



Automation in PDF Accessibility: What Can and Can't be Done

A COMMONLOOK PRESENTATION

Presenter



Paul Rayius

Director of Training
CommonLook

prayius@commonlook.com

Agenda

Automation in PDF Accessibility: What Can and Can't be Done

- The Need For, and the Benefits Of, Accessibility
- Regulations and Standards
- Multi-Phase Plan for Document Accessibility
- Automation in Phases 1 and 5 – Testing/ Reporting
- Automation in Phase 2 – PDF Remediation
- Automation in Phase 3 – Accessible PDF Creation
- Comments, Questions, and Answers

Disability ... Part of The Human Condition

Over 1 billion people¹ live with some form of disability

- That's 1 in 7 people, or 15% of the world's population
- 285 million people are visually impaired
- 360 million people suffer from hearing loss

"Disability is part of the human condition. Almost everyone will be temporarily or permanently impaired at some point in life."

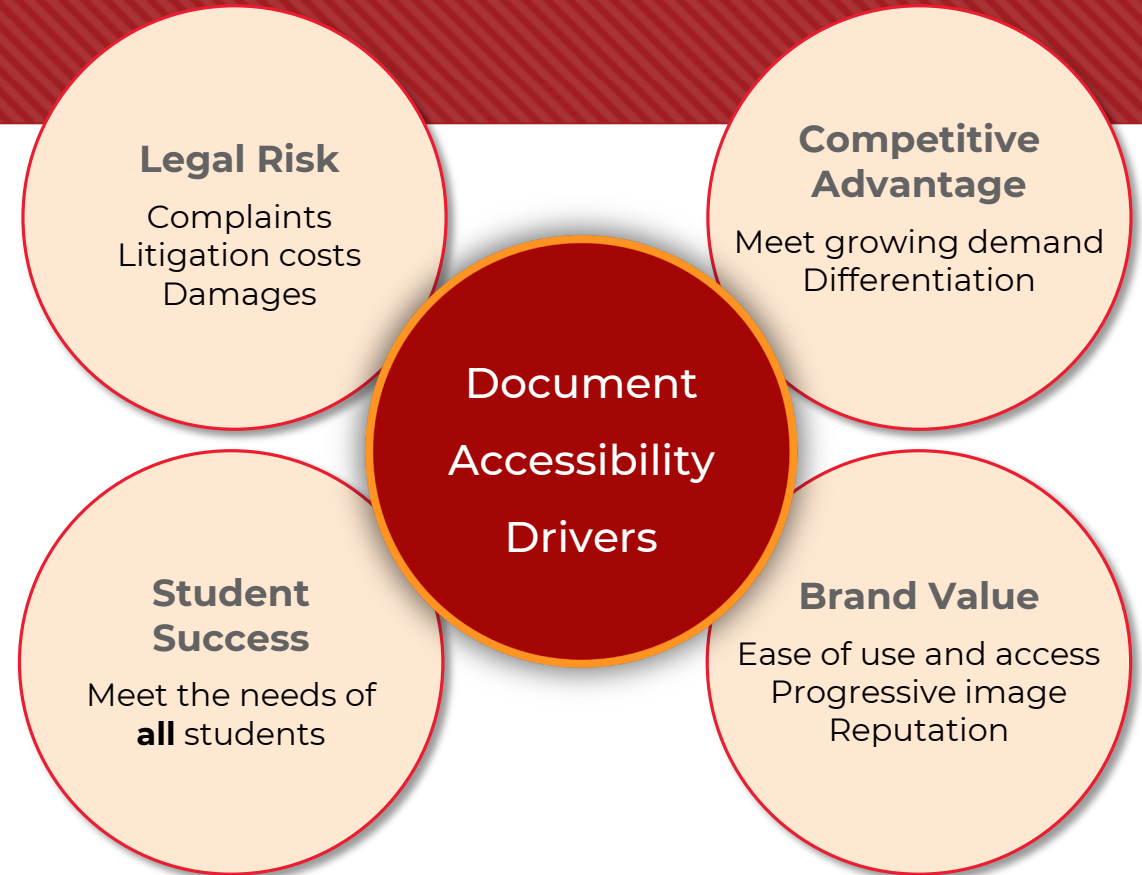


**World Health
Organization**

¹. Global Disability Action Plan 2014-2021 WHO - World Health Organization

When it Comes to Accessibility, Everyone Wins

- Accessible design benefits everyone!
 - ▶ Easy to learn/ use
 - ▶ Captioning
 - ▶ Sufficient contrast
 - ▶ “Good Grips” (kitchen utensils)
 - ▶ Siri
 - ▶ Speech to text
 - ▶ Voice-enabled TV
 - ▶ Video calls (Skype, etc.)
- Compliance with laws and standards helps to mitigate legal risk!



