

Using the WCAG 2.x Standards for PDF Content



**Karen McCall, M.Ed.
Copyright 2024**

Table of Contents

Publication Information	13
Additional Learning Opportunities	14
Fee-based Learning.....	14
Free Tutorials and Resources.....	15
Contact Information	15
White Space in this Tutorial	15
Starting Point for this Tutorial.....	16
Success Criteria and Advisories	18
Legislation and Standards	18
The Basics	21
Tagging PDFs	21
Note for Adaptive Technology Users.....	22
Microsoft 365 Save As PDF Options in Word.....	23
Microsoft 365 Save As PDF Options in PowerPoint	26
Adobe Acrobat Ribbon in Microsoft 365.....	28
Save As Adobe PDF	29
Save as PDF using the Foxit Ribbon in Microsoft 365	31
The PDF Techniques for WCAG 2.0, 2.1 and 2.2	32
Keyboard Support in Adobe Acrobat Pro DC and Foxit PDF Editor	32
PDF 1: Applying Text Alternatives (Alt Text) to Images with the Alt Entry in PDF Documents	33
WCAG Success Criteria for PDF 1	33
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	33
Additional Resources	33
Graphics and PDFs 101	34
Punctuation in Alt Text	34
Text with no Punctuation	34

Mathematical and Scientific Notation	35
Research into the Effectiveness of Alt Text.....	36
Using the Artifact, Alt Text and Actual Text Attributes and the <Caption> Tag.....	36
Artifacts.....	37
Alt Text (Attribute)	38
Actual Text (Attribute).....	39
<Caption> Tag.....	41
Adobe Acrobat Pro DC.....	42
Set Alternative Text Dialog.....	42
Adding Alt Text in the Object Properties Dialog for a Tag.....	43
Foxit PDF Editor	45
Set Alternative Text Dialog.....	45
Adding Alt Text in the Object Properties Dialog for a Tag.....	47
Word (Microsoft 365 Desktop).....	48
Adding Alt Text to Graphics	48
Adding Alt Text using the Picture Format Ribbon	51
Adding Alt Text using the Accessibility Assistant.....	52
Adding a Caption to a Graphic.....	54
PowerPoint (Microsoft 365 Desktop).....	56
Adding Alt Text to Graphics	56
Using the Picture Format Ribbon	58
Add Alt Text to Graphics Using the Accessibility Checker	59
PDF 2: Creating Bookmarks in PDF Documents	61
WCAG Success Criteria.....	61
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	61
Why Bookmarks are Important Navigational Features.....	61
Adobe Acrobat Pro DC.....	62
Adding Bookmarks using the Bookmarks Panel.....	62
Adding Bookmarks using the Keyboard.....	63
Using the Context Menu.....	64
Using the Preferences Dialog	64

Bookmark Settings in Adobe Acrobat Pro DC for Microsoft Word	66
Using the “New Bookmarks from Structure” Option	68
Foxit PDF Editor	69
Adding Bookmarks using the Bookmarks Panel.....	69
Adding Bookmarks using the Keyboard.....	71
Using the Preferences Dialog in Microsoft Word 365.....	71
Using the “Bookmarks from Structure Option	73
Word (Microsoft 365 Desktop)	74
Save As PDF Options.....	74
PowerPoint (Microsoft 365 Desktop).....	75
Save As PDF.....	75
PDF 3: Ensuring Correct Tab and Reading Order in PDF Documents	76
WCAG Success Criteria.....	76
ISO 32000 – 1:2008 and ISO – 1:2014	76
Confusion about Tab Order and Logical Reading Order	77
Reading Order.....	77
Adobe Acrobat Pro DC.....	78
Setting the Tab Order (Adobe Acrobat Pro DC)	78
Order Panel (Reading Order)	79
Tags Panel (Reading Order).....	82
Foxit PDF Editor	83
Setting the Tab Order (Foxit PDF Editor).....	84
Reading Order Panel (Foxit PDF Editor).....	84
Tags Panel (Foxit PDF Editor	87
PDF 4: Hiding Decorative Images with the Artifact Tag in PDF Documents	90
WCAG Success Criteria.....	90
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	90
Decorative Graphics or Artifacts	90
Adobe Acrobat Pro DC.....	91
Using the Order Panel to Create Artifacts.....	91

Using the Reading Order Panel to Create Artifacts	92
Using the Content Panel to Create Artifacts.....	92
Foxit PDF Editor	93
Using the Order Panel to Create Artifacts.....	93
Using the Touch-up Reading Order Panel to Create Artifacts	94
Using the Content Panel to Create Artifacts.....	95
Microsoft 365 (Desktop)	96
Mark Graphics as Decorative in Word.....	97
Modify a Style to add Space Above or Below Text.....	99
PDF 5: Indicating Required Form Controls in PDF Forms.....	102
WCAG Success Criteria.....	102
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	102
The Importance of Identifying Required Form Controls	103
Adobe Acrobat Pro DC.....	104
Set Required Form Control	104
Foxit PDF Editor	105
Set Required Form Control	105
PDF 6: Using Table Elements for Table Markup in PDF Documents	107
WCAG Success Criteria.....	107
ISO 3200 – 1:2008 and ISO 14289 – 1:2014	107
Table Structure Basics	107
Adobe Acrobat Pro DC.....	111
Tagging a Table in the Order Panel.....	111
Tagging a Table using the Reading Order Panel	113
Foxit PDF Editor	114
Tagging a Table in the Order Panel.....	114
Tagging a Table using the Reading Order Panel	116
PDF 7: Performing OCR on a Scanned PDF Document to Provide “Actual” Content	118
WCAG Success Criteria.....	118

ISO 14289 – 1: 2008 and ISO 14289 – 1:2014	118
How Actual Text becomes an Accessibility Barrier	119
Using the Artifact, Alt Text, and Actual Text Attributes and the <Caption> Tag.....	119
Artifacts.....	119
Alt Text (Attribute)	120
Actual Text (Attribute).....	121
Using the <Caption> Tag	122
Tagging Scanned Documents (Accessibility)	123
Adobe Acrobat Pro DC.....	124
Create From Scanner Tools.....	124
Scan and OCR Tools	125
Foxit PDF Editor	128
Convert Ribbon (Scan Tool)	128
Recognize Text Tool.....	129
Stand-alone OCR Tools	133
Open a Scanned PDF in ABBYY FineReader	134
OCR Editor	135
OCR Project.....	136
Saving the PDF in ABBYY FineReader.....	138
PDF 8: Providing Definitions for Abbreviations via an “E” Entry for a Structure Element	139
WCAG Success Criteria.....	139
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	139
The use of Acronyms and Abbreviations.....	139
Adobe Acrobat Pro DC.....	140
Add Expansion Text for Acronyms and Abbreviations	140
Foxit PDF Editor	141
Adding Expansion Text for Abbreviations and Acronyms	141
PDF 9: Providing Headings by Marking Content with Heading Tags in PDF Documents	143
WCAG Success Criteria.....	143

ISO 32000 – 1:2008 and ISO 14289 – 1:2014	144
Why Sequential Headings Are Essential	144
Heading Levels in PDFs	146
Adobe Acrobat Pro DC.....	146
Editing a Tag	146
Using the Order Panel to Remediate a Tag.....	146
Using the Reading Order Tool to Remediate a Tag	147
Foxit PDF Editor	148
Editing a Tag	148
Using the Order Panel to Remediate a Tag.....	149
Using the Reading Order Panel to Remediate a Tag	150
Microsoft Word 365.....	151
The Quick Styles Gallery	152
Applying Heading Styles using the Keyboard.....	152
The Styles Pane	152
The Apply Styles Pane.....	153
Modifying the Heading Style.....	154
Creating a New Heading Style	156
Microsoft PowerPoint 365	157
Title Slides, Slide Titles, and Section Header Slides	157
Remediating Slide Title Placeholders in PowerPoint	160
PDF 10: Providing Labels for Interactive Form Controls in PDF Documents	161
WCAG Success Criteria.....	161
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	162
Ensuring Form Controls are Accessible	162
Microsoft Word 365 Forms	163
Accessible Form Templates in Word	166
Start with a Tagged PDF Form	166
Adobe Acrobat Pro DC.....	167
Adding ToolTips to Form Controls.....	169
Adding the Form Controls to the Tags Tree.....	171

Foxit PDF Editor	173
Adding ToolTips to Form Controls.....	173
Adding the Form Controls to the Tags Tree.....	175
PDF 11: Providing links and link text using the Link annotation and the /Link structure element in PDF documents	179
WCAG Success Criteria.....	179
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	180
Accessible Links	180
Using the Edit PDF Tools	181
Alt Text on Links	182
Adobe Acrobat Pro DC.....	182
Add a Link.....	182
Remediate a Broken Link	186
Foxit PDF Editor	190
Add a Link.....	190
Remediate a Broken Link	194
PDF 12: Providing name, role, and value information for form fields in PDF documents	199
WCAG Success Criteria.....	199
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	199
Accessible Form Controls	199
Adobe Acrobat Pro DC.....	200
Adding a ToolTip.....	200
Adding the Form Controls to the Tags Tree.....	202
Determining a Value for Form Controls	204
Foxit PDF Editor	213
Adding a ToolTip.....	213
Adding the Form Controls to the Tags Tree.....	214
Determining a Value for Form Controls	217
PDF 13: Providing replacement text using the /Alt entry for links in PDF documents	227

