

Welcome to the Section 508 Best Practices Webinar Series

A collaborative program between the
Accessibility Community of Practice of the CIO Council and The U.S. Access Board

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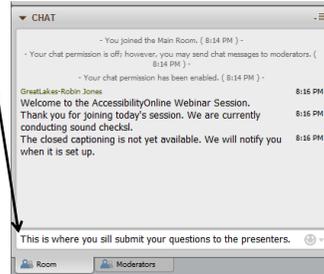


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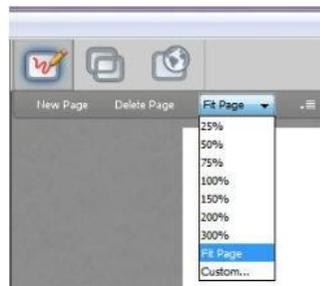
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Section 508 Best Practices Webinar Series

- ▶ This webinar is part of a series: "Best Practices in Federal Section 508 Implementation"
 - Other webinars from this series are archived at:
 - <http://www.adaconferences.org/CIOC/Archives/> and
 - <https://efedlink.org/allqual/resource-shared-webinars.cfm>
- ▶ A **best practice** is a policy, process, procedure or technique proven effective over time and repeatable by multiple agencies.
- ▶ A best practice is generalized so that diverse agencies may use it in their own organizations but specific enough to provide useful guidance and instruction.
- ▶ The CIO Council's Accessibility Community of Practice has published a library of 508 Best Practices at www.Section508.gov

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Section 508 Best Practices Webinar upcoming DATES for 2016:

- ▶ Webinars dates will be bi-monthly during 2016.
January, March, May, July, September, November
- ▶ Next Webinar: July 21, 2016 – Topic: TBD
Time: 1:00 to 2:30 p.m. ET
- ▶ Future webinar dates and topics are forthcoming

Past webinars are ARCHIVED:

- <http://www.adaconferences.org/CIOC/Archives>
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Section 508 Best Practices Webinar Series 2013 –2016

- ▶ For more information, contact the Education Subcommittee co-chairs:
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 - Deborah Kaplan – deborah.kaplan@hhs.gov

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Testing for Compliance under Section 508

Moderator:

Deborah Kaplan, Section 508 Policy Lead, Office of the CIO, HHS

Presenters:

Tim Creagan, Senior Accessibility Specialist, U.S. Access Board

Alex Koudry, Director, Center for Information Technology Access, GSA

Dave Stenger, Senior Management Specialist, Section 508 SME, GSA

Don Barrett, Section 508 Coordinator, Department of Education

Katherine Eng, Section 508 Testing Program Lead, Assistive Technology Resource Center, Department of Justice

May 24, 2016

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Webinar Overview

Tim Creagan
Senior Accessibility Specialist
U.S. Access Board

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Section 508 Law*:

Section 508 law requires that each department and agency, including the U.S. Postal Service,

- ▶ ...when procuring, using, maintaining or developing...
- ▶ Electronic and information technology (E&IT)
- ▶ ...provide comparable “access to and use of information and data”...
- ▶ ...To employees and members of the public who are individuals with disabilities.

*29 U.S.C. § 794 (d)(a)(1)(A)

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Section 508 Standards –help provide comparable access:

To implement the law, agencies must follow the Section 508 standards found at 36 CFR Part 1194.1 through 1194.41, with particular attention to the Technical Standards in Part B and the Functional Performance Criteria in Part C:

Subpart B — Technical Standards

- ▶ 1194.21 Software
- ▶ 1194.22 Web-based intranet & internet
- ▶ 1194.23 Telecommunications products.
- ▶ 1194.24 Video and multimedia products.
- ▶ 1194.25 Self contained, closed products.
- ▶ 1194.26 Desktop and portable computers.

Subpart C — Functional Performance Criteria

- ▶ 1194.31 Functional performance criteria. – Address no vision; low vision; no hearing; low hearing; no speech; no fine motor control

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How does an agency verify that it has met the requirements of Section 508?

- ▶ Conformance methods
 - Not specified in the law or the regulations.
 - Agencies decide HOW they will verify that they conform to the standards.
 - Testing is one way to determine whether or not your agency complies.
 - For example, is the web site 508 conformant?
 - TEST it and see.