Accessibility Regulations Demand Compliance

- Section 504 – Programs/ Activities receiving Federal Funding
- Section 508 (US Federal Government)
- ADA
 - ▶ Title I – Employees
 - ▶ Title II – State and Local Government
 - ▶ Title III – “Places of Public Accommodation” – includes “Places of Education”
 - ▶ Includes websites and electronic content
- Canada (Provincial and Federal levels; AODA, etc.)



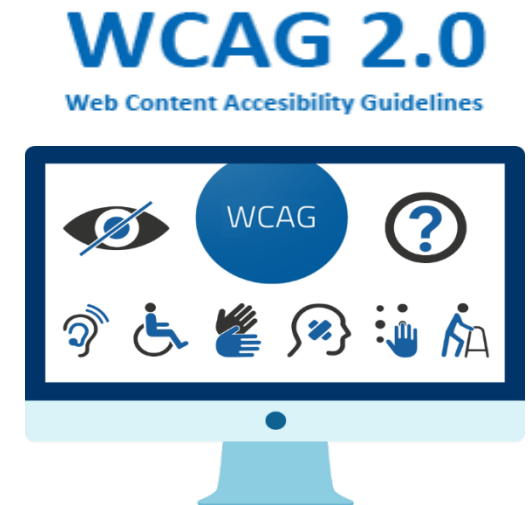
Accessibility Standards for PDF

- Web Content Accessibility Guidelines (WCAG) 2.0
 - ▶ Section 508 (now WCAG 2.0 AA)
 - ▶ HHS (maps to WCAG 2.0AA)
 - ▶ AODA Standards (WCAG 2.0 A/ AA-2021)
- PDF/UA



WCAG

- Created by W3C/ WCAG WG – for WEB content
 - ▶ Also applies to PDF
- Used internationally for accessibility guidelines
- Increased accessibility for all
- Technical Standard – not an intro!
- Four Principles (P.O.U.R.)
- 12 Guidelines with testable success criteria (A to AAA levels)



PDF/UA

- ISO 14289
- Specific to PDF
- (Very) technical standard
 - ▶ Mainly for developers/ authors
- Three sections:
 - ▶ PDF files
 - ▶ PDF reader software
 - ▶ How AT reads PDF



Multi-Phase Document Accessibility Plan



Review & Assess

- Review corporate goals and business environment, requirements
- **Select standard(s)** to test for compliance
- **Audit/test** digital assets against standard(s) for compliance
- Set priorities for document remediation
- Develop document accessibility policy for future

Strategy & Plan

- Leverage Phase 1 data
- How document accessibility and compliance is attained
- Prepare project plan – with prioritized assets for remediation
- **Decide** internal, outsourced, or hybrid **remediation approach**
- Commence communication and training of team

Implement

- Execute a pilot program
- **Integrate accessibility into design,** development, and testing process
- Prepare best practice document accessibility checklists and processes

Expand Program

- Scale up document accessibility program
- Raise exposure and awareness through communications
- Increase capacity through training
- Document and provide accessibility guidance to other departments, business units, and Lines of Business

Monitor & Report

- **Monitor** for compliance with accessibility laws and regulations
- **Test and report** on PDF holdings: # of PDFs and % in compliance
- Reports will guide document creation and future remediation projects

Spoiler Alert!

Accessibility can NOT be done 100% through automation
(regardless of the step you're in)!

Phases 1 & 5: Review, Assess, Monitor, Report

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
- ▶ Test for table regularity, TD and TH are children of TR
- ▶ Verify LI, Lbl, and LBody “Parenting”

■ Automation CAN'T*:

- ▶ Verify accuracy 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 – Tools Vary

Phases 1 & 5: Review, Assess, Monitor, Report

Tools

- Single-Document Testing
 - ▶ Adobe Acrobat,
 - ▶ PAC 3, and/or
 - ▶ CommonLook PDF (or CommonLook Validator).
- In bulk
 - ▶ CommonLook Clarity
- Doing it internally? Beware the learning curve!
- Thoughts on Scanning/ Outsourcing:
 - ▶ Good for:
 - Discovering then Testing if locations are unknown.
 - Assessing in bulk
 - When time, expertise, knowledge of software/ standards is lacking.
 - ▶ Caution: Some HTML checking vendors claim to test PDFs but don't really know PDF

Phase 2: Strategy & Plan

How much remediation can be done with automation?

■ Automation Can*...

- ▶ OCR scanned PDFs
- ▶ Add tags
- ▶ Do a “best guess” on tagging correctly
- ▶ TRY for accuracy in:
 - Reading order
 - Table, List, TOC tagging

■ Automation Can't*...

