

PDF Accessibility Checkers: Correcting the Myths



Karen McCall, MEd/Karlen Communications

Bevi Chagnon, MBA ADS/PubCom.com

Copyright 2023

Quality Assurance Process



The document has tags for everything that needs a tag.

- Not everything needs a tag.
- Artifacts/parts of the background or repetitive information do not.



The tags are correct for the type of content.

- Headings, Paragraphs, Lists, TOCs, Indexes, Tables and so forth.
- *Reference*: Handout, Standard Tags for PDF/UA-1 Accessible PDFs



The tags are in a logical reading order for the content.

- This may not be the way the content is laid out on the page or in the entire document
- Brochures, multilingual documents, newsletters/magazines with split articles.

The “Orders”

1. **Logical reading order of the document itself.**

- Shown in the Tags Tree panel and used by most assistive technologies.



2. **“Architectural” reading order.**

- Is shown in the Order Panel.
- Is specific to each page.



3. **Tab Order**

- For links and form fields.

The Ultimate PDF Accessibility Checker

There is no “easy” button.

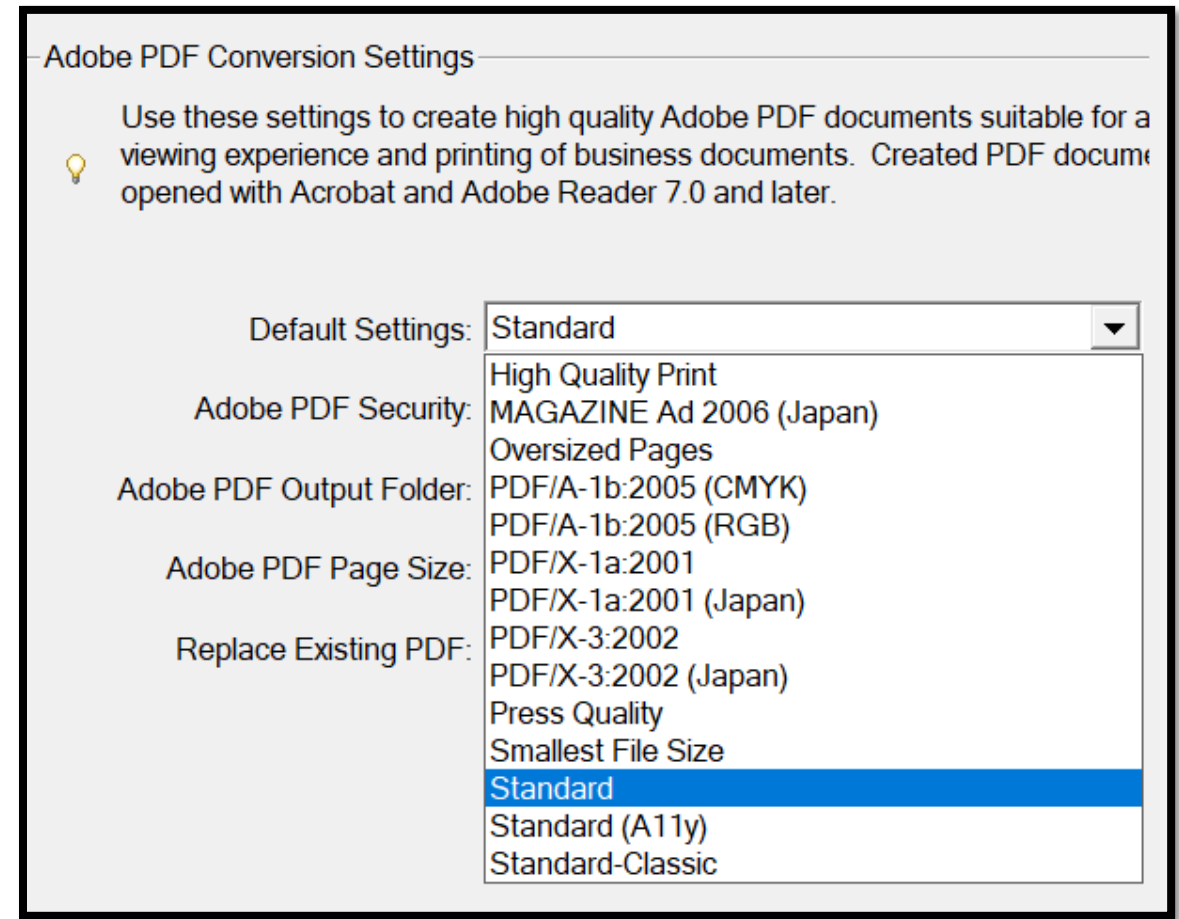
- “You” are the ultimate validation tool confirming the accessibility of a PDF document.



The Standards for PDFs (1 of 4)

ISO 32000 (PDF 1)

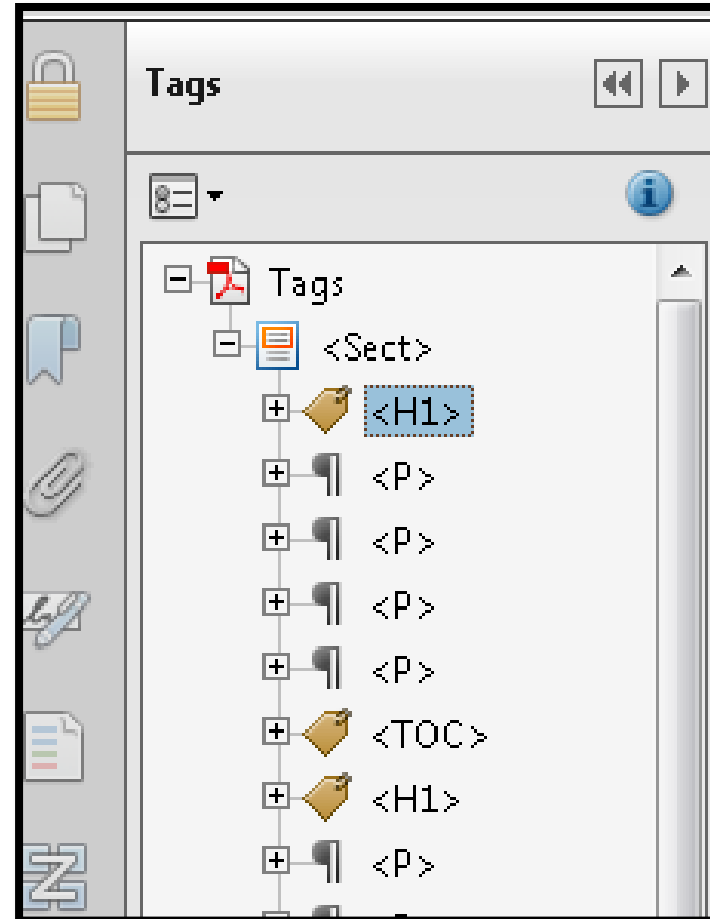
- The main standard for all types of PDFs: PDF/UA, PDF/Archive, PDF/Print, and several more.
- Chapter 14 identifies the tags to be used for accessibility.
- It is up to the developer how to implement the standard.



