Testing PDFs for Accessibility and Standards Conformance

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AHEAD Association on Higher Education And Disability®

We ask you to join us in creating a culture that reflects…

Access and Inclusion

and

Civility and Respect

…now and in all aspects of our organization.

*Please be respectful of your colleagues by remaining on Mute.
Post questions and comments in the Q&A pod and we'll get them
at the end.*

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Agenda

Laws and Standards

PDF Testing Options

Visual Components

Functionality

Tagging

Questions and Answers

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Who's *this* guy?

Paul Rayius

CommonLook's Director of Training

I had a life before this…

Laws and Standards

- **Laws:**

  ▶ ADA - Title III

  ▶ Section 504 of the Rehabilitation Act

  ▶ Section 508/other?

- **Standards**

  ▶ WCAG 2.0, 2.1, PDF/UA

  ▶ Which to choose?

    • Many Higher Ed lawsuits/settlements require WCAG 2.0AA compliance

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How Compliant Do We Have To Be?

Tools of the Trade

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Manual Testing Tools

- **Use a tool that tests against standard(s)!**

  - ▶ Acrobat does NOT

  - ▶ PAC-3 (PDF/UA) – Doesn't require manual checks

  - ▶ CommonLook PDF Validator (WCAG 2.0, WCAG 2.1, PDF/UA, ISO 32000, HHS) – Requires manual checks.

- **Each tool has pros and cons – and a learning curve!**

- **Does your checker create a report? Is the report accessible?**

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What Automation CAN and CAN'T Do…

- Automation CAN*:

  ▶ Check for Tags (presence)

  ▶ Test for headings/proper "nesting"

  ▶ Verify *presence* of alt text on Figures/Links

  ▶ Verify presence of tooltips on form fields

  ▶ Verify all annotations/form fields are tagged

  ▶ Identify/flag color use/changes

  ▶ Test for table regularity, TD and TH are children of TR

  ▶ Verify LI, Lbl, and LBody "Parenting"

- Automation CAN'T*:

  ▶ Verify semantic appropriateness of all tags

  ▶ Verify accuracy of artifacted content

  ▶ Verify correct reading order

  ▶ Verify accuracy of alt text/tooltips

  ▶ Identify color/contrast issues

  ▶ Verify accurate metadata

  ▶ Verify correct associations in complex tables

* Generally Speaking – Tool Functionality May Vary

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Considering an Automated Solution?

- Automation can't do 100% of the work 100% accurately. Human interaction is **required** at some point.

What Are We Looking For?

Visual Accessibility

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Look For…

- Color Use – Not the only way to convey info. (Also, font, layout, etc.)

- Contrast

  ▶ WCAG 2.0 – 4.5:1, 3:1 for large text, etc.

  ▶ WCAG 2.1 – adds 3:1 for graphics and adjacent

- Is there obstructed content?

- Font – Size and Legibility

- Forms – Provide accurate Labels and Field names

- Tables (Yikes! Next slide!)

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Visually - Tables

- Are there lines? (Not a requirement but a best practice.)

  ▶ Is there shading in rows? Be aware of contrast!

- Multi-page tables – Do the column headers repeat?

- Are cells or rows split across the page break? (It's a best practice to avoid this)

- Is it too complex? (Understandable)

Pro Tip: Keeping these visual things in mind during document authoring will save you a whole lot of time and pain.

Functionality

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Is It "Working" Right?

- Has OCR been run (scanned docs)?

- Metadata

  ▶ Title – Required to be displayed. Is it accurate?

  ▶ Language – Required. Is it accurate?

- TOC – Not required but, if present (and linked), are the links correct?

- Do other links have the correct targets?

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Forms

Check For:

- Is it **Fill then Print**?

- Fillable by keyboard?

- Required fields/validation rules set as needed?

- Pointer cancellation (mouse up, for example).
  (Not limited to just forms – can apply to anything that can have a "down event" – links, for example, too.)

- Are labels and Field names accurate and consistent? (WCAG 2.1)

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JavaScript

- **Where can it be?**

  ▶ Anything that can have an action attached to it (action: Run a JS)

- **What to Check For:**

  ▶ Fast Flicker (generally more than 3-times per second)

  ▶ Change of context (Opens a new window or new page, moves focus, significantly re-arranges content, etc.)

  ▶ Timing adjustable/Time-outs (Data loss? WCAG 2.1)

  ▶ Pointer cancellation

  ▶ Multi-point gestures (multiple steps to complete an action) – not generally applicable to PDF

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Tagging

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What Tags Provide

- Content for assistive technologies to read. (In addition to other functionality and use.)