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Section 508 and Testing

- ▶ Question: How do you know when your ICT meets the Section 508 requirements?
- ▶ Answer: Testing
- ▶ Testing methods:
 - Manual
 - Automated
 - Free and purchased tools
 - Government resources: Section508.gov
 - Paid experts

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Goals for this webinar

- ▶ Gain a better understanding of testing, both manual and automated
- ▶ Understand how testing improves Section 508 compliance
- ▶ Learn specific approaches and techniques for Testing

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Automated Testing Tools

Alex Koudry
GSA Office of Government-wide Policy

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Automated Testing Overview

- ▶ Automated 508 testing is done with software programs or apps that automatically review the code used to build web pages to look for some kinds of accessibility errors.
- ▶ Automated tools can quickly check for some kinds of 508 errors, and some even help the tool user in implementing repairs.
- ▶ No automated tool can completely check for 508 compliance without human assistance.
- ▶ All automated tool outputs should be manually checked.
- ▶ Each tool has different strengths and weaknesses, none are perfect.

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Using the tools

- ▶ Regular tools look at the accessibility of one web page at a time.
- ▶ Some tools will go through each error or possible error one at a time, requiring the user to use his or her judgment as to the accessibility of each highlighted part of the website.
- ▶ Automated tools can evaluate multiple pages or entire websites.
- ▶ Some tools can change attributes of a webpage to mimic the barriers encountered by some persons with disabilities, for example removing graphics or color.

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Types of Tool Results

- ▶ False Positive – This is when the tool finds an error where there is not one.
- ▶ False Negative – When there is an error the tool does not find.
- ▶ True Positive – When the tool finds an legitimate error.
- ▶ True Negative – When the tool correctly interprets (hopefully most of) the code as accessible.

- ▶ Some tools provide information about how to fix errors, or even offer corrections.
- ▶ Many tools can generate reports with individual errors and summary data.

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Automated Vs. Manual Testing – Alt Tags

- ▶ Automated checkers can easily check for the presence of graphic objects without alt tags, and either flag this a failure or something that needs to be looked during manual testing.
- ▶ Automated checkers can not tell you if the alt tag itself is meaningful.
- ▶ So while an automated tool can speed up the process, a manual check is still needed.
- ▶ This is an example of a standard that can not be fully tested with automated tools.

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Automated Testing Considerations

- ▶ There are free and paid tools.
- ▶ We are discussing testing tools in general here, not specific ones, and not endorsing any tools.
- ▶ Most automated tools are capable of completely testing less than half of the Section 508 standards.
- ▶ They are still useful for identifying the some of most common website errors, automated testing of large websites, and for assisting manual reviews.

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Role in Web Development

- ▶ Ideally, automated tools should be used as a development tool, rather than as a quality control tool.
- ▶ For accessible web development, you need designers that understand web design and accessibility.
- ▶ It is helpful, but not essential, for them to have tools if they know how to use them.
- ▶ Manual testing by skilled users of assistive technology is critical, it is not possible to verify 508 compliance without manual testing.

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WAVE toolbar

Semi-automated Testing
Dave Stenger
GSA Office of Government-wide Policy

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WebAIM's WAVE Tool

- ▶ WAVE is a free web accessibility evaluation tool provided by WebAIM. It is used to assistance developers and testers in the website accessibility process.
- ▶ **WAVE cannot tell you if your web content is accessible. Only a human can determine true accessibility. But, WAVE can help you evaluate the accessibility of your web content.**
- ▶ WAVE is available through a Chrome toolbar or as an online validation service through WebAIM's website.
 - WAVE Chrome Toolbar can be downloaded and installed from <http://wave.webaim.org/extension/>
 - WAVE online can be accessed through the Internet at <http://wave.webaim.org/>
 - NOTE: Images, media, styles and other elements may not display for uploaded code. To fully analyze local files, please use the WAVE toolbar.

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The WAVE Toolbar

- ▶ **The WAVE toolbar is a semi-automated testing tool.**
- ▶ **If you are unable to download the toolbar, users can use the WAVE Toolbar over the WAVE Online Validation at WebAIM.org.**
 - The WAVE toolbar provides a mechanism for running WAVE reports directly within Chrome.
 - Because the toolbar reports runs entirely within your web browser, no information is sent to the WAVE server. This ensures 100% private and secure accessibility reporting.