WCAG Success Criteria.....	227
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	227
Accessible Links in PDFs (and Other Digital Content Types)	228
Adobe Acrobat Pro DC.....	228
Add Alt Text to a <Link> Tag.....	228
Foxit PDF Editor	229
Add Alt Text to a <Link> Tag.....	229
Word (Microsoft 365).....	230
Add Alt Text to Links	230
PowerPoint (Microsoft 365)	231
Add Alt Text to Links	231
PDF 14: Providing running headers and footers in PDF documents	233
WCAG Success Criteria.....	233
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	233
In PDFs, Page Headers, Page Footers, and Page Numbers are Artifacts	233
Why not Tag Page Numbers in PDFs?	234
Adobe Acrobat Pro DC.....	235
Implementing Page Labels	235
Foxit PDF Editor	242
“Format Page Numbers”	242
PDF 15: Providing submit buttons with the submit-form action in PDF forms ...	248
WCAG Success Criteria.....	248
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	248
All PDF Form Buttons Must be Accessible.....	248
Adobe Acrobat Pro DC.....	249
Add a Submit Button to a PDF Form	249
Foxit PDF Editor	254
Add a Submit Button to a PDF Form	254
PDF 16: Setting the default language using the /Lang entry in the document catalog of a PDF document	260

WCAG Success Criteria.....	260
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	260
Core Language Identification is Essential in PDFs.....	261
Adobe Acrobat Pro DC.....	261
Set the Core Language of a PDF.....	261
Foxit PDF Editor	262
Set the Core Language of a PDF.....	262
PDF 17: Specifying consistent page numbering for PDF documents	264
WCAG Success Criteria.....	264
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	264
Page Labels Identify Page Numbers in PDFs	264
Adobe Acrobat Pro DC.....	266
Implementing Page Labels	266
Foxit PDF Editor	273
“Format Page Numbers”	273
PDF 18: Specifying the document title using the Title entry in the document information dictionary of a PDF document	278
WCAG Success Criteria.....	278
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	278
The Document Title Combined with the Initial View Setting.....	278
Adobe Acrobat Pro DC.....	279
Add the Document Title in Document Properties.....	279
Set the Initial View to Show the Document Title	279
Foxit PDF Editor	280
Add the Document Title in Document Properties.....	280
Set the Initial View to Show the Document Title	280
Microsoft Word 365.....	281
Add the Document Title to the Document Properties.....	281
Microsoft PowerPoint 365	282
Add the Document Title to the Document Properties.....	282

PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents.....	284
WCAG Success Criteria.....	284
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	284
Language Changes for Parts and Phrases in PDFs	284
Adobe Acrobat Pro DC	285
Changing the Language on a Grouping Tag.....	285
Use the Tag to Change the Language of Phrase	287
Foxit PDF Editor	289
Changing the Language on a Grouping Tag.....	290
Use the Tag to Change the Language of Phrase	291
PDF 20: Using Adobe Acrobat Pro's Table Editor to repair mistagged tables	294
WCAG Success Criteria.....	294
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	294
ColSpan and RowSpan in PDF Tables.....	294
Personalizing the Table Editor.....	295
Adobe Acrobat Pro DC.....	296
Using the Table Editor for ColSpan and RowSpan Assignments	296
Foxit PDF Editor	299
Using the Table Editor for ColSpan and RowSpan Assignments	299
PDF 21: Using List Tags for lists in PDF documents.....	303
WCAG Success Criteria.....	303
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	303
Correct List Structure (Tags)	303
PDF 22: Indicating when the user input falls outside the required format or values in PDF forms.....	307
WCAG Success Criteria.....	307
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	307
Error Messages in PDF Forms.....	307
Adobe Acrobat Pro DC.....	308

Identifying the Format for Dates.....	308
Foxit PDF Editor	309
Identifying the Format for Dates.....	309
PDF 23: Providing interactive form controls in PDF documents	311
WCAG Success Criteria.....	311
ISO 32000 – 1:2008 and ISO 14289 – 1:2014	311
PDF and XFA (Extensible Markup Architecture) Forms	311
Summary	313
Table of Figures	314

Publication Information

Published in Canada March 2024.

ISBN: 978-1-988936-10-9.

Published by Karen McCall.

No part of this publication may be reproduced or transmitted in any form or any means electronic or mechanical, for any purpose, without the express written permission of Karen McCall.

Additional Learning Opportunities

Resources are available to learn more about accessible tagged PDFs, PDF forms, and accessible Word and PowerPoint content.

Fee-based Learning

[Styles in Word: A Primer for Accessible Document Design \(self-paced online course includes eBook\)](#)¹.

[Styles in Word: A Primer for Accessible Document Design \(eBook only\)](#)².

[Accessible PowerPoint: A Primer \(self-paced online course includes eBook\)](#)³.

[A Primer for Accessible PowerPoint \(eBook only\)](#)⁴.

[Tagged PDF Document \(The Basics\) \(self-paced online course includes eBook\)](#)⁵.

[Accessible Fillable PDF forms \(self-paced online course includes eBook\)](#)⁶.

[Accessible Fillable PDF Forms \(eBook only\)](#)⁷.

[Accessible and Usable PDF Documents: Techniques for Document Authors \(eBook only\)](#)⁸. This download includes a copy of Accessible Fillable PDF Forms (eBook only).

¹ Styles in Word: A Primer for Accessible Document Design (self-paced online course includes eBook), Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/styles-in-word-a-primer-for-accessible-document-design>

² Styles in Word: A Primer for Accessible Document Design (eBook only), Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/styles-in-word-a-primer-for-accessible-document-design-book-only>

³ Accessible PowerPoint: A Primer, Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/accessible-powerpoint-a-primer>

⁴ A Primer for Accessible PowerPoint (eBook only), Karen McCall on Teachable: <https://karen-mccall.teachable.com/p/my-downloadable-537069>

⁵ Accessible PDF Documents (the Basics, Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/accessible-PDF-documents>)

⁶ Accessible Fillable PDF Forms (self-paced online course includes book), Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/accessible-fillable-PDF-forms>

⁷ Accessible Fillable PDF Forms (eBook only), Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/accessible-fillable-PDF-forms-book>

⁸ Accessible and Usable PDF Documents: Techniques for Document Authors, Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/accessible-and-usable-PDF-documents>

Free Tutorials and Resources

For older versions of tutorials, resources, and conference presentations, visit the [Karlen Communications](#)⁹ website.

Current tutorial versions are available on the [Karen McCall Teachable site](#)¹⁰.

Contact Information

Contact Karen McCall: info@karlencommunications.com.

White Space in this Tutorial

I've intentionally left white space at the bottom of pages for users to add notes within the PDF or by printing the book and adding notes.

I realize, as someone who uses screen magnification for some tasks or who has learning, cognitive or print disabilities, might find this counter intuitive. However, I've turned on comments in the PDF because I got requests to be able to annotate information and write notes.

Along the way I discovered a technique where I can use Text Wrapping and create both an accessible Word document and an accessible PDF from the Word document. Of course, I'll write that tutorial once this book is published. <smile>

⁹ Karlen Communications website: <https://www.karlencommunications.com/handouts.html>

¹⁰ Karen McCall Teachable site: <https://karen-mccall.teachable.com/p/microsoft-office-tutorials-and-resource-documents>

Starting Point for this Tutorial

The ISO standards for PDFs are “technical specifications” and are created for developers of the PDF Editors/Writers and PDF Readers. They are not created for PDF remediators. For years, we’ve misunderstood the intent of the standards.

The standards were created for the machines, not for the end-user. Any improvement to the accessibility of PDFs by those of us with disabilities is somewhat incidental.

Those of us remediating PDFs often come across error messages when using automated “accessibility checkers” that we can’t fix. For example, a space between a bullet or number and the associated text in a list item. We come across “character encoding” errors with no ability to fix them even though we’ve used Unicode fonts in the source document. We’ve done everything we can in the source document to ensure that the resulting PDFs are accessible and still get errors that the “machines” should have dealt with during the conversion process.

To add to our frustration, the latest ISO 32000 – 2:2020 eliminates Tags from ISO 32000 – 1:2008...while insisting that the Tags haven’t been eliminated.

While the recently published ISO 32005 errata/amendment to ISO 32000 – 2:2020 attempts to “clarify” that the ISO PDF 32000 – 1:2008 Tags have not been eliminated, there is one critical clause in the amended ISO 32005 standards: “any Tags in a document that are common to both PDF -1:2008 or PDF 1.7 and ISO 32000 – 2: 2020 automatically make the PDF a PDF – 2:2020 document”.

A further attempt to “clarify” the elimination of the ISO 32000 – 1:2008 Tags is the addition of an ISO 32000 – 1:2008 and ISO 14289 – 1:2014 “namespace”. The namespace theoretically provides an identification in the metadata of the PDF (underlying properties) to conform to the first iteration of the ISO PDF and PDF/UA standards.

BUT...

ISO 30005, the further attempt to “clarify” that Tags are not eliminated, contains a critical clause: “when Tags that are common to both ISO 32000 – 1:2008 and ISO 32000 – 1:2020 are used in a PDF, the PDF is automatically a PDF – 2:2020 conforming PDF.

ISO 32005 does have clauses around this clause that state that you can have an ISO 32000 – 1:2008 conforming PDF that only contains Tags identified in ISO 32000 – 1:2008; and you can have a 32000 – 2:2020 conforming PDF that contains only ISO 32000 – 2:2020 Tags.

But...

There is that clause between these two other “clarifying” clauses that states that the use of any Tag common to both iterations of the standard, automatically make it an ISO 23000 – 2:2020 conforming PDF.

ISO 32000 – 2:2020 introduces Tags we’ve been asking for such as the <Title> Tag. Once we use this Tag, we no longer have an ISO 32000 – :1008 PDF. It is automatically an ISO 32000 – 2:2020 PDF and all the Tags associated with the first iteration of the standard are nullified.

