### Making Your PDF Accessible (the basics)

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#### **Portable Document Format (PDF)**

- Created by Adobe in 1990s to preserve visual format and allow easy sharing of documents
- Offers many accessibility features but must be deliberately incorporated
- Has a reputation of being difficult and frustrating to remediate





#### **PDF/Universal Accessibility (PDF/UA)** Standards

- Technical standards for created accessible PDFs
- Based on WCAG 2.0 principles
- Follows the Matterhorn Protocol
  - 31 checkpoints for possible ways to fail PDF/UA
- WCAG and PDF/UA are similar with overlap and differences



#### How many measurable WCAG Guidelines are there to create accessible web content?

- 32
- 44
- 78
- 92



#### **Does WCAG Apply to PDF?**

The short answer is, yes.



#### **The Basics of Accessible PDFs**

- 1. Optimize the source document for accessibility
- 2. Save the file as a **tagged PDF**
- 3. Provide metadata for the PDF (such as document language)
- 4. Create and edit tags (similar to HTML tags)
- 5. Ensure the reading order is logical
- 6. Ensure the tab order is sequentially correct
- 7. Check PDF with **automated and manual testing** for accessibility



#### What are Tags?

- Invisible labels that provide significant information
- Critical for assistive technology
- Semantic structure of what the document is about and how it's organized
- Very important step to ensure accessibility



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#### **Remediation Flow of PDFs**

General workflows for different scenarios



#### Easiest & Fastest: Start with the source document ...





## If you start with an untagged PDF file ... (and don't have the source)





## If you start with a paper or a scanned document ...

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#### **Easiest & Fastest Route of PDF Remediation: Start with an Optimized Source File**

- Real, semantic elements
- Headings
- Text
- Alternative (ALT) text
- Color contrast
- Links
- Tables



#### Headings

- Real, semantic headings
- Start at level 1
- Not skip any levels
- Logical outline of hierarchy
- Accurate, informative and concise

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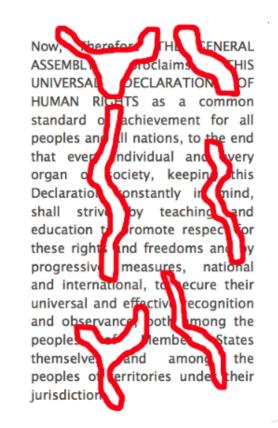


#### Text

- Fonts are easily readable
- Line spacing is at least 1.5 within paragraphs
- Paragraph spacing is at least 1.5 times larger than line spacing
- Text is not fully justified

This is kind of hard to read, isn't it?

#### This font is clear and easy to read.





#### **Alternative (ALT) Text**

- All meaningful images, graphs & charts, and other non-text content have alt text.
- Accurately conveys its purpose
- It is concise
- All meaningful non-text content has a long description when needed (for example: a complex graph)





How would you describe this object and its context to someone who is blind or low vision?

- The subject(s) in detail
- The setting
- The actions or interactions
- Other relevant information

(1-2 detailed sentences recommended)

Dog with collar sitting outdoors on wood park bench

Generate alt text for me



#### **Color Contrast**

- Text/Fonts
  - Regular text (18pt normal or 14pt bold)
    - Min. 4.5:1 ratio with the background
  - Large text (>18pt)
    - Min. 3:1 ratio with the background
- User Interface Components and Graphical Objects:
  - Min 3:1 ratio against adjacent colors
    - Buttons
    - Icons that convey information
    - Graph or chart components (ex. Graph lines/shapes)
    - Form field text boxes
- Colour Contrast Analyser

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🛛 🚫 Fail (	regular text)	🕑 Pas	s (large	text)
► 1.4.11 No	on-text Contrast (A	A)		
🕑 Pass	(UI components a	and graphic	al objec	ts)



#### Links

- Correctly designated
- Visually distinguishable
- Meaningful and not generic

Join our <u>Accessibility</u> <u>Community of Practice</u> (A11y CoP) today!



