

PDF Content: Strategies for Section 508 Compliance

PDF Conference

September, 2005

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About Duff Johnson

- Founder, CEO and Lead Consultant for Document Solutions, Inc. since 1996
- Expert in PDF technology applications
- Chairman of AIIM's PDF/Universal Accessibility Standards Committee
- Author of numerous articles on PDF accessibility and document capture technologies
- Frequent speaker at industry conferences and trade shows



Reality Check

- While Section 508 doesn't mention "usability" at all, the clear intent is that information should be presented in a structured fashion that facilitates a high-quality experience for the assistive technology user
- Because PDFs can contain almost anything, PDF content will always require some degree of manual validation
- The further away from the author, the more costly it is to impose accessibility standards



The Big Picture

- Section 508 sets technical standards for the presentation of content. **PERIOD**
- Users understand usability, not compliance
- Compliance with Section 508 **DOES NOT** assure a high degree of usability by assistive-technology (disabled) users
- Even technical 508 compliance requires policy decisions - it is **NOT** a “checkbox”



What's the problem?

- Federal websites and intranets are awash in PDFs. A high proportion are not compliant with Section 508
- Many (most) contracted reports, documents, manuals and other information “products” procured by the Federal government are delivered in PDF. Almost none of these files are compliant with Section 508
- When they think about accessibility, many web-managers address only HTML, not (yet) PDF content, mostly because they don't control the PDFs they post - they just post them, as requested



Section 508 PDF Facts

- PDF files can include more structure than is required for compliance - and should
- Acrobat 7's Make Accessible plugin does not ensure 508 compliance
- Acrobat 7's Accessibility Checker does not verify 508 compliance
- Degree of difficulty in assuring compliance is a function of (1) distance from the author, (2) layout complexity, (3) content complexity and (4) tagging granularity



The Accessibility Checker...isn't!

- A “pass” from Acrobat’s Accessibility Checker does not verify compliance with Section 508!
- Correct reading order cannot be automatically verified for many documents
- Many Checker “errors” belong to content that should not be tagged at all
- Tags must still be checked using Acrobat Professional 7.0’s Touch Up Reading Order Tool (TUROT), the tags palette, via Save_As “Accessible Text” and with MSAA screen-reader software



§ 1194.22 for PDF

Applicable Paragraph	Implications
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Must provide alt. text for every image. Scanned pages require a work-around to address page content in a logical manner.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	N/A
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	PDF tagging should adequately convey all information provided within the document.
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Treat low-contrast text (shaded areas) as image [see paragraph (a)], or remove low-contrast shading



§ 1194.22 for PDF

Applicable Paragraph	Implications
(e) Redundant text links shall be provided for each active region of a server-side image map.	N/A
(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.	N/A, PDF hyperlinks are always client-side
(g) Row and column headers shall be identified for data tables.	Must comply
(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.	Must comply. Workarounds must be used to make "exotic" tables usable by MSAA readers



§ 1194.22 for PDF

Applicable Paragraph	Implications
<p>(i) Frames shall be titled with text that facilitates frame identification and navigation.</p>	N/A
<p>(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.</p>	N/A
<p>(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.</p>	<p>An “escape” clause, and a poor one. Alt. text is still required, and this paragraph is only operative if compliance cannot be achieved “...in any other way, which is rarely the case.</p>



§ 1194.22 for PDF

Applicable Paragraph

Implications

(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

N/A, unless Javascripts are Implemented in the PDF

(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 §1194.21(a) through (l).

Pages containing links to PDF files must include a link to the Adobe Reader installer.

(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.

Must comply.



§ 1194.22 for PDF

Applicable Paragraph

Implications

<p>(o) A method shall be provided that permits users to skip repetitive navigation links.</p>	<p>Such links rarely occur in PDF files, however, bookmarks should be used for all documents longer than a few pages.</p>
<p>(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.</p>	<p>N/A</p>



Acrobat 7.0 Professional

- Improved PDFMaker plugin to Word
- Improved Acrobat MakeAccessible plugin
- New Touch-Up Reading Order Tool (TUROT)
- Improved object selection and tag-management
- Improved (stabilized) Tags panel
- New Order panel
- Accessibility Set Up Assistant
- Save_As Accessible Text



What are agencies doing?