Additionally, the <Artifact> Tag is introduced and automatically added to the Tags Tree with no option to identify the PDF as an ISO 32000 – 1:2008 and ISO 14289 – 1:2014. This means any Tags such as those stated above are nullified.

Confused yet?

This means that all the PDFs we created to be accessible to the initial ISO standards for PDF are no longer conforming. The Tags are no longer valid for the structure elements I previously mentioned in this topic.

It is not clear whether automated website scans and accessibility checkers will fail these PDFs and “strongly suggest” that to conform to the current standard, the PDFs will need to be retagged and remediated again.

Each time ISO attempts to “clarify” the coexistence of the first PDF standards and the second PDF standards, the clarification results in a circular argument that “yes, you can use the old Tags, but if a Tag common to both iterations of the standard is in the PDF, it is PDF 2, unless you use PDF 2 Tags, in which case it is a PDF 2 conforming document, unless it only has PDF 1 Tags”.

All this standard jargon is to say that we can no longer use the old Tags once ISO 32000 – 2:2020, ISO 32005, and the upcoming ISO 14289 – 2 are available to developers and become part of any legislation or alternate standard that includes PDFs. They will have no meaning in PDFs moving forward. They have not been deprecated; they have been eliminated. Additionally, we will be confronted with an <Artifact> tag we can’t Artifact so that adaptive technology ignores “irrelevant” elements that do not support the understanding of the content.

For these reasons, I started looking for an alternate standard for creating and remediating PDFs. I hadn’t looked at the PDF Techniques for WCAG 2.x (Web Content Accessibility Guidelines) for several years. I believed, erroneously, that the ISO standards would be sufficient. I was wrong.

This tutorial combines some of the principles in the ISO standards, Techniques for WCAG 2.x and instructions on making PDFs more accessible. I’ve included references

to ISO 32000 – 1:2008 and ISO 14289 – 1:204 as a resource. I did not include any reference to the new ISO 32000 – 2:2020.

The PDF Techniques for WCAG 2.x do not cover all aspects of accessible PDFs and at times, there is an incomplete picture of what makes an accessible PDF; however, it is an alternative to using the ISO PDF standards to meet the accessibility needs of those with disabilities.

Success Criteria and Advisories

The PDF Techniques for WCAG 2.x divide the techniques into “success criteria”, which will meet the checkpoint and must be adhered to, and advisories, which are cautions and “nice to have” checkpoints.

Unfortunately, most legislation mandates WCAG 2.x AA conformance and most of the checkpoints and techniques that would be meaningful in PDFs are at AAA conformance levels.

It is suggested that when using the PDF Techniques for WCAG2.x, remediators and content authors keep in mind that documents and PDFs are not HTML-based content and checkpoints that are “Advisory” should be included in the overall accessibility of PDF content as “must” be implemented.

Legislation and Standards

In Ontario Canada WCAG 2.0 is the current standard for ICT (Information and Communication Technology). The version of WCAG may change when the AODA ([Accessibilities for Ontarians with Disabilities Act, 2005](#)¹¹ standard for K-12 and post-secondary education are adopted by the provincial government. The current standard for ICT in the AODA is the IASR ([Integrated Accessibility Standards Regulations](#)¹²).

Canada and other countries are adopting the [EN 301 549 3.1.2 European standard](#)¹³ for ICT. Chapter 9 identifies WCAG success criteria for Web-based content and applications. Chapter 10 identifies WCAG success criteria for “non-web content” with additional elements to optimize digital content for accessibility.

¹¹ Accessibility for Ontarians with Disabilities Act; 2005, Ontario Provincial Government:

<https://www.ontario.ca/laws/statute/05a11>

¹² Integrated Accessibility Standards Regulation (Updated 2013 with Open Spaces Standard), Province of Ontario: <https://www.ontario.ca/laws/regulation/110191>

¹³ EN 301 549 3.1.2 European Union, ETSI website:

<https://www.bing.com/ck/a?!&&p=cbeb07f966462a2cJmltdHM9MTcwOTc2OTYwMCZpZ3VpZD0xMWM4ZjBmZS0yZjUzLTY1NTctMDg5Zi1lMTcxMmVmOTY0OTYmaW5zaWQ9NTI0Mw&ptn=3&ver=2&hsh=3&fclid=11c8f0fe-2f53-6557-089f-e1712ef96496&psq=en+301+549&u=a1aHR0cHM6Ly93d3cuZXRzaS5vcmcvZGVsaXZlci9ldHNpX2VuLzMTUwMF8zMDE1OTkvMzAxNTQ5LzAyLjAxLjAyXzYwL2VuXzMwMTU0OXYwMjAxMDJwLnBkZg&ntb=1>

Canada is one of many countries that will add amendments to the EN 301 549 standard to reflect Canadian perspectives and needs.

Other provinces in Canada are establishing their own digital accessibility standards.

The Canadian standards are human rights based.

The Government of Canada passed the [Accessible Canada Act \(S.C. 2019, c. 10](#)¹⁴) in 2019. The Canadian government established several technical committees under the [Canadian Accessibility Standards](#)¹⁵ to create the standards for areas such as plain language, travel, open spaces, and [Accessible and Equitable Artificial Intelligence Systems](#)¹⁶ which includes ICT and other types of digital content.

The European Union passed the [Directive \(EU\) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services](#)¹⁷ known as the EU Accessibility Act in 2019.

In the United States, the ADA (Americans with Disabilities Act) legislation has lagged behind digital accessibility legislation. However, with an average of a 20% increase in digital accessibility lawsuits each year since 2017, the need to address this shortcoming is hopefully moving forward. UserNet publishes a report on lawsuits based on the inaccessibility of digital content each year. “[Decoding Digital Accessibility Lawsuits 2023: Key Trends and Insights](#)¹⁸”

The United States also has legislation for federal agencies:

¹⁴ Accessible Canada Act (S.C.2019.c.10), Government of Canada: <https://laws-lois.justice.gc.ca/eng/acts/A-0.6/>

¹⁵ Canadian Accessibility Standards, Government of Canada: <https://accessible.canada.ca/creating-accessibility-standards>

¹⁶ Accessible Canada Act Standards Development, Accessible and Equitable Artificial Intelligence Systems, Accessibility Standards Canada: <https://accessible.canada.ca/centre-of-expertise/information-and-communication-technologies#s6.2>

¹⁷ Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services, European Union Parliament: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0882>

¹⁸ Decoding Digital Accessibility Lawsuits 2023 – Key Trends and Insights, UserNet: <https://blog.usablenet.com/decoding-digital-accessibility-lawsuits-in-2023-key-trends-strategic-insights>

“Section 508 requires access to ICT developed, procured, maintained, or used by federal agencies. Examples include computers, telecommunications equipment, multifunction office machines such as copiers that also operate as printers, software, websites, information kiosks and transaction machines, and electronic documents. The Section 508 Standards, which are part of the Federal Acquisition Regulation, ensure access for people with physical, sensory, or cognitive disabilities.”¹⁹

As a global community, we are moving toward a harmonized set of standards for accessible digital content. The European Union is leading this effort. The European standard has been adopted by other countries with amendments specific to their cultures and human rights legislation. It makes sense to have harmonized standards for digital accessibility because many countries, industries and commercial ventures are international. It is easier to adhere to a single standard than to try to incorporate several standards. The framework for EN 301 549 is the UN CRPD ([United Nations Convention on the Rights of Persons with Disabilities](#)²⁰). [Canada ratified the CRPD](#)²¹ in 2010. In 2018 [Canada acceded to the Optional Protocol of the CRPD](#)²².

¹⁹ Information and Communication Technology, Revised 508 Standards and 255 Guidelines: <https://www.access-board.gov/ict/>

²⁰ United Nations Convention on the Rights of Persons with Disabilities, United Nations: <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities>

²¹ Promoting the Rights of Persons with Disabilities, Government of Canada: https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/human_rights-droits_homme/rights_disabilities-droits_handicapees.aspx?lang=eng

²² Canada accedes to the Optional Protocol of the CRPD, Government of Canada: <https://www.canada.ca/en/employment-social-development/news/2019/01/canadaaccedes-to-the-optional-protocol-to-the-united-nations-convention-on-the-rights-of-persons-with-disabilities.html#Quick%20facts>

The Basics

The ISO standards refer to tools such as Adobe Acrobat Pro DC and Foxit PDF Editor as PDF Editors. I've used this language throughout the tutorial to avoid confusion between any brand name PDF Editors. Adobe Reader is not a PDF Editor since its purpose is to read not remediate or create PDFs.

At its core, an accessible PDF has three components:

- There are Tags for content that are relevant to the understanding of the subject matter.
- The Tags are correct for the type of content (Headings, paragraphs, lists, tables, and graphics).
 - This includes adding any form controls to the Tags Tree and nesting them correctly with the text of the question.
- The Tags are in the logical reading order for the content.
 - The order in which the Tags appear in the Tags Tree is not necessarily the order in which the content appears on a page. For example, in a tri-fold brochure, the title panel should be at the top of the Tags Tree, followed by the three panels on the inside and the two back panels. Grouping Tags should be used to consolidate the contents of each panel so that they are easier to move around the Tags Tree.

Saying that three things are essential to accessible (and usable) PDFs makes it sound like this is an “easy” button. This is not true. The ability to start with the three essential components of an accessible and usable PDF will depend on the quality and structure of the source content.

Tagging PDFs

This topic looks at the standard tools used to create tagged PDFs. The information is up to date as of January 2024. Some user interfaces may change.

This tutorial is also focused on Windows applications. As someone who uses a screen reader and other adaptive technologies, this platform is the most accessible.