The Standards for PDFs (2 of 4)

ISO 14289 or PDF/UA

- Does not tell developers how to implement the standard.
- The result is that each developer determines what the standard means.
- It expands on chapter 14 of ISO 32000 by advising on how the tags should be created.



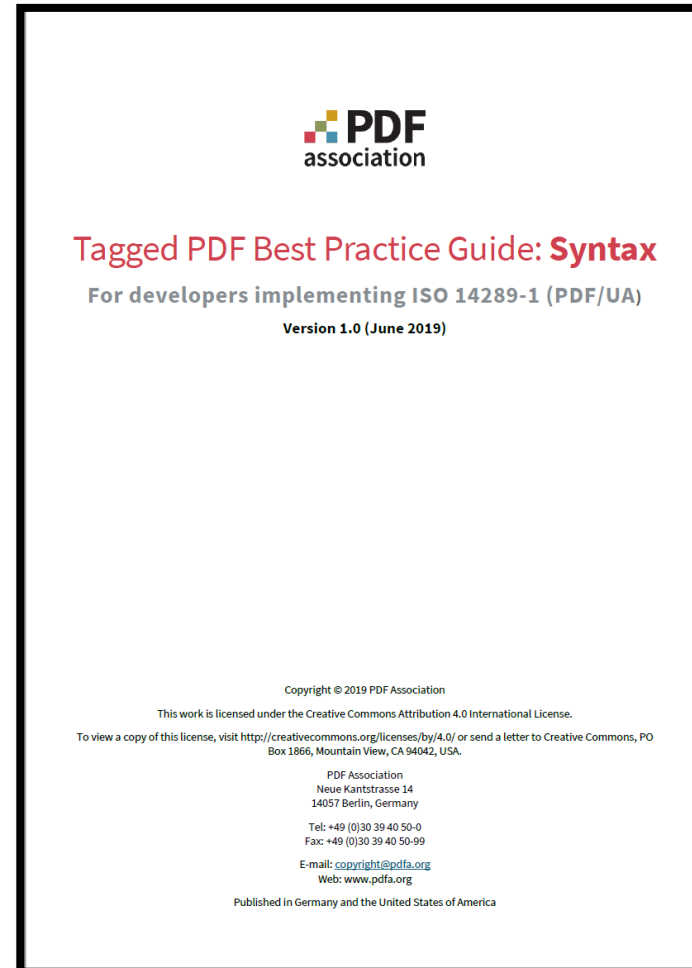
The Standards for PDFs (2 of 4)

ISO 14289 or PDF/UA

Reference:

- “Tagged PDF Best Practice Guide: Syntax” from the PDF Association

<https://pdfa.org/resource/tagged-pdf-best-practice-guide-syntax/>



The Standards for PDFs (3 of 4)

WCAG 2.x has PDF Techniques.

- This resource is outdated.
- Contains inaccurate information.
- Do not tag page header/footer information.
- Page numbers use Page Labels instead of tagging page numbers.

There are parts of a document that are not the same as a webpage:

- Cover.
- Index.
- Bibliography.
- A document can have multiple pages in a single file.
- Typically, there are more than one heading.
- There is no “ARIA=‘display’” attribute.
- Tables are tagged as tables.

Other “Standards” (4 of 4)

- **HHS:**

- Has its own standards based on its own needs.

- **Section 508:**

- Simply states to follow PDF/UA (ISO 14289).

- **Remediation Services:**

- Base their own PDF accessibility checkers on ISO 14289.
- Since the implementation is not clearly identified in the standard, each remediation service can interpret the standard in its own way.
- Results are differences in items identified.

Checking Accessibility



What's checked and how it affects accessibility.

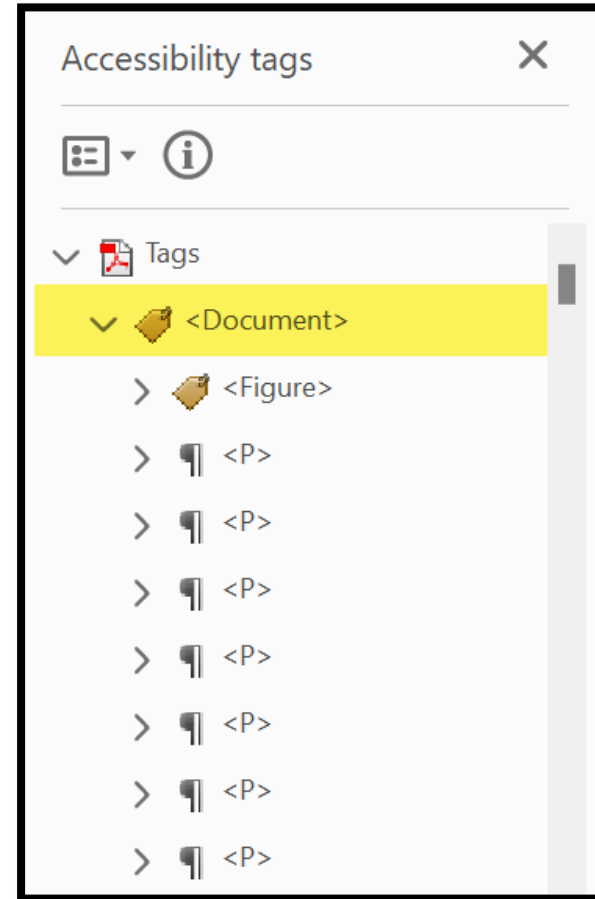
What is the Biggest Accessibility Checker Myth?

- That a clean accessibility report means a PDF is accessible.
- If a form was created in an XFA form authoring tool such as LiveCycle Designer/Form Designer, you can't use any of the other PDF accessibility checkers on it.
- Even if it was saved as a static PDF instead of a dynamic PDF.
- The automated accessibility checkers cannot determine if the tag is correct for the type of content.
- Cannot detect the logical reading order of the document.

<Document> Tag

The <Document> tag has been a part of ISO 32000 and ISO 14289 since 2012.