- ▶ Always get the tagging right
- ▶ Properly handle complex tables, lists, Tables of Contents, reading order...
- ▶ Always provide accurate Alt text for Figures, Links,
- ▶ Always provide accurate Tooltips for form fields
- ▶ Fix color or contrast issues

* Generally Speaking - Tool functionality may vary

Adobe Acrobat

■ Pros:

- ▶ Included in Acrobat Pro
- ▶ Auto-tag PDFs (single **or in bulk**)
 - Bulk process includes additional steps/
more accuracy
- ▶ Has some automated “Fix” options for some failures/ issues
 - Bulk remove empty tags
 - Convert Role Mapped tags

■ Cons:

- ▶ Doesn't guarantee standards compliance
- ▶ Can give “false positives/ negatives”
- ▶ Some documentation is incomplete, unhelpful, or incorrect

CommonLook PDF

- Tests against multiple standards – WCAG, PDF/UA, 508, and HHS
- Includes powerful tools/ automation
 - ▶ Check and Fix document for corruption
 - ▶ Bulk Processes to:
 - Find and Replace symbols, etc.
 - Search Tags/ perform operations
 - Convert Role Mapped tags to Standard PDF tag
 - Cleanup empty tags
 - Create header/ footer pagination artifacts
 - Generate bookmarks based on headings
 - Artifact all images
 - ▶ Automatically generate lists, TOC, tables from selection
 - ▶ Automatically assign IDs to TH cells
 - ▶ 1-Click to automatically link data cells to header cells in complex tables
 - ▶ Tag untagged Annotations in the correct reading order and tag type
 - ▶ Automatically assign Alt text to links/ Contents to Annotations
 - ▶ Create Tooltips for Form Annotations
 - ▶ Fix Wizard automatically corrects most failures and warnings

Phase 2: Strategy & Plan

How much remediation TO do!? (Is “Close” Good Enough?)

- The Arguments:
 - ▶ Using Automation to get “most of the way there” saves time, money, training efforts.
 - ▶ Getting more docs close faster is better than taking a lot of time to get fewer documents to 100%
 - ▶ “Close” is better than nothing.
- Think about the end user:
 - ▶ If it’s not 100% it falls short of the mark and isn’t really accessible.
 - ▶ Getting 60, 70, or even 90% of the way up the ramp doesn’t get you in the building.
 - ▶ “You’re not worth it.”

Phase 3: Implementation

Creating Individual PDFs From the Source

Authoring in Word, PPT, InDesign, other:

- Use automated checkers built into authoring tools.
 - ▶ Caution – Most don't test against standards!
- Being proactive saves the time and money otherwise spent on remediation.
- It's generally easier to fix issues during creation as opposed to doing PDF remediation!
- TEST the output against standards/ fix remaining issues!

Document Accessibility Basics

- ✓ Reading order & formatting
- ✓ Using color, italics, symbols
- ✓ Impact of contrast
- ✓ Headings & styles, alternate text for images, data tables

Accessibility Tools

- ✓ Microsoft Word & PowerPoint built in accessibility checkers
- ✓ Programs & plugins (e.g., MadeToTag for InDesign, **CommonLook Office for Word and PowerPoint**)

Phase 3: Implementation

Creating PDFs from a Template and Data Source

- The latest “hot button” topic!
 - ▶ What’s “trending” in PDF accessibility!?
- Useful for “bulk” or “volume” documents.
- Templates are key:
 - ▶ It *can* work *if* things are set up correctly – You have to KNOW what you’re doing!
 - ▶ It’s automated *after* the (manual) template setup phase
 - ▶ No template? Not setup correctly? You’re going to have problems!
- Choose the tools/ people who KNOW what they’re doing!
- TEST the output against the standard(s)!

Document Accessibility Basics

- ✓ Reading order & formatting
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- ✓ Impact of contrast
- ✓ Headings & styles, alternate text for images, data tables

Proven Tools for This Approach

- ✓ CommonLook Dynamic

Summing It Up:

Considering an Automated Solution?

- Automation in PDF accessibility *may* have its place.
 - ▶ Human interaction is **required** at some point.
- TEST (including manual checks) to know if the automated work was done *correctly!*
- Life lessons apply: Anything worth doing, and doing well, is probably going to take some hard work at some point.
- Anything less than 100% isn't accessible, usable, is insulting, and could create **legal risk!**



Thanks for Listening!

- Come visit our booth!
- Email
info@commonlook.com

Paul Rayius

Director of Training

prayius@commonlook.com

Office: (202) 469-4487

Keep in touch: commonlook.com