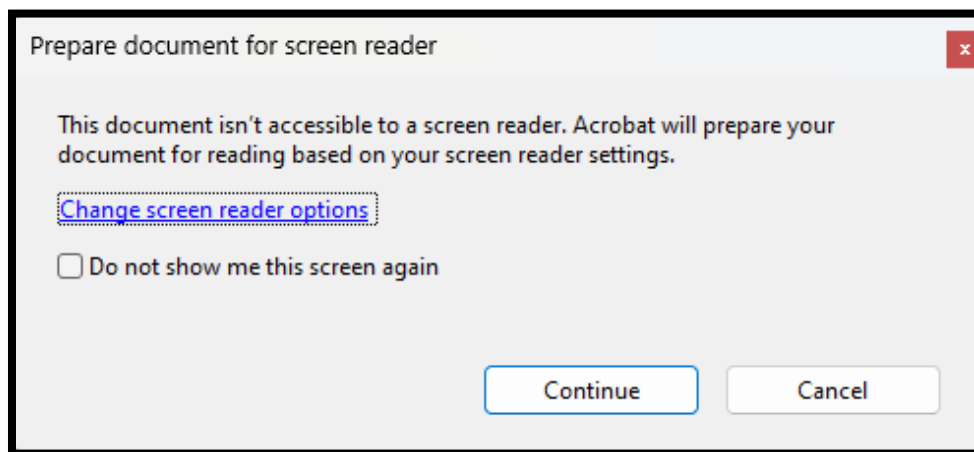
I haven't included information on the Kofax PowerPDF Advanced tools because at the time of writing this tutorial, it did not create a well-tagged PDF even if you started with a well-structured accessible Word document. The PowerPDF Advanced tool only creates <P>, <Figure> and some <Table> Tags. It does not create Headings or lists in a tagged PDF. This is a regression from when Nuance owned the product prior to 2019.

Note: You'll need to check each PDF Editor to see if creating and sending by e-mail creates an accessible PDF. This topic is not covered in this tutorial.

Note for Adaptive Technology Users

If you use adaptive technology such as a screen reader or Text-to-Speech tool when remediating PDFs in a PDF Editor, there is an important thing to remember.

Figure 1 Prepare the Document for Screen Reader dialog (Adobe Acrobat Pro DC).

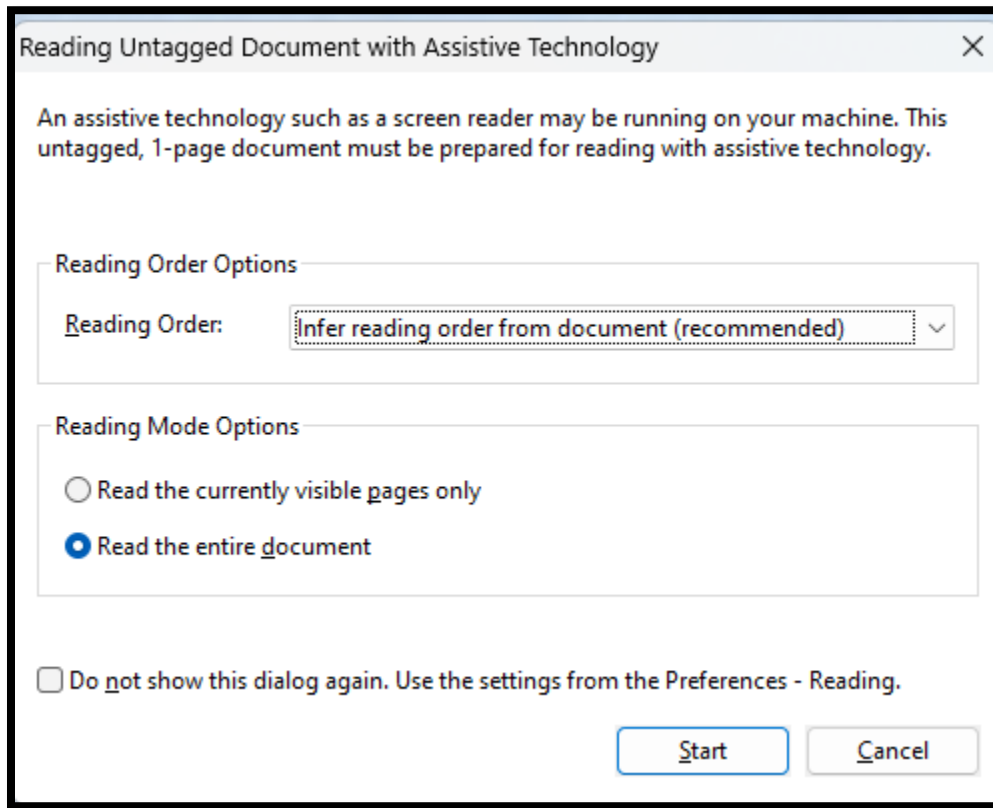


Do not accept any unique settings for reading PDFs.

For example, in Adobe Acrobat Pro DC, there will be a dialog suggesting accessibility settings because an adaptive technology has been detected.

In Foxit PDF Editor, there will be a similar dialog asking if you want to infer the reading order from the untagged document.

Figure 2 Reading Untagged PDF with Assistive Technology (Foxit PDF Editor).



In both PDF Editor, dismiss this dialog by pressing the Escape key if you are going to be tagging or remediating the PDF!

I've found that allowing PDF Editors to use "virtual" or pretend Tags often prevents you from creating and remediating authentic Tags.

Microsoft 365 Save As PDF Options in Word

From any Microsoft 365 desktop application, do not choose Print > Adobe PDF or Print > Microsoft Print to PDF. The result is an untagged PDF. Since you've worked on your Word document to optimize its accessibility, you don't want to have to Tag it once you are in a PDF Editor.

There are two ways to save a Word document as a tagged PDF.

Press Alt + F, A, Y, 3 to change the name of the file. If you want to keep the filename the same, follow the next step.

If you don't want to change the name of the PDF, press Alt + F, Y, 4 to move to the File Type list and choose PDF. If you are converting a Word document to a tagged PDF, press the Tab to move to More Options to create the Bookmarks.

If you are creating the PDF from a Word document, press M for More Options without going to the Filename or File Type. You can fill in the information here, but eventually, you'll need to go to More Options to create the Bookmarks for the PDF, so you might as well go there now.

Figure 3 Save As area in the File menu options in Word.

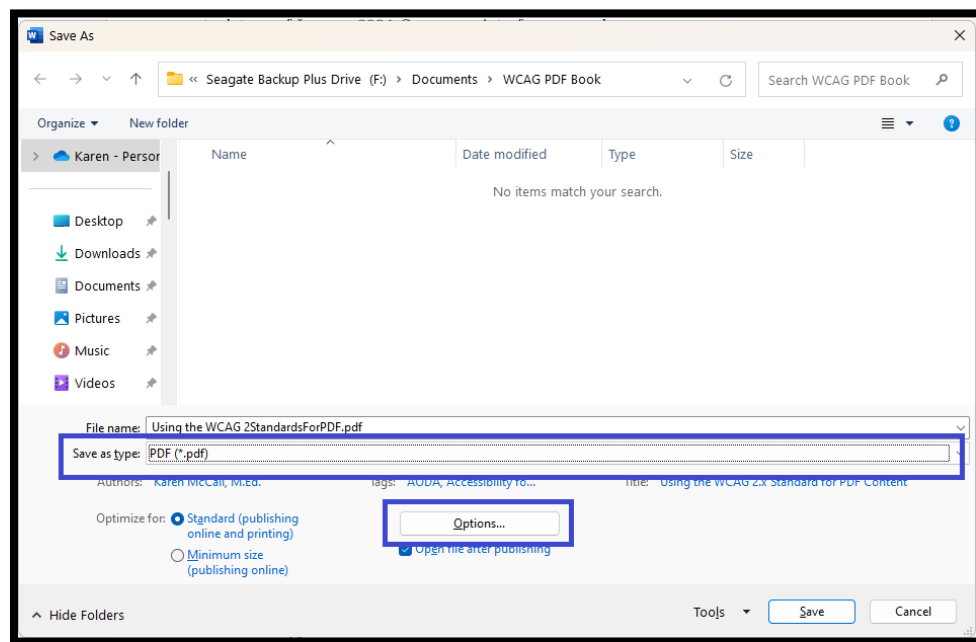


When you press M for More Options to open the standard Save As dialog, the focus will be in the filename edit area of the Save As dialog.

Once you have a filename, press Tab to move to the File Type list.

In the File Type list, choose PDF.

Figure 4 Save As dialog showing PDF as the file type and the Options button.



Once you choose PDF, the Options button is available.

Press Alt + letter O to open the Options dialog.

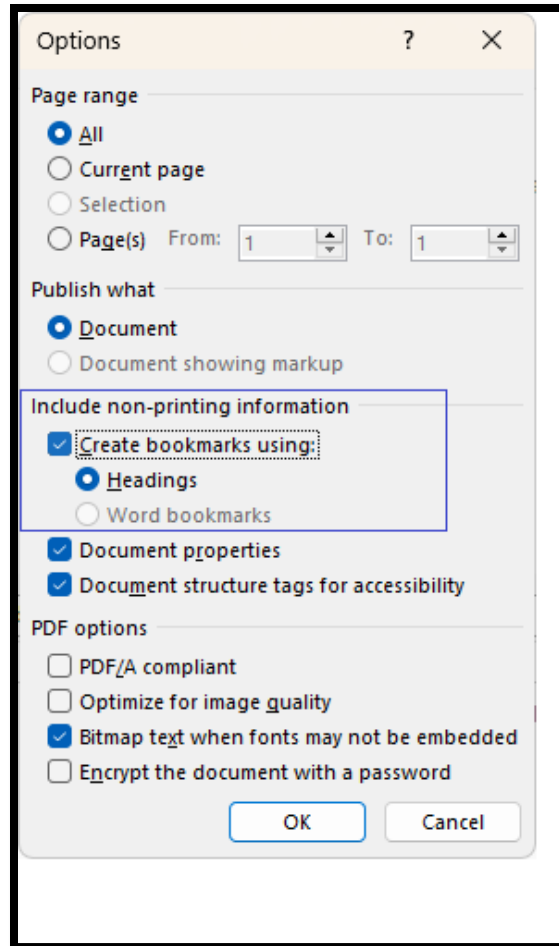
Press Alt + C to Create Bookmarks from...