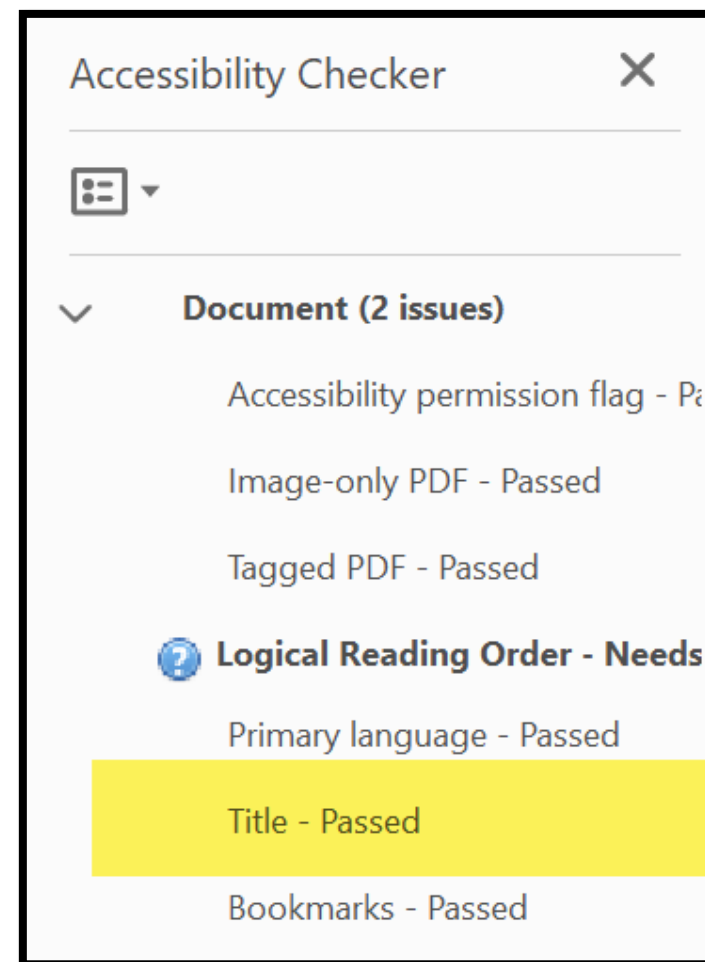
- Adobe Acrobat still does not add it when using the AutoTag feature.
- Adobe InDesign adds it.
- The PDF conversion tool in MS Office does.
- The Acrobat Accessibility Checker doesn't check for it.



Initial View Setting

Since 2012, ISO 14289 requires the initial view be set to “Document Title,” not Filename.

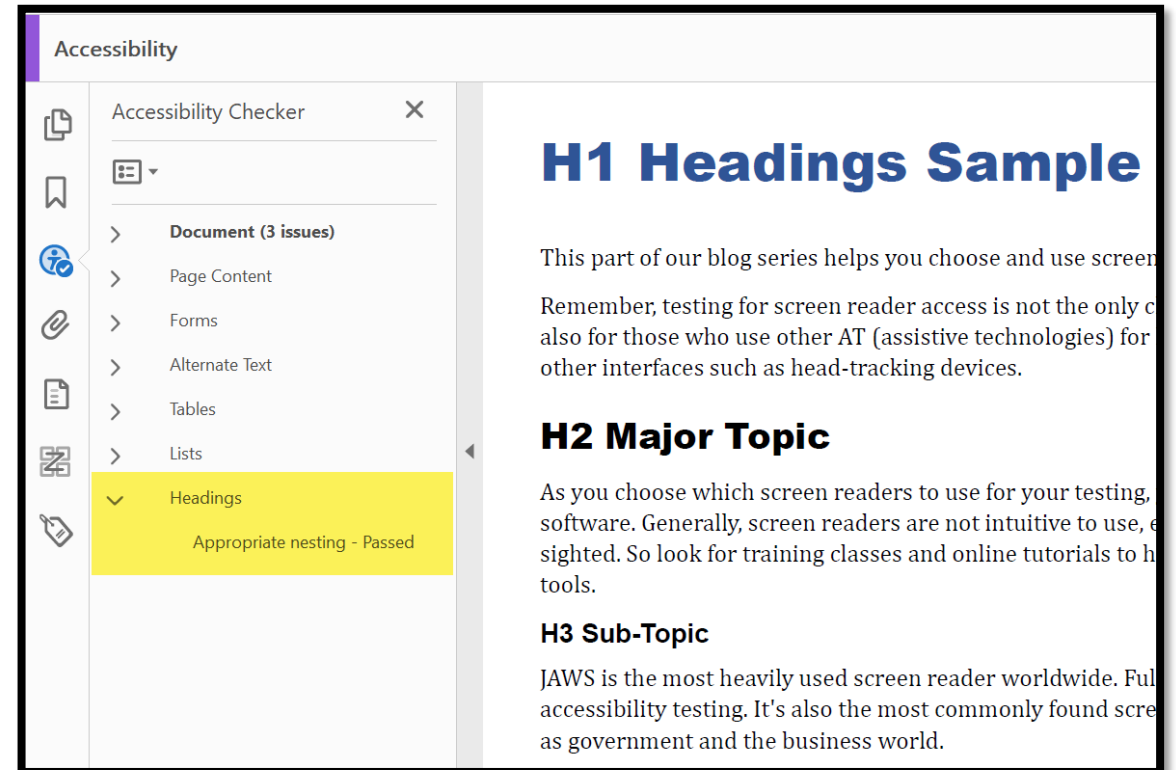
- The Acrobat Accessibility Checker checks for this.
- The Microsoft tagging tool does set the initial view to Document title.
- Adobe InDesign’s export utility can set this option.



Headings

Headings should be in a hierarchical sequence.

- The Acrobat Accessibility Checker does flag headings that are not in sequence.
- If direct (manual or local) formatting has been used in the source document, headings may not be identified in the resulting PDF.