- Structure (headings, lists, tables, etc.).

- Hierarchy.

- Navigation.

- Easily provide Alt text, other properties or attributes as needed.

The presence of Tags is the minimum requirement!
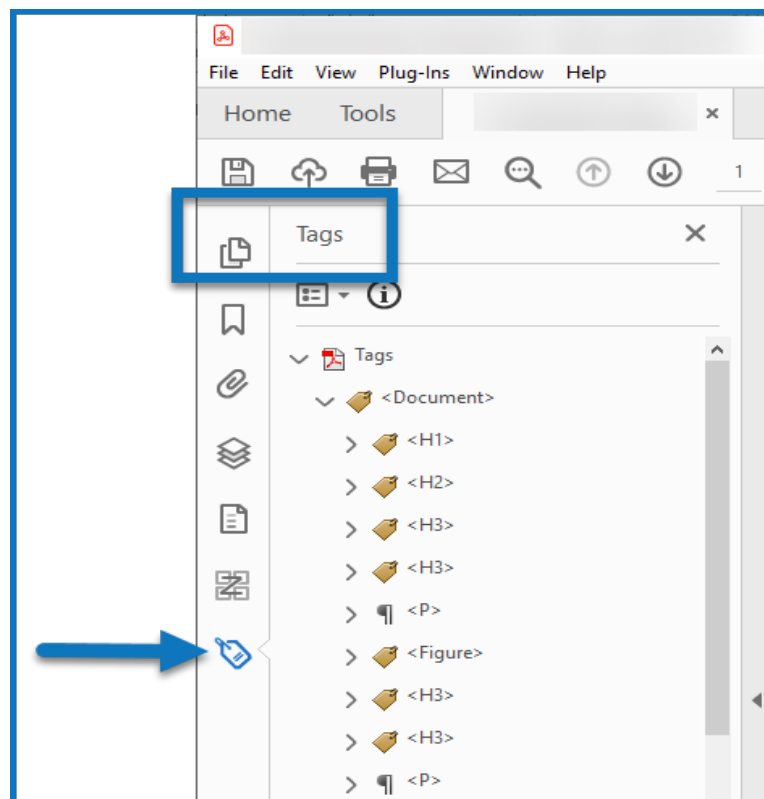
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Tagging Overview

- Correct tags need to be used for the content (semantically appropriate).

- Different tags have rules for how they are used, constructed, etc.

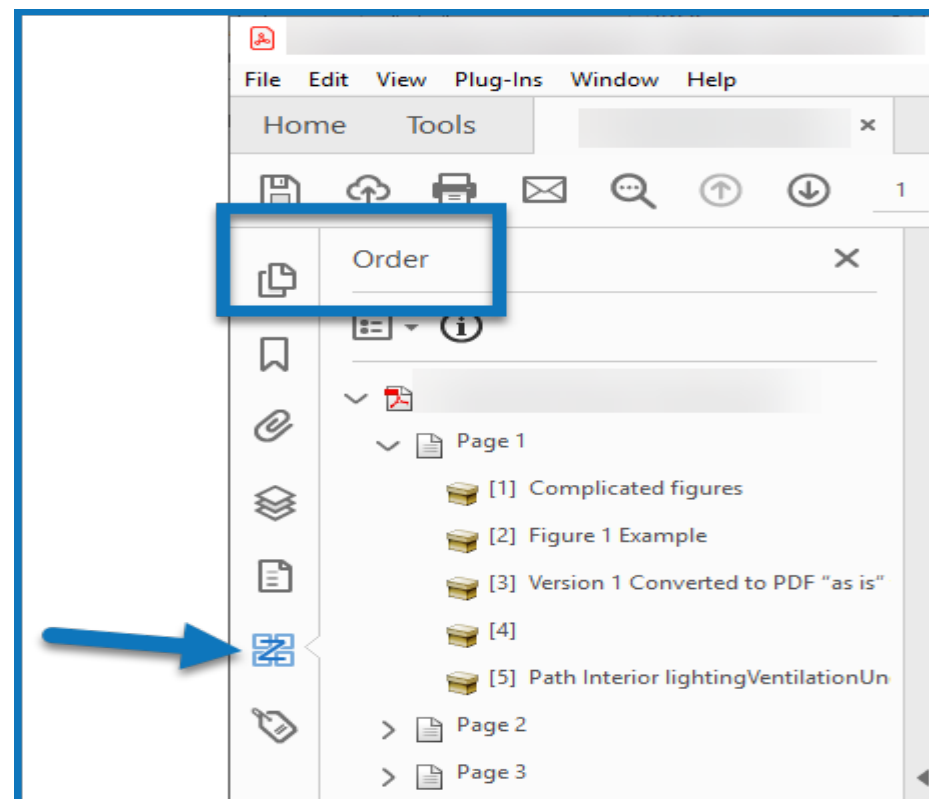- Tags need to be in the correct reading order.