The choices are Headings or Bookmarks. Since you've used Headings in your Word documents to provide consistent navigational information to those using adaptive technology, the logical choice is the default: Headings.

Tab to and activate the OK button.

Press Alt + S to save the Word document as a tagged PDF.

Figure 5 Word Options dialog for PDFs showing the Create Bookmarks from Headings setting.



Note: The second method of saving a Word document as a tagged PDF depends on whether you have Function keys on your keyboard and whether they are set to be used as Function keys instead of media or Email keys. Press F12 to open the Save As dialog. From there, the instructions are the same.

Microsoft 365 Save As PDF Options in PowerPoint

There are two ways to save a presentation in PowerPoint. The first saves the presentation slides, and the second saves the Speaker Notes with the slides. The tools in Microsoft 365 are the only ones that will save Speakers Notes (including slide content) as an accessible tagged PDF. Adobe Acrobat, Foxit PDF Editor and PowerPDF Advanced save the Speaker Notes as inaccessible comments in the resulting PDF file.

The process is the same in PowerPoint as it is in Word and other Microsoft 365 desktop applications.

Press Alt + F, A for File, Save As.

Press Y, 3 to change the name of the file.

Press Y, 4 to change the File Type.

Unless you want to save the Speaker Notes, you don't need to activate the More Link.

Note: The second method to save a PowerPoint presentation as a tagged PDF is to press F12 to open the Save As dialog if you have access to the Functions keys.

Figure 6 File, Save As area in PowerPoint.



Once you have a filename, press Tab to move to the File Type list.

In the File Type list, choose PDF.

Bookmarks will be created automatically IF you've used the default Slide Title placeholders on each slide. The title of the presentation and the Slide Title placeholders on the Section Header slides are tagged as H1s; the Slide Title placeholders on all other slides are tagged as H2s.

Move to and activate the Save button.

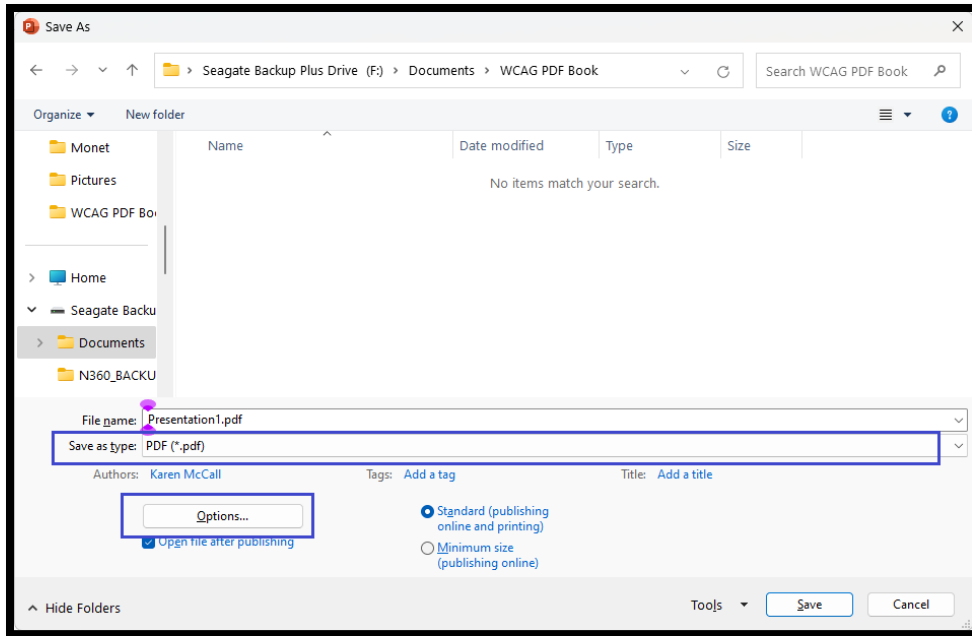
If you want to save the Speaker Notes as a tagged PDF document, activate the Options button before saving the PowerPoint presentation.

Activating the More link takes you to the standard Save As dialog where you can choose Notes from the Options dialog.

Once you choose PDF, you have access to the Options button.

Press Alt + letter O to open the Options dialog if you want to save the Speaker Notes as a tagged PDF. By default, the slides will be saved as the tagged PDF.

Figure 7 Microsoft 365 desktop application Save As PDF dialog.



To save the Speaker Notes as a tagged PDF document, press Alt + W for “Publish what” and choose Notes pages from the dropdown list.

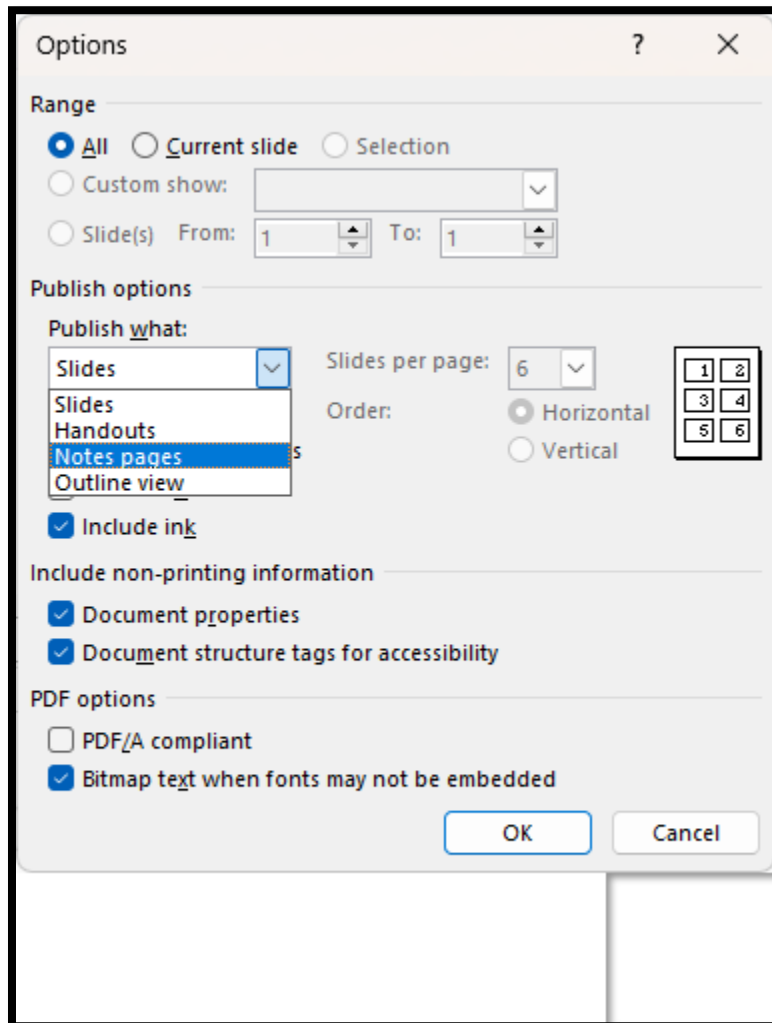
Move to and activate the OK button.

Activate the Save button in the Save As dialog.

As previously stated, the Microsoft Save As PDF tool is the only one that will save Speaker notes as an accessible PDF.

Adobe Acrobat Pro DC, Foxit PDF Editor, and Kofax PowerPDF Advanced save speaker notes as comment balloons in the PDF. This makes it difficult to put focus on the comment balloons. It also means that all the content in a speaker note for a slide are read as a single block of content and often cannot be navigated character by character, word by word or paragraph by paragraph. If speaker notes have lists, links, or other structural elements, these are lost in comment balloons.

Figure 8 Microsoft 365 PowerPoint desktop Save As PDF Options dialog.



Adobe Acrobat Ribbon in Microsoft 365

If you have Adobe Acrobat Pro DC, there will be an Acrobat Ribbon in each of the Microsoft 365 desktop applications.

The keyboard command may be different on your desktop versions of the Microsoft 365 applications depending on other applications that create Ribbons to their functionality. For example: Duxbury Braille Translation, Foxit Editor or PowerPDF Advanced.

On my Microsoft desktop applications, the keyboard command to go to the Acrobat Ribbon in Word and PowerPoint is Alt +Y, 4.

Figure 9 Acrobat Ribbon in Microsoft Word 365.