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WAVE Toolbar Testing Steps

- ▶ WAVE displays accessibility information in three ways:
 - Styles
 - No Styles
 - Contrast
- ▶ Styles View presents the page with the embedded accessibility icons and indicators. This is the default view with most WAVE features enabled.
- ▶ No Styles View displays the page with styles disabled and tables linearized, thus revealing the unstyled HTML and the WAVE icons and indicators. This view also presents the underlying reading and navigation order, the order in which keyboard-only and screen reader users will access the page.
- ▶ Contrast View shows only contrast issues on the page, based on WCAG 2.0 guidelines. You can use the tools in the details panel to review your color contrast, and even get updated colors that meet these guidelines.

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Understanding The Feedback In The Errors, Alerts, and Features View

- ▶ The **RED** icons identify web accessibility errors in web pages, such as missing Alt attributes for images, missing form labels, empty buttons, etc.
- ▶ The **YELLOW** icons identify Alerts. For example, some types of alt text are redundant. When WAVE flags parts of the content as alerts, it is up to the user to manual check whether or not these alerts are errors which must be fixed or false alarms which can be ignored.

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Continued: Understanding The Feedback In The Errors, Alerts, and Features View

- ▶ **GREEN** icons indicate accessibility features. The other icons and indicators indicate other elements that you should look at. WAVE brings the underlying accessibility information of a page to the fore-front so it can be easily evaluated in context.
- ▶ In some cases, items that are flagged as accessibility features that may actually be examples of poor coding, such as providing 'null' or empty alt text for images that should contain meaningful alt text.
- ▶ Skip to main content maybe coded somewhat correct but still could keep the user in the same spot on the page rather than moving them to the correct section of the page.

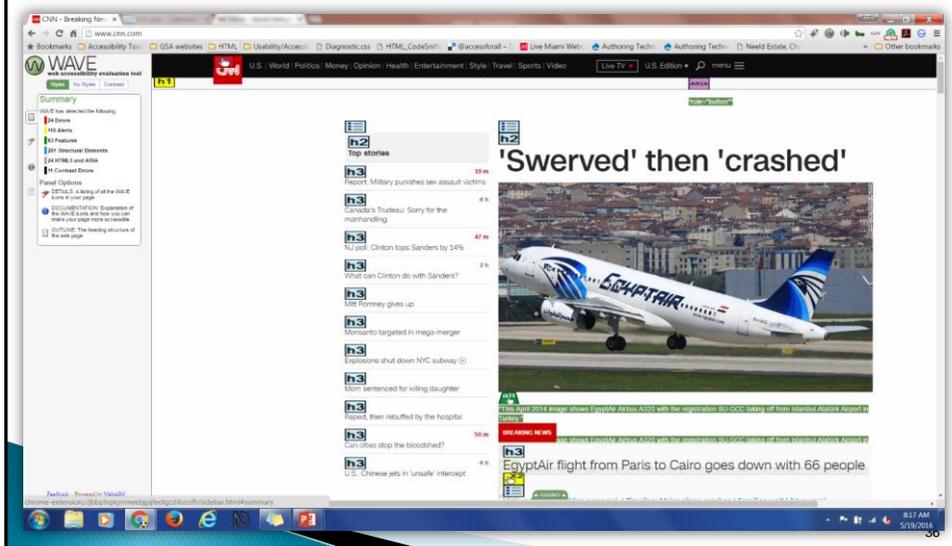
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Continued: Understanding The Feedback In The Errors, Alerts, and Features View

- ▶ The **BLUE** icons identify structural and semantic elements within web content.
- ▶ Examples of structural elements data tables, column headers cells, heading levels etc.
- ▶ Structural and semantic elements can increase the accessibility of web content, when used correctly.

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Screenshot: WAVE Chrome Toolbar Showing Errors, Alerts, Features, Structure elements, HTML5 and ARIA, and Contrast Errors Results



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Manual Testing Overview

Don Barrett
Section 508 Coordinator
Department of Education

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What is manual testing?

Human beings using specialized tools to provide objective measures of conformance with the 508 technical standards;

- Examples of tools include: Web Accessibility Toolbar, Java Ferret, Object Inspector, and other tools to examine code;

The Objective is to validate the code behind the scenes, because 508 is a technical standard

- ▶ It's like going to the doctor and making sure your temperature, cholesterol, blood pressure, etc. are all within proper limits;
- ▶ The best and most authoritative manual testing process is the **Trusted Tester Process** developed by Department of Homeland Security.

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Why Do Manual Testing ?

- ▶ Appearances can be deceiving, so code examination is critical;
- ▶ Example: Human being can look at alt text descriptions of images and judge if they are correct and accurate;
 - For example, if an image of a book is a link to the Library, but the text says "Picture of Book," it must be changed;
- ▶ Example: Items that use color to denote status must have comparable text for color-blind individuals;
- ▶ Example: Code for simple and complex tables, frames, JavaScript, and forms must also be examined.