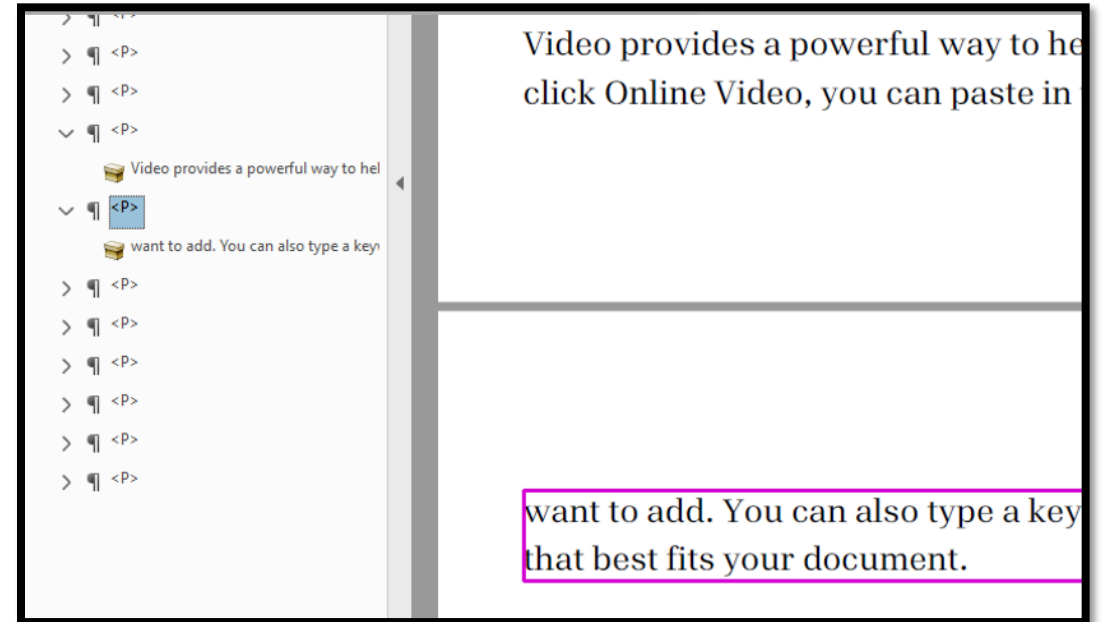


The screenshot shows the Acrobat Accessibility Checker interface. On the left, a sidebar lists various accessibility categories: Document (3 issues), Page Content, Forms, Alternate Text, Tables, Lists, and Headings. The 'Headings' category is expanded and highlighted in yellow, showing a sub-item 'Appropriate nesting - Passed'. The main content area on the right displays a sample document with three heading levels: **H1 Headings Sample**, **H2 Major Topic**, and **H3 Sub-Topic**. Below each heading is a paragraph of text. The H1 heading is the largest, H2 is medium, and H3 is the smallest, demonstrating a hierarchical sequence.

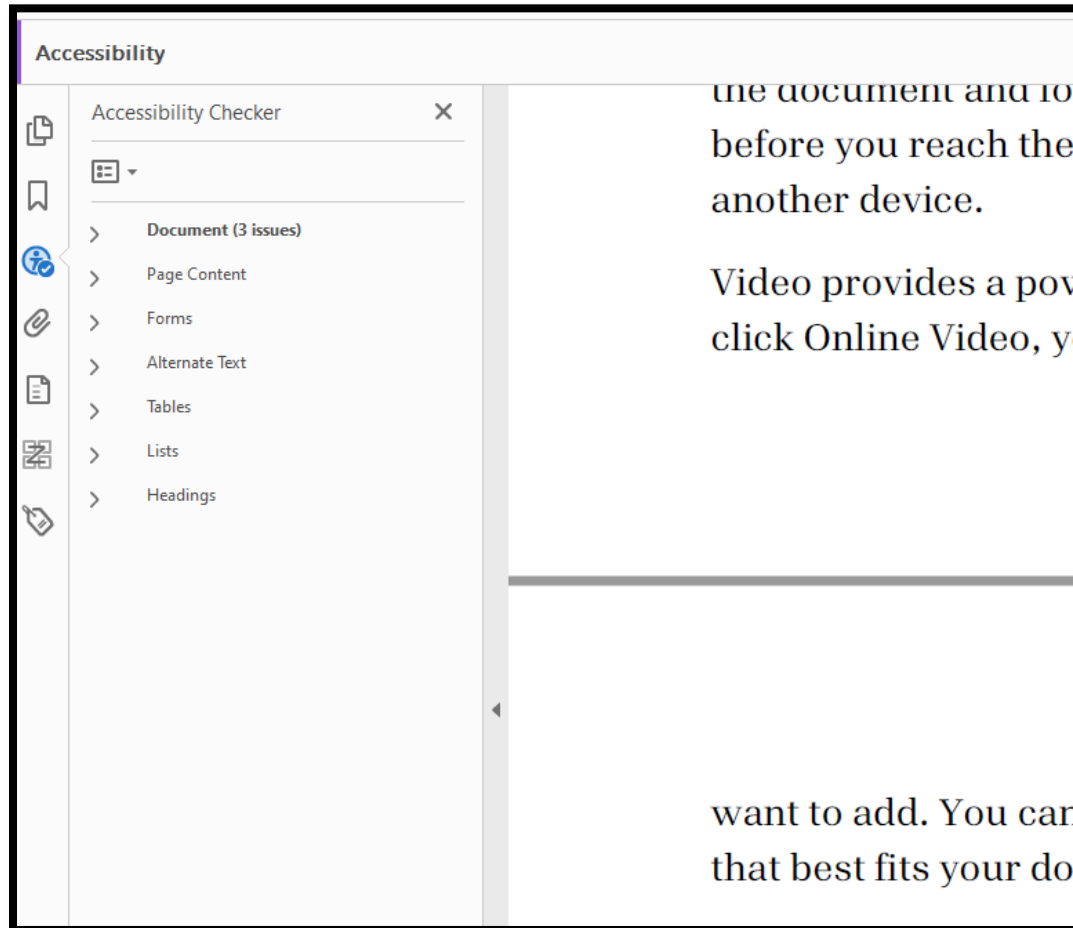
Paragraphs

Per PDF/UA, an element that spans more than one page or column must be in one <Tag>.

- Acrobat's checker doesn't identify when a paragraph, list, table or other element breaks across pages or columns in fragmented tags.
- This affects readability and usability/accessibility because adaptive technology treats each fragment as a separate element.