#### **Tables**

- Real tables
- Properly formatted
- Have table headings
- Simple tables (one header row and/or one header column)
  - Complex tables can be problematic to tag properly after PDF export
- No blank cells

Date	A11y CoP Topic
01-24-2024	Accessible PPTs
02-27-2024	Document A11y
03-26-2024	A11y Testing
04-30-2024	Plain Language
05-28-2024	DOJ Deep Dive Part 1
06-25-2024	DOJ Deep Dive Part 2
07-30-2024	Everyday Asst. Technologies
08-27-2024	Asst. Technologies Demo
09-24-2024	Alt Text





## **Converting Optimized Source File to Tagged PDF**



#### Saving as Tagged PDF from Word in Windows

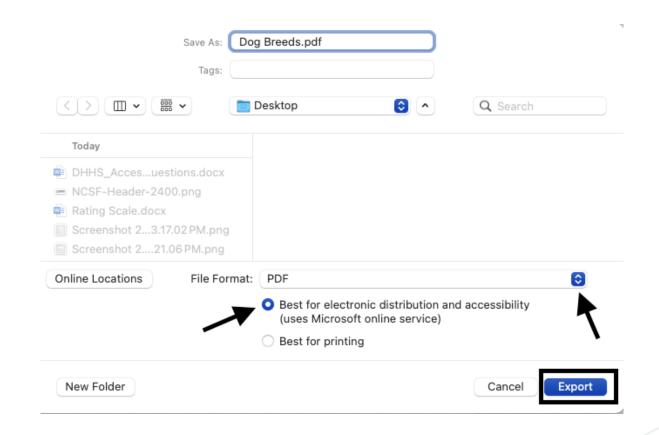
- 1. Select File > Save as Adobe PDF
- 2. In the pop-up dialog, select**Options**
- 3. Ensure Enable Accessibility and Reflow with tagged Adobe PDF is checked
- 4. Leave option Convert Word Headings to Bookmarks selected
- 5. Select OK

Acrobat PDFMaker	×
PDF Options   Convert document information  Create PDF/A-1a:2005 compliant file  Finable Accessibility and Reflow with tagged Adobe PDF  Create Bookmarks  Convert Word Headings to Bookmarks  Convert Word Styles to Bookmarks  Convert Word Bookmarks  Convert Comments	
Page range <ul> <li>All</li> <li>Current page</li> <li>Selection</li> <li>Page(s) From: 3 To: 3 *</li> </ul> OK Cance	



#### **Saving as Tagged PDF from Word in Mac**

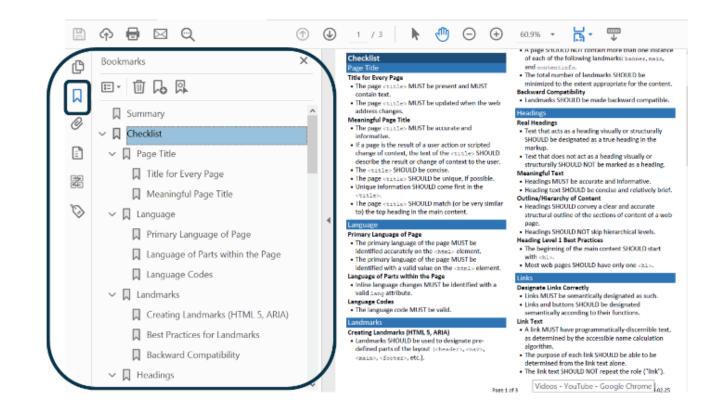
- 1. Select File > Save as
- 2. In the File Format dropdown menu, select **PDF**
- Select the Best for
   electronic distribution
   and accessibility radio
   button
- 4. Select Export





#### What are PDF Bookmarks?

- Bookmarks are generated automatically
- Based on heading structure
- A convenient way to jump to sections