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Reading Order

What it is:

What it's not:

Potential Tagging Issues

- Hidden content is tagged.

- Decorative elements are tagged, and/or

- Real content is not tagged.

- Incorrect Role Mapping.

- Artifact containers – use of header/footer pagination.

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Paragraphs

Are paragraphs tagged correctly?

- Is the content in the P tag really a paragraph? (Semantically appropriate)

- Is there only one paragraph (of text) per P tag?

- Are paragraphs of text divided into multiple P tags?

  Across page breaks, or text in columns, for example.

Pro Tip: If in doubt you can probably put the content in a P tag.

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Images

- To tag or artifact?

  Decorative Images: Not in the "Artifact" Tag! (Yet! – Wait for PDF version 2)

- Alternative text – Is it accurate?

- Actual text – As a text replacement (ex. Drop caps).

- Captions not inside the Figure tag!

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Headings

- Don't Skip Headings.

- Don't mix "H" and "H#" tags in the same document.
  (Not common but worth a mention.)

- Headings convey structure, hierarchy, relationships between sections.

- "The H1 Debate"

  - ▶ Caveat: This will all be changing!

  - ▶ For the Title, only one per PDF.

  - ▶ Are you allowed more than one?

  - ▶ What about the "Title" tag?

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Bookmarks

- Some standards require bookmarks for files 9+ pages. (If not required, still a "best practice.")

- Bookmarks and Headings should match.

  ▶ There may be "Organizational Exceptions?"

Lists

- **Are Lists properly structured?**

  ▶ L, LI, Lbl, Lbody

  ▶ Nested Lists go inside their "Parent" Lbody

- **Is the Lbl required?**

- **List numbering – required for ordered lists (PDF/UA)**

- **Numbered Headings – Don't tag as lists!**

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Tables of Contents

- **Proper Structure:**

  ▶ TOC, TOCI, Reference, Link (optional)

  ▶ Some screen readers might say "link" twice?

- **Nested TOCs are children of the TOCI tag.**

Links

- Are they properly tagged?

  Hyperlinked text and annotation (OBJR) in the Link tag.

- Links on two lines

  ▶ Link tag will likely contain two annotations

  ▶ Group the text and then annotations (or vice versa)

- Alt Text?

  ▶ Contents on the Annotation is required (PDF/UA) but…

  ▶ Alt text is generally better supported by AT.

- Is the Tab Order set to follow the Tags?

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Forms

- Tooltips on annotations

- Tab order set to follow the tags

- Radio Buttons (these get messy)

  ▶ Currently: There's a discrepancy between the verbiage in the standards and actual functionality

  ▶ Getting cleaned up in future versions of the PDF standard

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Tables for Formatting

Problems:

- People using AT will be told there's a table and expect to have data presented.

- Navigation through, and understanding of, the content is much harder for AT users

The Solution: Don't use tables for formatting (use the most semantically accurate tag possible).

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Data Table Tagging

- **Proper Structure**
  - ▶ Table, TR, TH/TD
  - ▶ Is row/column span correctly set?
- **TH (Table Header cells)**
  - ▶ Do they have scope?
  - ▶ Do they have IDs in complex tables?
  - ▶ Are TDs (Table Data cells) associated to the correct TH IDs?

- **Multi-page**
  - ▶ Don't retag column headers on subsequent pages
  - ▶ Don't break the table - it's still only one.
- **Captions (optional)**
  - ▶ Go inside the Table tag
  - ▶ Place above the first TR or after the last TR (based on physical view)

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Questions?

- I'll go check the Q&A pod…

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In Closing

- Thank you for attending!

- Your feedback helps shape future programming.

  - https://www.surveygizmo.com/s3/5469920/2020-Equity-and-Excellence-Access-in-Higher-Education-Preconference-Concurrent-Session-Feedback

- Contact Paul at sales@commonlook.com

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