Accessibility Checker: Split Paragraph

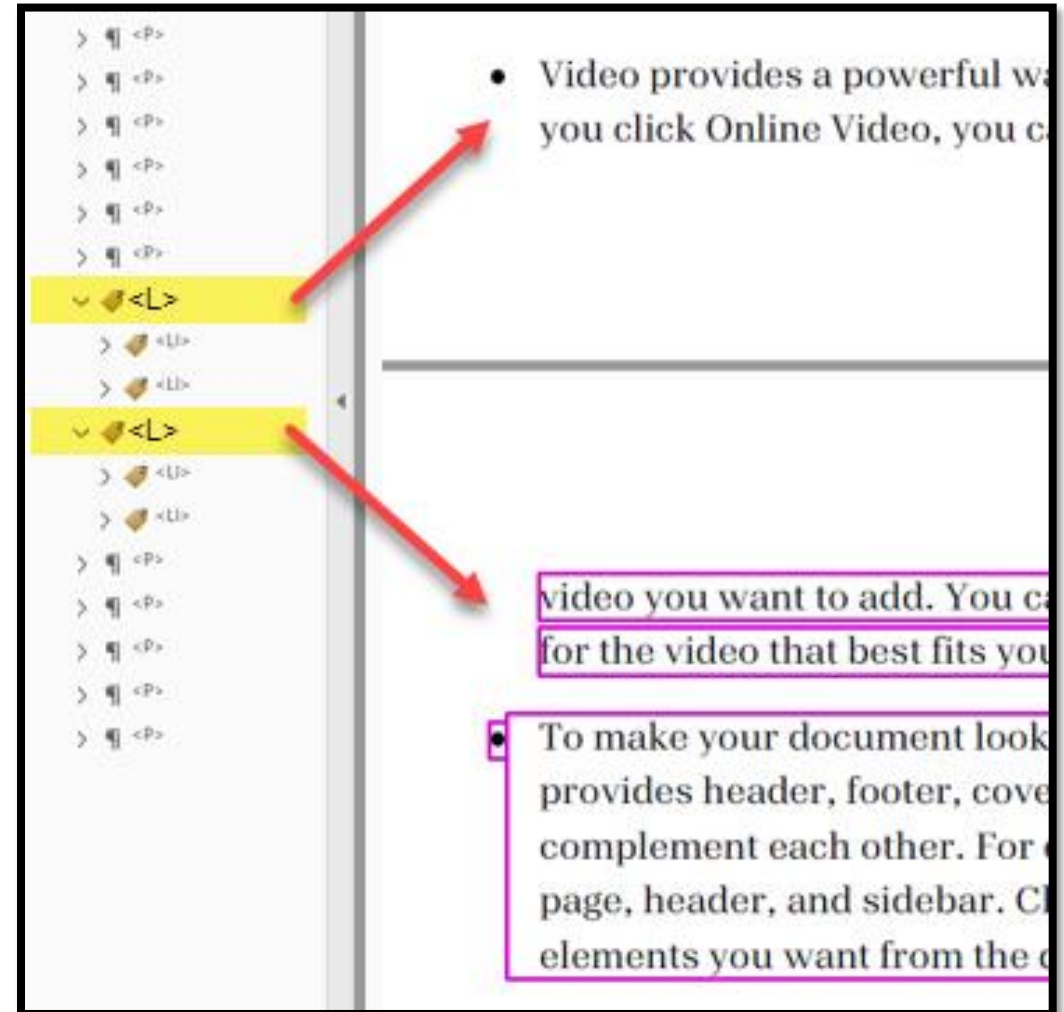


Acrobat's checker doesn't flag the split paragraph.

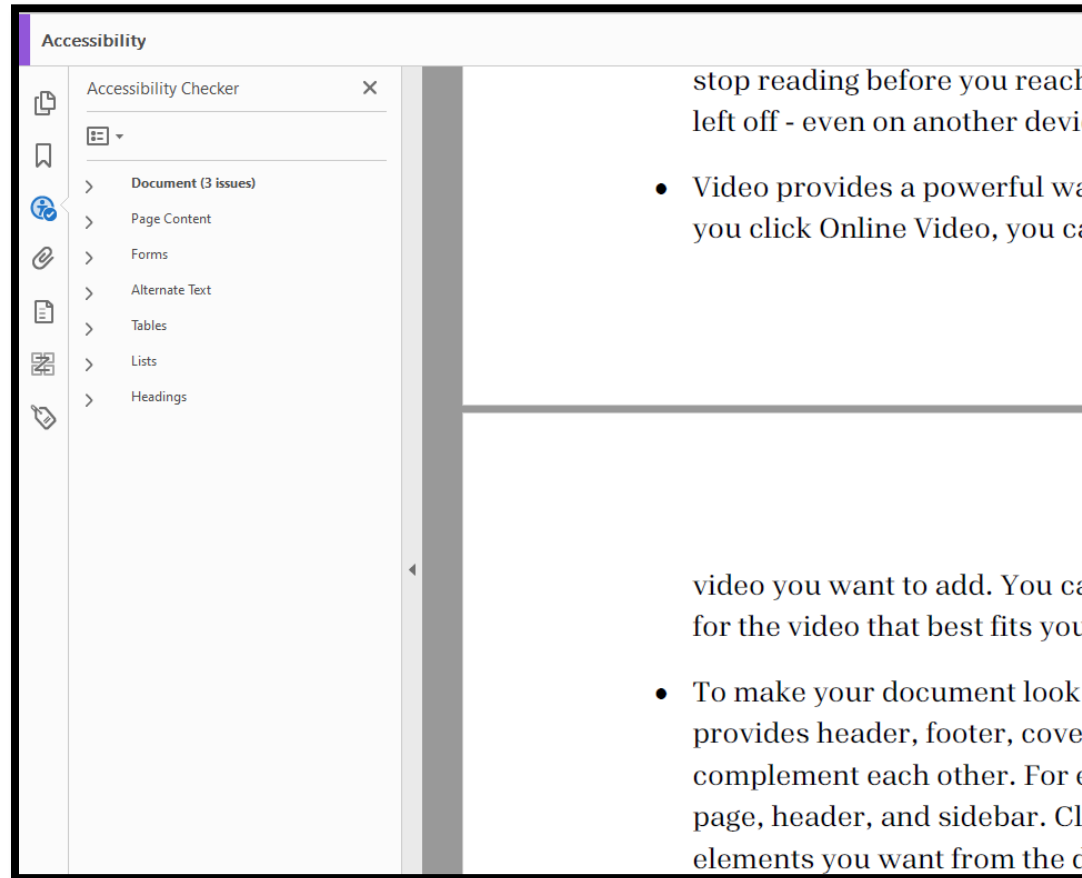
Lists

Error: When a list spans more than one page, it is tagged as two separate lists.

- This affects readability because the relationship between the individual list items is lost. The person reading the PDF is told they have two different lists.



Accessibility Checker: Split Lists



Acrobat's checker doesn't flag the split list.

Tables

Error: When a table spans more than one page, it is tagged as separate tables.

- This loses the relationship between the data in the single table.
- A person using adaptive technology hears that there are 2 different tables.