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Do Screen Readers fit into the Manual Testing Process?

Often, agencies use screen readers as test tools to validate code compliance;

- ▶ Screen readers can supplement manual testing, but shouldn't serve as the mainstay for conformance;
- ▶ Screen readers are designed to maximize the user experience with work-arounds that compensate for bad code;
 - Work-arounds mean that users get erroneous information about tables, forms, and other elements;
 - Thus, elements appear to comply with technical standards when they actually do not;
- ▶ Use screen readers for usability testing, but not conformance testing;

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Advantages of Manual Testing

- ▶ Best used when dealing with finite smaller number of sites;
- ▶ Results are very accurate and pinpoint specific 508 violations;
- ▶ We maximize efficiency by having developers present and looking at representative sampling of elements;
- ▶ Project staff know exactly what need fixing and also to ensure entire site is examined for similar problems;
- ▶ Project staff can quickly lead us to samples of all elements;
- ▶ Project staff can help us test all functionality to be deployed in the agency and ignore unused items;
- ▶ They can also ensure that violations are communicated back to developer staff;

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What do agencies do with testing results and reports?

- ▶ We give the report with any screen shots of found issues to the project team;
- ▶ We're available to answer any questions related to findings in the report;
- ▶ Once remediations have been made, we schedule retests until all items are fixed;
- ▶ When process is complete, we issue a passing or failing report if violations still exist which can't be remediated;

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How to Think About Automated Versus Manual Testing:

Automated testing:

- ▶ Most valuable with very large number of sites
- ▶ Automated testing is like canary in the coal mine:
 - If forms, tables, and images are not conformant, that is a good indication that little to no attention has been given to 508;

Manual Testing:

- ▶ If there is a lesser number of sites, and staff are trained,
- ▶ Manual testing certainly has its place and can meet the need of identifying problems

Using 508 Testing Results

Katherine Eng
Section 508 Testing Program Lead
Assistive Technology Resource Center
Department of Justice

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Using 508 Testing Results

- ▶ Development
- ▶ Procurement
- ▶ Progress Reports
- ▶ Dashboard

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508 testing in Development

- ▶ Train developers (and testers) on accessibility and 508 testing
 - Select technologies to produce accessible content
 - Developers know to code what testers will be checking for
- ▶ Plan for 508 testing in project schedule
 - Remediation of issues and retesting
 - Agile – selective testing based on UI changes
- ▶ 508 Report of final product
 - Plan to accommodate users for known issues
 - Plan to remediate in the next update

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508 testing in Procurement

- ▶ Market research to find products that meet business needs
- ▶ Identify most compliant
 - Test according to agency methodology
 - VPAT – vendor self evaluation
- ▶ Select the most compliant product
 - (Test deliverables for compliance prior to acceptance)
- ▶ Plan to accommodate users for known issues
- ▶ Notify vendors of their test results

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508 testing at regular intervals

- ▶ Utilize automated scan tools
- ▶ Frequently updated content by multiple contributors
- ▶ Agency Web sites, internal and public
 - @DHS OAST, quarterly scan of all component websites
 - Rate site's page compliance (R | Y | G)
 - Rate Components' sites (R | Y | G)
 - Comparison chart of previous to current results
 - Stats since 2007 (progress, improvements)
- ▶ Reports presented to the CIOs
 - Nobody wants to be Red!

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508 Dashboard

- ▶ Overall Report of 508 compliance by component
- ▶ Management level, few details
 - Nobody wants to be Red!
- ▶ Include testing of applications, web sites, documents
- ▶ Measure progress and status
- ▶ Identifies areas for improvement

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RESOURCES

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Resources on Testing & 508

- ▶ Accessibility page from Homeland Security: www.dhs.gov/accessibility
- ▶ Section 508: <https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards>

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Tool Resources

- ▶ WC3 Web Accessibility Initiative List of Accessibility Tools*
(Filter for 508 yields 26 results)(Updated March 2016)
<https://www.w3.org/WAI/ER/tools/>
- ▶ WC3 also has a guide to selecting tools:
<https://www.w3.org/WAI/eval/selectingtools#usages>

*WC3 does not endorse or recommend tools – these are suggestions only.

How people with different abilities use the web:
<http://www.w3.org/WAI/intro/people-use-web/Overview.html>

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QUESTIONS?



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