don't rely on implicit labels. Use explicit labels for all form controls.
A.13.3. Form elements will be in logical tab order. (Formerly NYS S04-001 checkpoint 13.3)	Don't rely on "natural" order alone. Use the tabindex attribute for all form elements.

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A.14 Downloadable/Embedded Objects	
A.14.1. Word processing documents, spreadsheets, and programmatic objects (e.g., Flash or Shockwave objects) must be served in a manner that can be read and used with assistive technology whenever possible. When documents that cannot be read with assistive technology are used, links to accessible versions of the documents are required. (Formerly NYS S04-001 checkpoint 14.1 [change: alternative format not required if native proprietary format can be made universally accessible.])	If documents cannot be converted from their original format to an accessible format, post a notice to that effect and include contact information for users who need the information in another format. The agency still has a responsibility to make that information available in some other format (e.g., plain text, audio, etc.).
A.14.2. When hardware, software and assistive technology devices are controlled by a state agency, downloadable documents (e.g., word processing documents, spreadsheets, Portable Document Format (PDF)) available through an intranet or extranet will be allowed. (Formerly NYS S04-001 checkpoint 14.2)	This standard was adopted to allow the use of technologies and content that would be considered questionable on a public site, where the visitor's hardware/software is unknown. This does not eliminate the agency's obligation to provide reasonable accommodation (e.g., screen reader, screen magnifier, adaptive hardware).
A.14.3. Agencies with web sites that use downloadable or embedded objects must provide reasonable accommodations for individuals who do not have the software necessary to read or use the objects, either on the web site directly or by providing contact information that gives such individuals access to the information or function. NEW	If documents require proprietary software or other resources beyond the web browser to be usable, post a notice to that effect and include contact information for users who need the information in another format. The agency still has a responsibility to make that information available in some other format (e.g., plain text, audio, etc.) (This information is not necessarily on the web site).

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A.14.4. Documents in Portable Document Format (PDF) should be properly marked up to support assistive technology whenever possible. If PDFs are created from scanned images, a link to an accessible version of the document is required. NEW	Adobe Portable Document Format files may not be universally accessible, especially on a public-facing web site, since the agency has no control over what equipment or software will be used to access the web site. PDFs generated from scanned content are typically images, which cannot be accessed using assistive technology.