Salesperson	First Half of 2020	
	First Quarter	Second Quarter
Barnaby	1500	2500
Olivia	1525	2650
Zoie	1750	2750
Fred	1250	2875

Salesperson	First Half of 2020	
	First Quarter	Second Quarter
Oscar	7650	2450
Cloe	1850	2585
Aimee	1675	2570
Edmund	1355	2650

Accessibility Checker: Split Tables

and styles also help keep you

Salesperson	First Quarter
Barnaby	1500
Olivia	1525
Zoie	1750
Fred	1250

Salesperson	First Quarter
Oscar	7650

Acrobat's checker doesn't flag the split table.

Automated Checker “Failures” — 1

Examination of whether paragraphs, lists and tables have been split has to be done manually.

- Even AI cannot determine if an element has been separated by a page break or the element is, in fact, two separate elements.
- Only human review can determine if the elements have been split.

“Actual Text” Myth

Myth: If you add actual text to a scanned page, it is “accessible”

- Actual text cannot include structure and semantics, such as headings, lists, etc.
- It does not allow adaptive technology to highlight text.
 - This tool is available in screen readers and Text-to-Speech tools.
- Too much actual text crashes the PDF viewer or adaptive technology.

The document requires OCR!

Optical Character Recognition.

- The Scan and OCR tool in Acrobat isn't functional.
 - Often won't allow corrections.
- For OCR, use programs like ABBYY FineReader or OmniPage Pro.
 - Both allow you to tag the PDF once it has been through OCR.

“Alt Text” Myth – 1

Myth: All hyperlinks need Alt Text.

- You don’t need Alt Text on footnotes, endnotes, bibliography or TOCI hyperlinks.
- Adding Alt Text to TOCI links breaks the TOCI.
 - Alt Text prevents the reading of the heading, dot leaders and page numbers. Unless you add the page numbers to the <Link> tag along with the heading.
 - For example, “Topic, page X”
- The cost of doing this for a TOC that is even 1 page long is cost-prohibitive...**and breaks the accessibility of the TOC.**

“Alt Text “ Myth – 2

- **Links in a Table of Figures or Table of Tables does not need Alt Text!**
 - When the Table of Contents, Table of Figures or Table of Tables is created correctly in Word, it IS accessible.
 - Again, why would we break the existing accessibility?
 - TOC = References Ribbon, Table of Contents, Create/Custom Table of Contents.
 - Tables of Figures or Tables = References Ribbon, Table of Figures.
 - Change the type to Table of Tables in the dialog.

Automated Checker “Failures” — 2

- **A trained accessibility expert must determine when Actual Text is appropriate.**
- **A trained accessibility expert must determine which hyperlinks should have Alt Text. Not all hyperlinks require it!**
- **And only human review can determine if the Alt Text on graphics is adequate and appropriate.**
 - Automated checkers can only determine IF the graphic has Alt Text, but not if it's correct.

Logical Reading Order



Page versus Document

Multilingual Document

The right side is one language, and the left side/column is another.

- Typical in some countries that are bilingual.
- Remediation is to group all content of one language together under a grouping tag (such as <Art> and apply the language to that grouping tag.
- This is a manual check and remediation and is not flagged by accessibility checkers.

Multilingual Document Sample
What is the logical reading order?

English Text
Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document. To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar.

Click Insert and then choose the elements you want from the different galleries. Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme. Save time in Word with new buttons that show up where you need them.

To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign. Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers

Français Texte
La vidéo fournit un moyen puissant pour vous aider à prouver votre point. Lorsque vous cliquez sur vidéo en ligne, vous pouvez coller dans le code embed pour la vidéo que vous souhaitez ajouter. Vous pouvez également taper un mot-clé pour rechercher en ligne la vidéo qui correspond le mieux à votre document. Pour rendre votre document look professionnellement produit, Word fournit en-tête, pied de page, couverture, et des conceptions de zone de texte qui se complètent les uns les autres. Par exemple, vous pouvez ajouter une page de couverture, un en-tête et une barre latérale correspondantes.

Cliquez sur insérer, puis choisissez les éléments souhaités dans les différentes galeries. Les thèmes et les styles aident également à maintenir votre document coordonné. Lorsque vous cliquez sur concevoir et choisissez un nouveau thème, les images, les graphiques et les graphiques SmartArt changent pour correspondre à votre nouveau thème. Lorsque vous appliquez des styles, vos entêtes changent pour correspondre au nouveau thème. Gagnez du temps dans Word avec de nouveaux boutons qui apparaissent là où vous en avez besoin.

Pour modifier la façon dont une image s'insère dans votre document, cliquez dessus et un bouton pour les options de

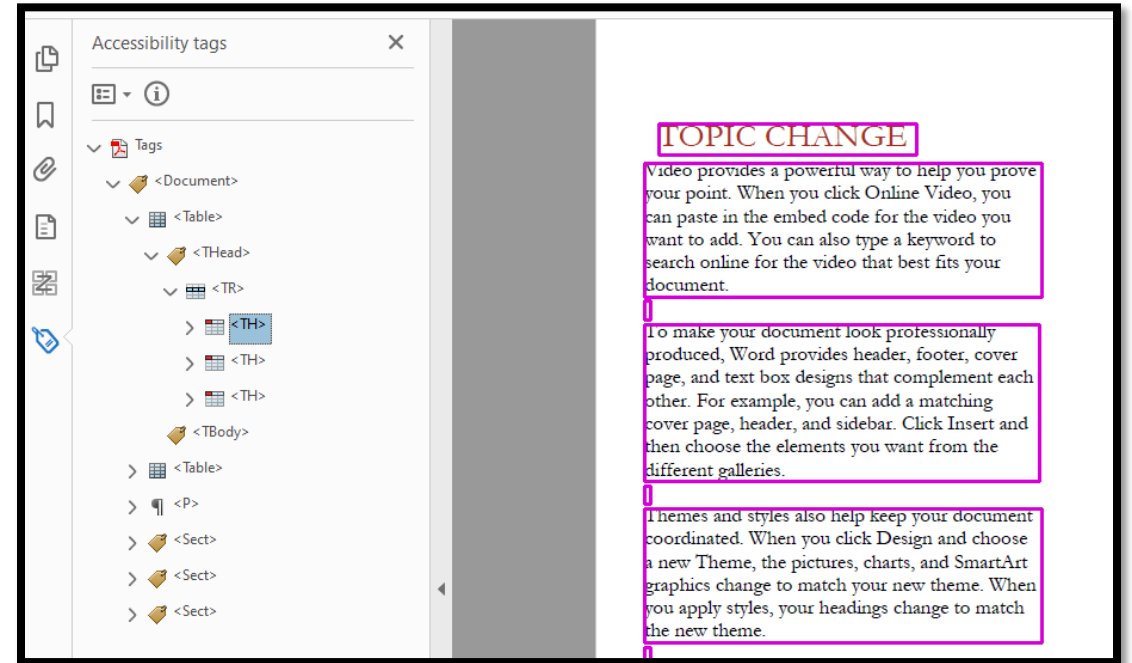
Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.

disposition s'amène à côté de celui-ci. Lorsque vous travaillez sur une table, cliquez sur l'emplacement où vous souhaitez ajouter une ligne ou une colonne, puis cliquez sur le signe plus. La lecture est plus facile, aussi, dans la

Tri-Fold Brochure – 1

Error: Designed as one “page.”