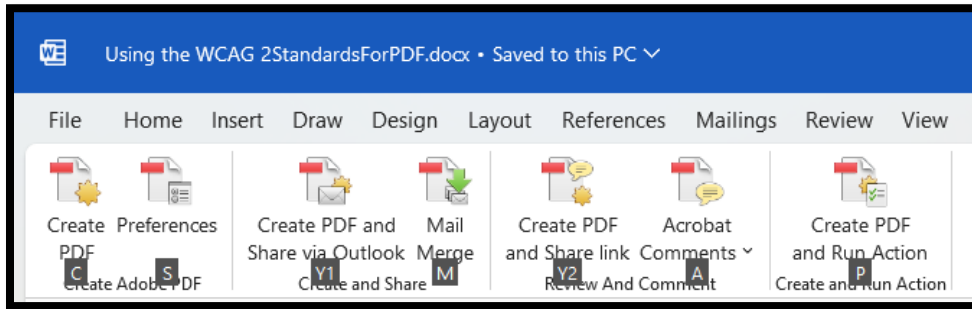
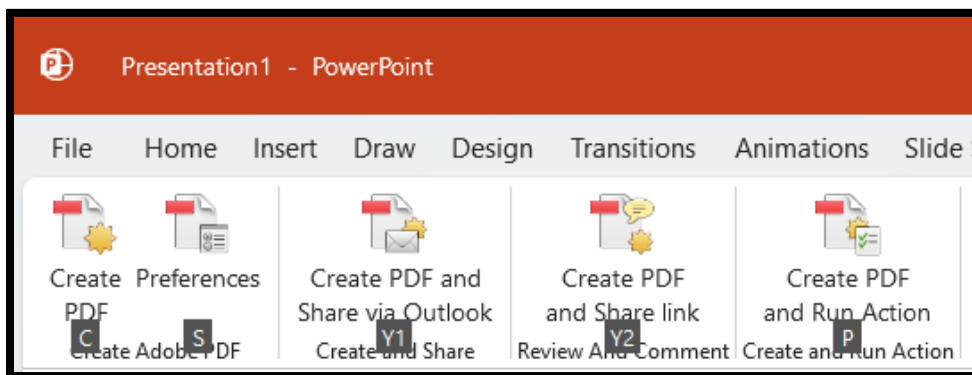


Figure 10 Acrobat Ribbon in Microsoft PowerPoint 365.



The keyboard commands for Create PDF and Preference are the same for each Acrobat Ribbon:

- C to Create PDF.
- S to open the PDF Preferences dialog.

Save As Adobe PDF

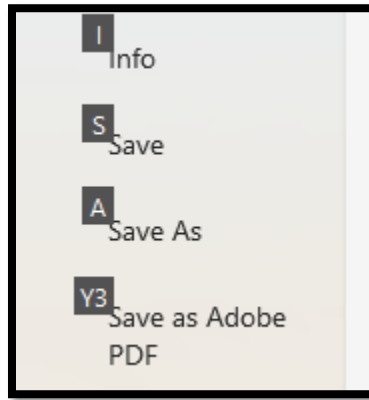
You can use the File menu to save a Microsoft 365 document as a PDF. This will create a tagged PDF.

Press Alt + F, Y, 3 or whatever the keyboard command is on your File menu. On mine, Save As Adobe PDF is Alt + F, Y, 3 for File, Save As Adobe PDF

The Save As dialog opens and the File Type is PDF.

Check the Filename and location, then save the document as a tagged PDF.

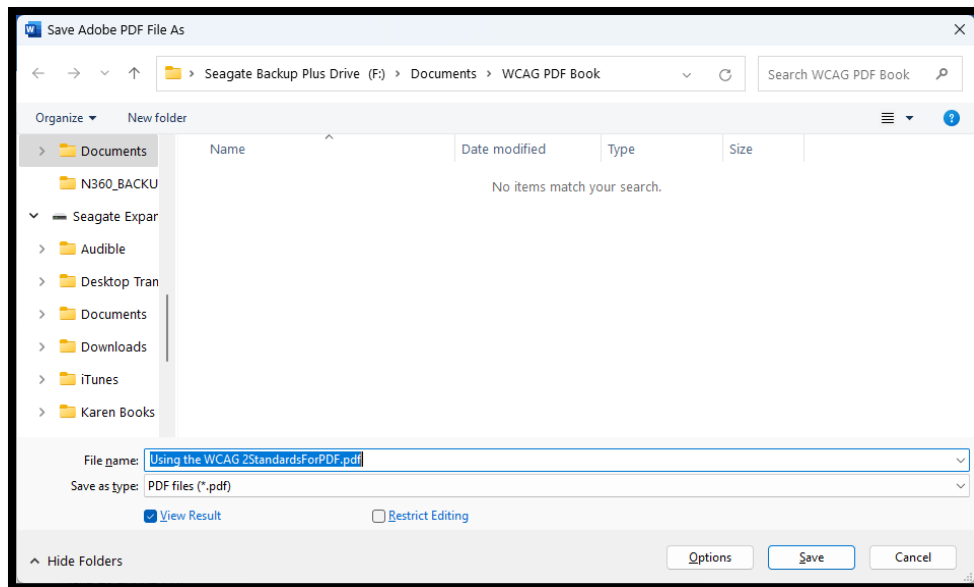
Figure 11 Save as Adobe PDF from the Microsoft 365 File menu.



This opens the Save As dialog with PDF already chosen.

There is an Options button in the dialog. You can review the Preferences settings, but they are typically set to create an accessible PDF.

Figure 12 Save as Adobe PDF dialog.

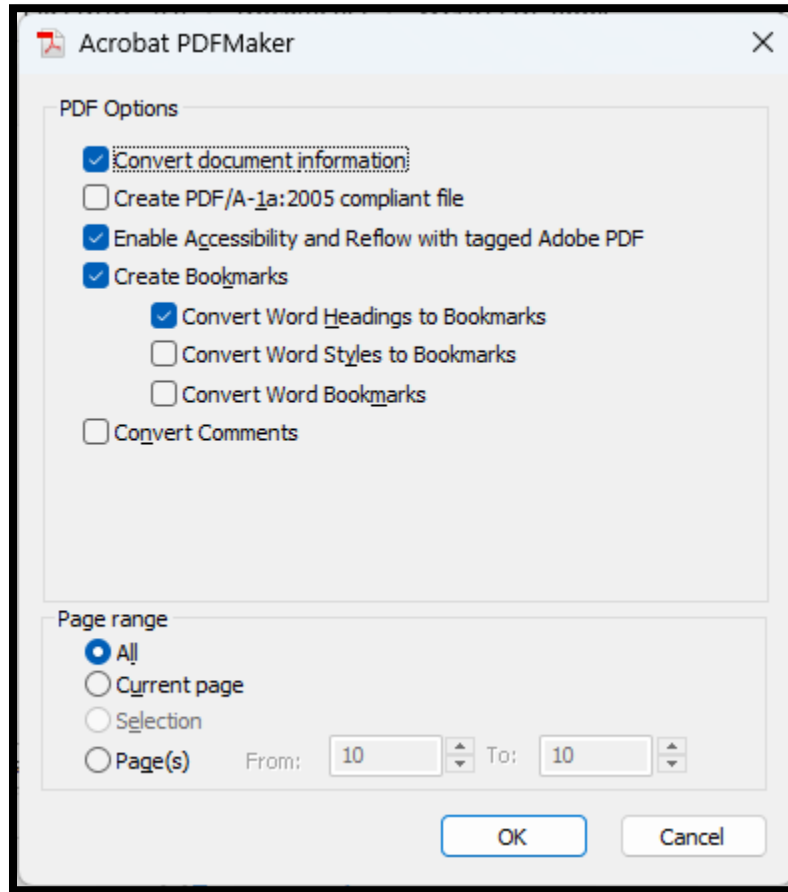


Press Alt + letter O to open the Options dialog.

Unless you are going to change settings, you can leave the options as they are. By default, Bookmarks will be created using Headings in Word.

Enable accessibility and reflow with tagged Adobe PDF is checked by default.

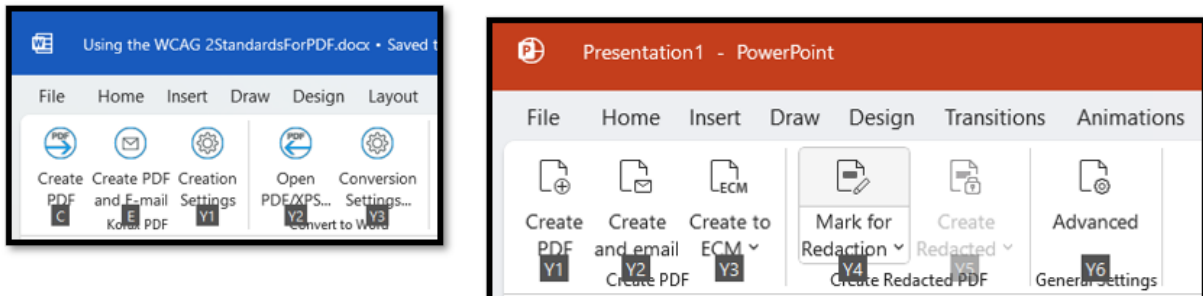
Figure 13 Options dialog for the Save as Adobe PDF from the Word File menu.



Save as PDF using the Foxit Ribbon in Microsoft 365

As with Adobe Acrobat Pro DC, there is a Foxit PDF Editor Ribbon placed in the Windows desktop applications of Microsoft 365 when you install Foxit PDF Editor.

Figure 14 Foxit PDF Editor Ribbons in Word (Left) and PowerPoint (Right)



The PDF Techniques for WCAG 2.0, 2.1 and 2.2

The PDF Techniques for WCAG 2.x are primarily based on WCAG 2.0. There are a few additions from WCAG 2.1 and 2.2. These additions are related to PDF form elements and are added to the appropriate technique.

The W3C (World Wide Web Consortium) WAI (Web Accessibility Initiative) has an approach to revision that makes it easy to find the new success criteria. They are added after the previous WCAG success criteria. They are also summarized with the publication of each iteration of the WCAG.

This tutorial will identify the version of WCAG that a technique applies to.