#### **Untagged PDF Conversions**

Beware! Takes time and effort



#### Ways to Produce Inaccessible, Untagged Results Examples

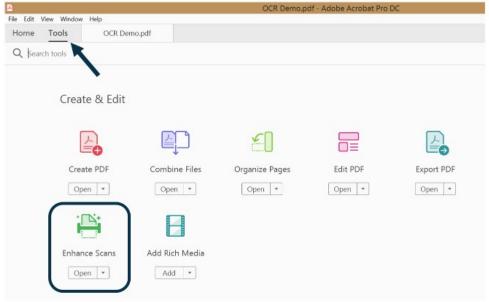
- Scanning a document produces a single image
- Using **Print > Save as PDF** from a document or webpage
- Options within Acrobat such as create PDF from scanner, screenshot, webpage, or clipboard.

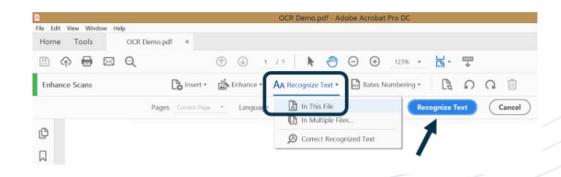


#### Scan PDFs with Optical Character Recognition (OCR)

Acrobat Pro DC has a built-in OCR text recognition tool

- Open file, go to Tools > Create & Edit section > Enhance Scans > Recognize Text > In This File
- Select Recognize Text
- Adjust reading and tab order as needed







#### **Reading Order, Tab Order and Metadata**

Acrobat Pro is required for PDF remediation



#### **The Acrobat Pro Interface**

#### View > Show/Hide > Navigation Panes (Side Panes on Mac)

- Navigation Pane
- Document Pane
- Tasks Pane

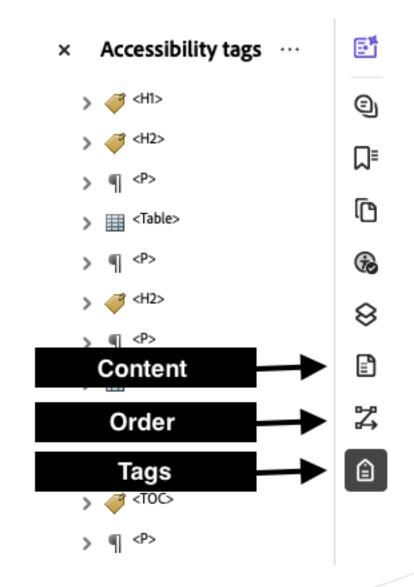
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All tools     ×       Control     Send for comments       Control     Send for comments       Control     Protect a PDF       Control     Redact a PDF       Compress a PDF     Prepare a form       Prepare a form     Add comments	<ul> <li>▶</li> <li>●</li> <li>↓</li> <li>●</li> <li>↓</li> <li>●</li> <li>↓</li> <li>↓</li></ul>	Purpose This standard offers guidance for designing and delivering websites and digital services to prioritize a digital-inst public experience' in the State of North Carolina. It outlines statutory requirements, clarifies mandates, and expands on best practices for the state digital assets. With over 10.2 million constilluents served annually, the majority of inferactions occur online and horsassing our mobile software. Recognizing the with to digital annuals is at the primary manar of expagament, tatle agencies are urged to device and device that or equinals, accessible, and secure by design. This approach alms to enhance customer satisfaction, trust, and overall experience. Content Lead	×	, ∰ <table> ¶ <p> , € <t12> , 20</t12></p></table>	© ∏ (° ⊗ ° ° ×
Convert to PDF  Add a stamp  Task/Tool Pane		North Carolina Department of Information Technology (NCDIT) – Digital Bolutions Team Scope Except as otherwise provided, this standard applies to all North Carolina state agencies' websites and digital services that are: Maintained by an agency directly or by a contractor or other entity on behalf of an agency; and Intended State agencies a ad-facing websites		• ¶ ↔ <i>d</i> <ाoc- - avigation Pane	



#### **Navigation Pane**

Most important panes relevant to accessibility

- Content
- Order
- (Accessibility) Tags



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#### **Document Pane**

- Main area which the document is displayed
- Select text in this pane to tag or highlight previously tagged text

# C) A) C) A) A

With over 10.2 million constituents served annually, the majority of interactions occur online and increasingly on mobile devices. Recognizing the shift to digital channels as the primary means of engagement, state agencies are urged to develop and design their websites and digital services to meet the public's expectations for high-quality, user-friendly experiences that are seamless, accessible, and

secure by design. This approach aims to enhance customer satisfaction, trust, and overall experience.