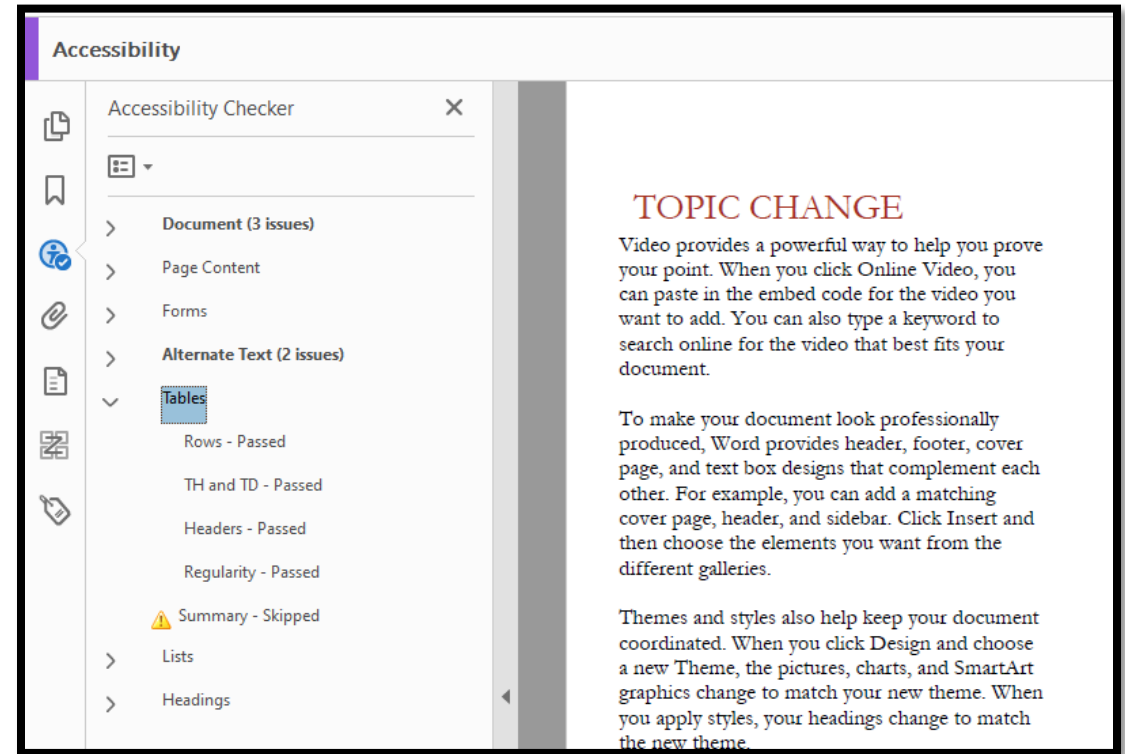
- Often tagged as 8.5 by 11-inch landscape page, not by the panel.
- The end-user starts reading on the back panel, then onto other panels in a confusing sequence.
- User can't verify the title of the brochure.
- This is not flagged by the accessibility checker.



Tri-Fold brochure – 2

Error: Designed with a layout table.

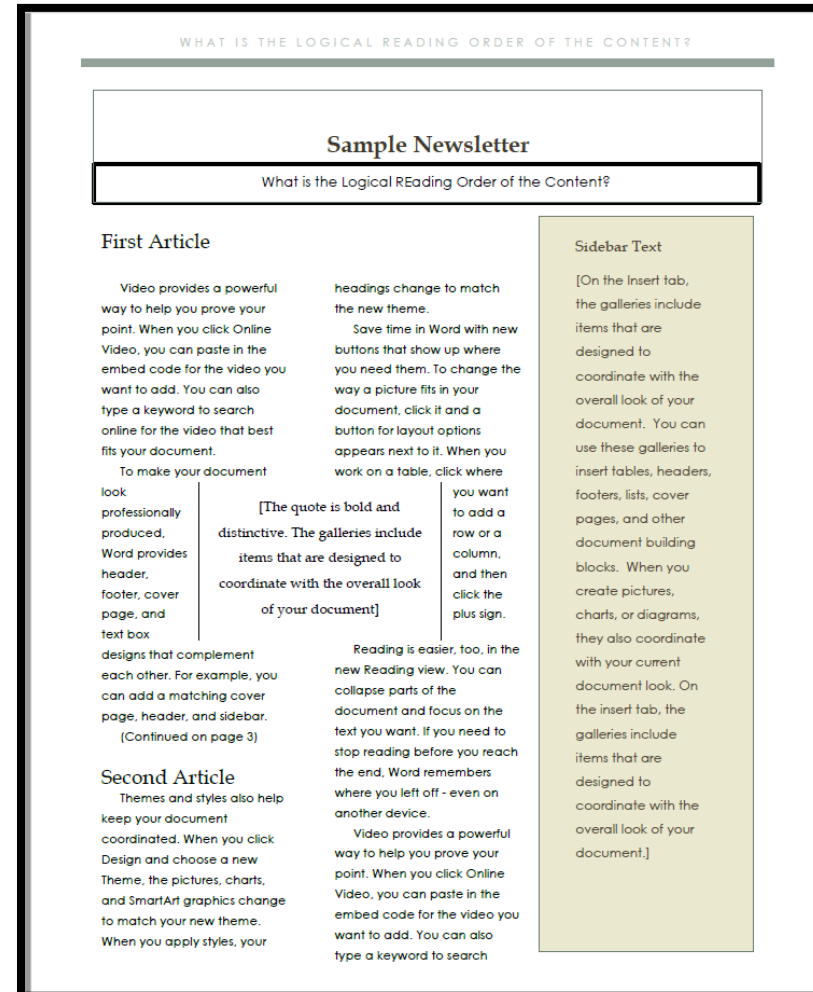
- First, there are different navigating and reading commands for tables that differ from those to read the text's main body.
- Second, don't use tables for design layout!
- This is not flagged by the accessibility checker.