At the time of writing, Google DOCS was still lacking a number of elements of digital content that would then convert to a tagged PDF. The suggested process from Google Support is to download the Google content as a PDF, open it in a PDF Editor and add the Tags, then perform any remediations. For this reason, Google DOCS is not covered in this tutorial. Hopefully, there will be more robust support for creating well-structured content and tagged PDF from Google-based content directly to tagged PDF in the future.

The PDF Techniques for WCAG versions can be found at the following websites:

- WCAG 2.0: [Web Content Accessibility Guidelines \(WCAG\) 2.0 \(w3.org\)](#)
- WCAG 2.1: [Web Content Accessibility Guidelines \(WCAG\) 2.1 \(w3.org\)](#)
- WCAG 2.2: [Web Content Accessibility Guidelines \(WCAG\) 2.2 \(w3.org\)](#)

Keyboard Support in Adobe Acrobat Pro DC and Foxit PDF Editor

Before we begin, it is worth noting that the support for keyboard commands in the Adobe Acrobat Pro user interface has deteriorated since Adobe Acrobat Pro X. This tutorial does not cover the new user interface that Adobe is rolling out which has even less keyboard support.

As with Adobe Acrobat Pro DC, keyboard command support is minimal in Foxit PDF Editor. Someone must be mouse-dependent to fully use the interface, even when ensuring a PDF is accessible.

PDF 1: Applying Text Alternatives (Alt Text) to Images with the Alt Entry in PDF Documents

The use of graphics is more complicated than saying “add Alt Text to graphics”. There are several types of visual content in digital documents. The role the graphic plays in the overall understanding of the content (subject matter) will dictate whether a graphic has Alt Text or is an Artifact (ignored by adaptive technology).

WCAG Success Criteria for PDF 1

[PDF1: Applying text alternatives to images with the Alt entry in PDF documents](#)²³.

- Sufficient to meet [1.1.1 Non-text Content](#)²⁴ (WCAG 2.0, 2.1 and 2.2 A).
 - [Understanding 1.1.1](#)²⁵.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards.

ISO 14289 – 1:2014.

"7.3 addresses content requiring text alternatives.

7.18.1 paragraph 4 addresses control descriptions.

7.1 paragraph 1 addresses decoration.

Additional Resources

[ITU.701.11 \(09/20\) Guidelines on Text Alternatives](#)²⁶. This is a free version of the ISO standards: [ISO/IEC 20071-11:2019](#)²⁷ (en) Information technology — User interface component accessibility — Part 11: Guidance on text alternatives for graphics

²³ PDF 1 Applying text alternatives to images with the Alt entry in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF1>

²⁴ 1.1.1: Non-text Content, WCAG: <https://www.w3.org/WAI/WCAG22/Understanding/non-text-content>

²⁵ Understanding 1.1.1: Non-text Content, WCAG: [Understanding Success Criterion 1.1.1: Non-text Content | WAI | W3C](#)

²⁶ ITU Guidelines on Text Alternatives, ITU/ISO: [T.701.11: Guidance on text alternatives for images \(itu.int\)](#)

²⁷ ISO/IEC 20071 – 11:2019, ISO: <https://www.iso.org/obp/ui/en/#iso:std:iso-iec:20071:-11:ed-1:v1:en>

Graphics and PDFs 101

In PDFs, graphics that are considered as “decorative”, are used for visual fillers or are designs intended to make the document visually appealing are typically Artifacts or part of the background. These graphical elements should be Artifacts in the PDF which means they are ignored by adaptive technology.

Worthy of note is that Page Headers and Footers are also “non-printing” elements and are, by default, Artifacts. Page numbers are accessible to everyone, including those using screen readers, by implementing Page Labels in the PDF Editor, not by adding them to the Tags Tree. Avoid tagging page numbers!

Graphics that support content such as charts, diagrams, formulae or photos of specific elements of the content (the vice president of a company or the mayor of a municipality) will have Alt Text.

There is an ongoing controversy and discussion about the number of characters, syllables, words, sentences, and paragraphs that one can have in an Alt Text attribute.

Remember that the Alt Text attribute, whether in a PDF Editor or Office application, is created in plain text editors. One cannot add structure other than punctuation, to the text in an Alt Text field. Alt Text is an attribute on a <Figure> Tag in PDFs and on graphics in other applications.

As such, Alt Text is not to be used for scanned graphics of documents. Actual Text, which is also an attribute on a <Figure> Tag, must not be used for scanned graphics of documents. Using the Actual Text attribute for pages of scanned text in PDFs creates accessibility barriers and prevents adaptive technology from accessing any structure in the text (Headings, paragraphs, lists, tables, and Figures).

Punctuation in Alt Text

Alt Text **must** have punctuation so that the adaptive technology reads it as complete thoughts or sentences. Imagine reading a page of text in a book that has no punctuation. How would this affect your ability to understand the content of the page?

Text with no Punctuation

As an exercise to understand the importance of punctuation, read the following 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 tor 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 smart art 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

How much of the text did you understand? How soon after starting to read the text did you stop and move on?

I have no idea where the misconception that there should be no punctuation in Alt Text came from. If I were cynical, I'd think it came from the same place as the misconception that those of us using adaptive technology "Tab" through all content.

Think of this. If someone was just using the Tab key to move through content, how would we know which "Tab" moved us character by character, which "Tab" moves us word by word, which "Tab" moves us line by line, which "Tab" moves us paragraph by paragraph, which "Tab" moves us page by page, which "Tab" lets us navigate by Heading, table, list, or graphic? If we stop to think of the implications of using a single key to navigate every element, we see the fallacy in this type of thinking. It is the same when we think of text with no punctuation.

Mathematical and Scientific Notation

There is currently no support for MathML in PDFs. Access to formulae depends on adding Alt Text to the <Formula> Tag.

Alt Text for formulae must be written in longhand, and if there is a complex formula, there should be a way to break it down, including instructions in the text content of the document.

For example: "1 plus 1 equal ". There should be no abbreviations in the Alt Text for a formula. Alt Text is read all or nothing so someone listening to a formula must be able to hear the full language of the formula. If symbols are used, someone using a screen reader would hear: "4 star 4". If the person is using a Text-to-Speech tool with a natural phoneme (natural sounding) voice, many symbols such as * may not be in the pronunciation dictionary. This would sound like "4 4".

Even functions like sine and cosine must be written out in longhand. Terms such as square root of, divided by, multiplied by, subtracted from and 1 over 4 must be written in longhand to provide accurate information about a formula.

Research into the Effectiveness of Alt Text

For the past couple of years, I've been researching the usefulness of the Alt Text attribute for complex graphics.

When we started using web pages with graphics in WCAG 1.0, we didn't fully understand the limitations of the Alt Text attribute when complex graphics were added to digital content. Web-based digital content was "simpler" then.

The research has been presented at the 2022 University of Guelph Accessibility Conference, and the 2023 Accessing Higher Ground Conference, and is the foundation for a journal article in the Springer Lecture Series [Rethinking Alt Text to Improve its Effectiveness, Journal of Computers Helping People with Special Needs 2022](#)²⁸ and presented at the ICCHP conference (International Conference of Computers Helping People with Disabilities).

The data from the research is available on the [Karlen Communications website](#)²⁹ with other research projects. The research is funded entirely by Karen McCall, M.Ed.

On the survey webpage, there is a related survey about people describing themselves during meetings or video conferencing. This is a related topic because the results show that we have difficulty describing ourselves when we "know" ourselves. If we can't find a way to describe ourselves, we can understand the difficulty in describing graphics. <smile>

Using the Artifact, Alt Text and Actual Text Attributes and the <Caption> Tag

There are four techniques that can be used when considering graphics in PDFs. The first is Artifacts. Artifacts are marked areas of pages that "hide" decorative or repeated elements from adaptive technology. The attributes (Alt Text, and Actual Text) are not to be used in combination with each other. The <Caption> Tag can be used with graphics that have the Alt Text attribute. An attribute is added to a <Figure> or <Formula> Tag to provide meaningful information about the graphic. Captions are also used for tables. It is suggested that captions appear just before someone comes across the graphic or table. This lets someone know that the next thing they will encounter is a graphic or table.

Avoid using Alt Text and Actual Text in a PDF together. This is extra work that is not needed. The adaptive technology looks for Alt Text. If there is no Alt Text, it then looks

²⁸ Rethinking Alt Text to Improve its Effectiveness, McCall, Chagnon, 2022, Journal of Computers Helping People with Special Needs (ICCHP): https://link.springer.com/chapter/10.1007/978-3-031-08645-8_4

²⁹ Alt Text Surveys, Karlen Communications: <https://www.karlencommunications.com/PDFsurvey.html>

for Actual Text. If the adaptive technology finds Alt Text, it does not look further. If there is no Alt Text or Actual Text, we simply hear “unlabelled graphic” (not helpful), so be sure to include one or the other.

Artifacts

After reading ISO 32000 – 1:2008 and ISO 14289 – 1:2014, it is not clear what an Artifact is classified as. Although 320005 – 1:2008 refers to a “Tag” when discussing Artifacts, there was no Artifact Tag in the first iteration of the ISO standards. However, we do see the implementation of an <Artifact>. Tag in ISO 32000 – 2:2020 and ISO 14289 – 2:2023. There is no mechanism for making an <Artifact> Tag an Artifact so it is ignored by adaptive technology. There is no mechanism for adaptive technology today to “ignore any <Artifact> Tags. There is no mechanism to distinguish between “types” of <Artifact> Tags by adaptive technology. One theory is that AI will be able to do this. Good luck!

Even the PDF Association and ISO (International Standards Organization) who create and publish the PDF standards respectively, describe content on a page in different terms. It varies from “real” content without an alternative such as “fake” content; Live content without an alternative such as dead content; and more recently the PDF Association is using the terms “relevant” content with a counterpart of “irrelevant content.” If the folks creating the standard cannot figure out how to identify elements of the page that should be ignored by adaptive technology, we quickly see how difficult it is for PDF remediators and content authors.