This standard offers guidance for designing and delivering websites and digital services to prioritize a

digital-first public experience! In the State of North Carolina. It outlines statutory requirements, clarifies

#### Content Lead

North Carolina Department of Information Technology (NCDIT) - Digital Solutions Team

mandates, and expands on best practices for the state's digital assets.

#### Scope

Purpose

Except as otherwise provided, this standard applies to all North Carolina state agencies' websites and digital services that are:

- · Maintained by an agency directly or by a contractor or other entity on behalf of an agency; and
- Intended for use by the public

State agencies are also encouraged to apply the requirements of this standard to internal-facing websites and digital services to the greatest extent practicable.

This standard does not apply to third-party websites or digital services, such as social media sites, that are designed to facilitate online sharing of text or other media among communities of users, and that are used by an agency for that purpose.



#### **Tasks Pane**

- Includes the Accessibility tools
  - Reading Order Tool
  - Full Check

C Prepare for accessibility 꼬 Convert to PDF Add a stamp Automatically tag PDF Use a certificate Automatically tag form fields Use print production E Change reading options Measure objects Check for accessibility Compare files Open accessibility report Add rich media Identify form fields Use guided actions 2 Add alternate text Prepare for accessibility 🔆 Use setup assistant Apply PDF standards 12 Fix reading order



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#### **Reading Order**

 After tagging document, check content order by using Tags and Order navigation panes.

• Key Points:

- Changing Tag order in the Tag Pane does not affect the visual stacking order
- Checking the Order in the Order
   Pane affects the tag order.





#### **Working in the Order Pane**

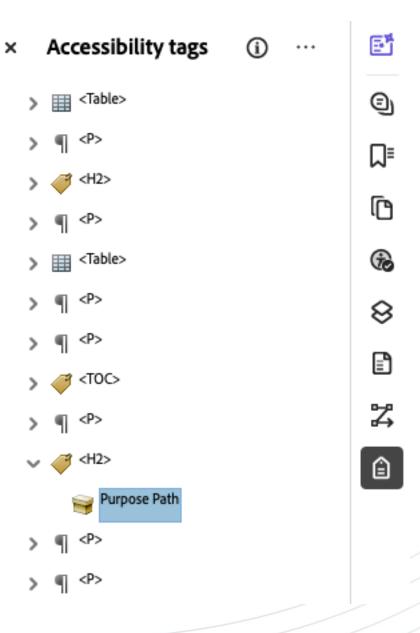
- Moving items in the **Order Pane**, moves tags in the **Tag Pane**
- Changing order in the Order
   Pane, changes the visual stacking order
- Numbering relates to the stacking order – not screen reader reading order
- You may need to use the Tags
   Pane to fix order of multiple tags
   next to each other

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	> Page 2
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2 End standard offers guidance for designing and delivering websites and digital services to prioritize a 2 jal-first public experience' in the State of North Carolina. It outlines statutory requirements, clarifies	V Page 4
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3 Vorth Carolina Department of Information Technology (NCDIT) – Digital Solutions Team	> Page 5
Scope	> Page 6
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are designed to facilitate online sharing of text or other media among communities of users, and that are used by an agency for that purpose.	Page 10
	> Page 11
	> Page 12
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#### **Working in the Tags Pane**

- For simple documents, easiest way to define screen reading order is within **Tags Pane** 
  - For documents more focused on visual presentation, you may need to use the **Order Pane** to fix the reading order
- Analyze your content
  - Headings should be read before its associated content
  - In long quotes, with speakers name at bottom, it's better to read it first for screen readers to know who the quote is from
  - If content refers to footnotes, sometimes it's appropriate that they are read immediately following the associated content rather than at the end.
- Arrange tags in a logical reading order (drag/drop)