- Developing document templates that convert easily to accessible PDF
- Promoting document authoring practices that ease tagging and reduce validation & remediation work
- Pushing accessibility requirements “upstream”
- Requiring contractors to deliver “certified Section 508 compliant” electronic content
- Outsourcing fast-turn and high-volume validation work, also using service vendors for remote training purposes



Building 508 Resources

- Internal resources should...
 - Train users on accessible authoring
 - Correct template-driven content
 - Handle regular document production volumes
- Consider outsourcing for...
 - A rapid turn-around requirement
 - Addressing a backlog
 - Validating internal processing
 - Staff training
 - 3rd party certification of contractor submissions



Some Policy Questions

- Should PDFs be optimized for older screen-readers?
- Who provides and accepts the alt. text for charts and images?
- What testing / validation regime is acceptable? (TUROT, screen-reader testing, etc)
- Will abbreviations be tagged with alt. text?
- Will logical structure be tagged, and if so, to what degree?
- Should bookmarks be implemented on longer documents?
- Should URLs in the text be linked?
- Should some or all redactions be tagged?
- Under what circumstances should a text-only version be used as the "...method of last resort" [1194.22(k)]?



Starting from Scratch

- **1st choice.** Don't start with a PDF, start with the original Word, InDesign or FrameMaker file, fix the formatting, Styles, THEN make the PDF using PDFMaker, and THEN quality-control it in Acrobat
- **2nd choice.** "Add Tags" to the PDF in Acrobat, correct the reading order, add alt. text for images, check and correct (or create) bookmarks, etc. Simple documents may be OK with very few corrections
- **3rd choice.** Extract the text and content-image from the PDF to create a new Word file. Or, scan the page, zone, OCR, correct and simplify. You still need alt. text!



S.T.A.R.T. designing for accessibility

- **S**imply layouts whenever possible
- **T**ables especially should be as simple as possible
- **A**lternate text for graphics and images should be addressed UP FRONT in the authoring process
- **R**einvent design elements that just don't work in a screen reader
- **T**est tagging methodology with target screen reading software before release!



Basic Authoring Rules

- The author should create the alt. text for each image and chart
- Headings and text should appear in a single column (vertically aligned)
- Sidebars and callouts should be avoided
- Tables should avoid multilevel heading rows/columns and spanning cells
- Bookmarks should **ALWAYS** be present on documents over a few (3-4) pages in length



MS Office → Accessible PDF

• REQUIRED

- Extensive Office skills, including table, character, paragraph and document level formatting & strong familiarity with Styles
- Total consistency in the application of Styles
- Attention to detail
(sloppy = inaccessible)
- Perhaps 10% of Word users have the necessary skills. (Perhaps <5%)

• To be **AVOIDED**

- The use of shading to convey meaning
- Cells that span other cells in a table
- Incorrect use of hard and soft line breaks in cells.
- Inconsistent use of gridlines
- Ungrouped illustration segments
- Overlapping elements
- Background images



Basic Accessible PDF Workflow

- Resolve contrast issues, if any (esp. if scanning)
- Add tags
- Validate and/or correct text / image flow
- Add alt. text
- Tag / validate tagging of tables, headings, lists
- Ensure longer files include bookmarks
- Ensure files include metadata, inc. language



Scanning for Section 508 Compliance

- Scan at 300 dpi or higher
- Emphasize quality control / rescan as necessary
- Ideally, image processing (deskew, despeck, remove shading, artifact control, etc)
- OCR
- Correct OCRed text
- Convert to PDF/Searchable Image (Compact)
- Release to Document Management System



Core Recommendations

- **Philosophy:** Push accessibility upstream
- **Key Skills for authors:** MS Word formatting, alt. text development
- **Key Skills for pubs staff:** tagging w/Acrobat
- **Pubs Processing:** Set clear tagging standards, define key work-arounds
- **Screen-Reader Testing:** Test tagging styles rather than documents



About Document Solutions, Inc. (DSI)

- PDF document services since 1996:
 - Document Imaging (scanning) to PDF
 - Publication CD / DVD-ROM development
 - PDF forms development
 - Interactive PDF development
 - PDF enhancement processing (including accessibility)
- In 2001, Document Solutions, Inc. was first to offer Section 508 compliance services and consulting specifically for PDF content



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