Newsletters

An article starts on page 1 and continues on another page.

- If an article is “jumped” to another page, an accessibility checker cannot join the separated parts together so that the person using adaptive technology can read the article seamlessly.
- Use a grouping tag, such as <Art>, to combine each story into one article.
- This is not flagged by the accessibility checker.



Access versus Accessibility



The accessibility checkers are only checking to ensure that the tags and properties are there and present, not how they have been implemented in the PDF.

Is Being Able to Open a PDF Enough?

If we compare digital access versus an accessible built environment (buildings) ...

Is it enough to have a ramp to the front door?

Or do we expect that there are automated doors, accessible washrooms ... that the inside of the building is accessible, too?

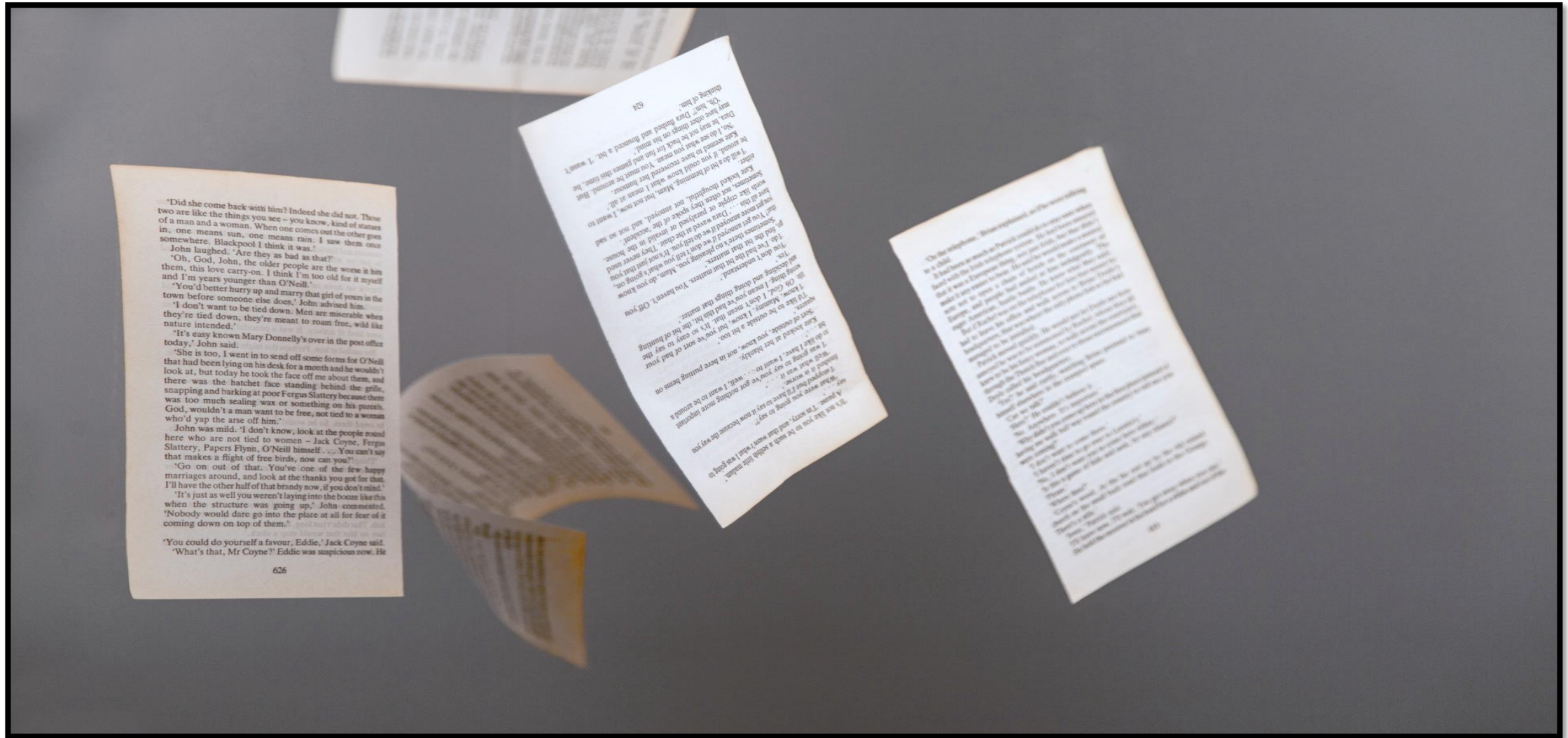
This is the difference between “access” and “accessibility.”

Is Accessibility “Perfection”?

For the past few years, those of us who depend on adaptive technology to access PDFs have been told that we expect too much...that we want and expect perfection.

- Is accessibility of any digital content “perfection”?
- Should we be “satisfied with just having PDFs tagged?”
- Would anyone not using adaptive technology accept receiving book covers with all the pages in random order, some upside down and some missing when they open a PDF or other digital content?
- **Why should we?**

Access to Digital Content!



Contact Us!



Karen McCall, M.Ed.

Karlen Communications.

- Info@karlencommunications.com.
- [Karlen Communications Home Page](#)
 - <https://www.karlencommunications.com/>
- [Karen McCall \(teachable.com\)](#)
 - <https://karen-mccall.teachable.com/>

Digital Accessibility Consultant and Educator

Member of:

- [Accessibility Consulting.ca - Accessibility Consulting](#)
 - <https://accessibilityconsulting.ca/>

Committees (Karen)

- **Iso 32000 or PDF.**
- **ISO 14289 or PDF/UA.**
- **Accessible Canada Act:**
 - Technical standard for plain language.
 - Technical Standard for Accessible ICT.
- **Microsoft MVP for Office Apps and Services (since 2009).**
- **Microsoft Accessibility MVP (since the category was created in 2014).**

Bevi Chagnon, MBA, ADS, AIGA

PubCom.com — Technologists for Accessible Design & Publishing

Chagnon@PubCom.com — www.PubCom.com 

Accessibility Blog: www.PubCom.com/blog

Accessibility Bookstore: www.PubCom.com/books

Accessibility Designer, Consultant, and Educator — [Resume](#)

Member of:

- ISO Committee for PDF and PDF/UA
- Adobe Community Expert at Adobe's [Forums](#)