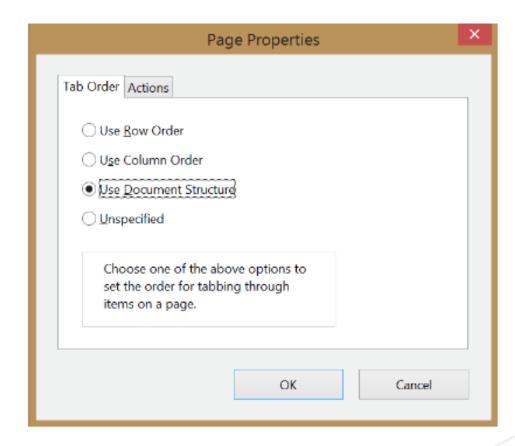




#### **Tab Order**

Documents with links or form fields must have tab order defined

- Open the Page Thumbnails Pane
- Select all thumbnails in the navigation pane (Control + Click)
- Right-click one of the active thumbnails, select Page Properties
- On the Tab Order tab, confirm Use
   Document Structure is selected and click OK.





#### **Document Metadata**

Document Title and Language



#### **Document Title**

First information read to screen reader users

- Go to File > Properties
- Under the **Description** tab, add the title in the **Title** field
- Next, go to the Initial View tab
- Under Windows Options > Show section, select Document
   Title from the drop-down menu.

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Title:	Practical Matters for Patients
Author:	John Smith
Subject:	
Keywords:	
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Modified:	9/12/24, 12:48:54 PM
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#### **Document Language**

Specify document language for screen readers to read correctly

- Go to File > Properties
- Under the Advanced tab, in the Reading Options section, select the appropriate Language from the drop-down

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#### **True or False?**

Acrobat Pro is required to fix accessibility issues in PDFs.



#### Where is the Tags Pane in Acrobat?

- A. In the Navigation Pane
- B. In the Document Pane
- C. In the Tasks Pane



#### Re-ordering content in the Order Pane can significantly rearrange the tag order in the Tags Pane

True or False?



## The numbering shown in the Order Pane is:

- A. The screen reader reading order
- B. The visual stacking order of different content layers
- C. Both A and B



#### **Tab order refers to:**

The order in which ....

A. A screen reader will announce headingsB. A user tabs from one image to the nextC. A user tabs through links and form fields



## What happens if you don't specify the document language for a PDF?

The screen reader will ...

A. Read the document using the pronunciation of its default language

- B. Automatically detect the language and read it correctly
- C. Prompt the user to select which language they'd like the PDF to be read in



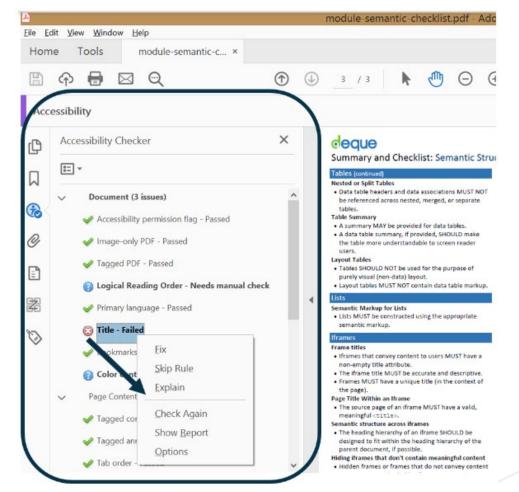
#### **Assess Your PDF**

Automated, Manual, Assistive Technology



#### **Acrobat Pro DC Full Check**

- Go Tools > Accessibility > Full Check
- Leave all Checking Options selected
- Select Start Checking
- Note: Even if the full check tool doesn't find any issues, you should still check manually.



https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html



Image credit: Deque

# Manual testing of a PDF is not necessary if you use a quality automatic tool.

True or False?