The issue of Artifacts has been further muddied by terms used in tutorials and information sheets on Artifacts stating that they are Tags (which was not true until the publication of ISO 32000 – 2:2020). The updated PDF standard introduced the <Artifact> Tag without considering the implications for those of us using adaptive technology.

Consider that the <Artifact> Tag will be used for table gridlines. This means those of us using adaptive technology will hear “Table with 3 columns and 4 rows, Salesperson, pathpathpathpathpath” where the “path” references are the gridlines around each cell. There will be no mechanism to “Artifact” the <Artifact> Tag so that we do not hear each underline, gridline, decorative element, page header and footer or piece of the background. It is not clear how this will “improve” the accessibility of PDFs.

Until the new PDF standards were released, Artifacts did not appear in the Tags Tree. They were identified in the Content Panel as a Container description and did not appear anywhere else in the PDF remediation tools.

Note: One of the proposed uses for the <Artifact> Tag is for page numbers. This makes no sense because we already have an accessible way to identify the page number we are on. It is a technique that works for everyone, not just those using adaptive technology. We use Page Labels, which are part of the first iteration of the PDF standards. This lets us go to a specific page and, when reading, ask our adaptive technology what page we are on. By forcing page numbers to be in <Artifact> Tags, the reading of paragraphs, lists, or tables that span multiple pages is interrupted by the <Artifact> page number being read. This is not only a barrier to accessibility but one for the readability and usability of PDFs. It is unclear whether using Page Labels, which again works for everyone, will fail previously conforming PDFs.

The ISO standards for PDFs have not been well thought out, and the impact on those using adaptive technology seems to have been ignored...like Artifacts.

Note: With the publishing of PDF – 2:2020 and ISO 14289 – 2:2023, we will see <Artifact> Tags in PDFs. In the past few years, when the <Artifact> Tag has been added to the Tags tree, it has not been possible to hide Artifacts. This makes it impossible to have PDF/UA – 1:2014 conforming PDFs. ISO 32005 clearly states that as soon as a PDF- 2 Tag is used, the PDF is considered a PDF- 2 document regardless of the intent of the remediator/content author. With no means of saying “I want a PDF – 1:2014 document before conversion and no means of making the <Artifact> Tag a true Artifact as we know them, we will not be able to create a PDF that conforms to ISO 14289 – 1:2014.

Alt Text (Attribute)

Alt Text or Alternative Text is used when a graphic is relevant to surrounding content. Examples include instructions showing a dialog or a chart or diagram that illustrates data in the surrounding text.

It is essential to include punctuation in Alt Text. Without punctuation, text dribbles on with no pauses and no ability to understand the structure of the Alt Text.

Alt Text should be concise and describe the graphic in the document instead of clouds, landscapes, and costumes unless those elements are directly related to the

surrounding content. There is no “standard” for the number of characters or words. However, the goal is to concisely describe the purpose of the graphic in the content.

For organizational logos, Alt Text can be the “Karlen Communications logo,” for example. The important thing about the logo is that it is a logo or landmark that verifies that the PDF is published by an organization.

In this tutorial I have used Alt Text to illustrate the content layout. However, the layout is described in the surrounding text. The Actual Text attribute is not valid in these cases because the graphic is not “relevant” content” in the PDF. It is part of a graphic that illustrates a technique, specific layout, or context for illustrating a dialog. The correct attribute for these graphics is Alt Text.

For formulae, write out the formula in longhand. This means typing one plus two equals, six times four equals and so forth. Adaptive technology will read symbols as “star” for an *, slash for a “/” and dash for a -. This is true for complex equations containing fractions, sine, cosine, and square roots. Whether symbols are read or not also depends on the natural phoneme synthesized voice used by the end-user. A good example of things that might be missing in the natural phoneme voices such as Heather and Daniel. An example is the word “wasted” which the Daniel synthesized voice reads as “was ted.”

Avoid using abbreviations when providing Alt Text for formulae.

Note: Alt Text (and Actual Text) is available to those using adaptive technology such as screen readers or Text-to-Speech tools. Many people with disabilities who do not use these types of adaptive technology could benefit from having information about the graphic available in surrounding content or by using a caption for the graphic.

Actual Text (Attribute)

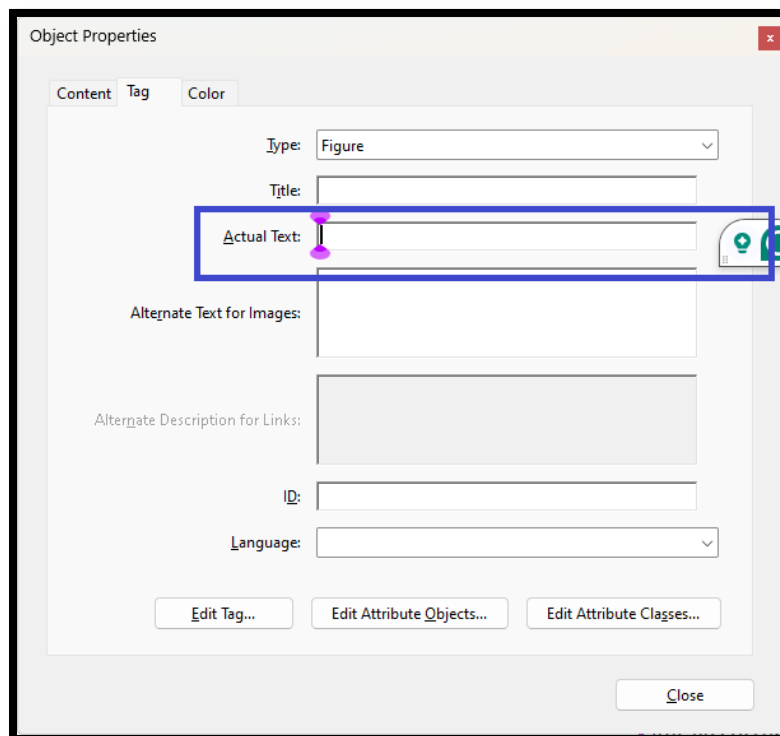
The use of the Actual Text attribute is a bit trickier to determine. Keeping in mind that Actual Text is an attribute on types of content that must be “relevant” content in the PDF. This means that scanned graphics of text must have OCR (Optical Character Recognition or text recognition performed). It means that if an application like Photoshop or Illustrator was used to create text that is “relevant” to the understanding of the content, the Actual Text attribute must be used.

The theory is that when Actual Text is used, the adaptive technology treats is differently from Alt Text. If someone using a screen reader comes across Alt Text, we hear “graphic followed by the Alt Text.” When the Actual Text attribute is used, we hear “graphic followed by the Actual text” There is no seamless integration into the

content as part of the overall text. This is why OCR (Optical Character Recognition) is essential for scanned documents. It is also why using pictures of text for pieces of content in PDFs must be avoided. As stated later in this topic, there is a difference between using pictures of text that should be readable content; and pictures of a process containing text.

The Actual Text edit area in the Object Properties dialog is a plain text editor just like the Alt Text area. Punctuation is essential when adding Actual Text.

Figure 15 Object Properties dialog showing the Actual Text edit area.



When a PDF is a scanned graphic of a page or pages, using Actual Text creates accessibility barriers for those who use adaptive technology. As an attribute, if there are Headings, lists, graphics, or tables, these cannot be represented in an attribute such as Actual Text (or Alt Text). **Punctuation is essential** in either the Actual Text or Alt Text attribute.

For scanned PDFs, performing OCR (Optical Character Recognition) or text recognition is the only means of ensuring that structural Tags are available.

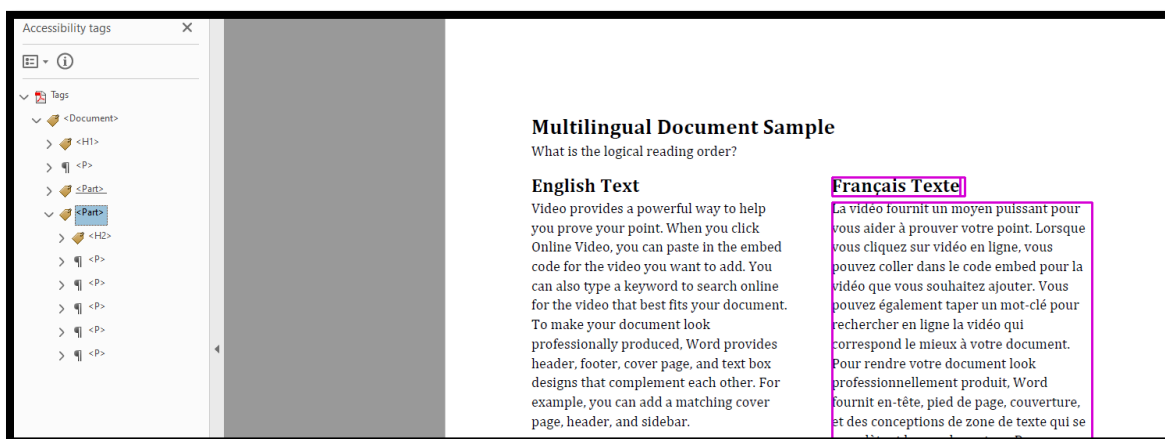
Actual Text can be used for small pieces of text, such as a paragraph, where the text has been created in something like Adobe Illustrator or Adobe Photoshop because the font does not have a complete character set.

BUT...

This tutorial has a few examples of text in a PDF where the objective of the graphic is not to reveal the text in the PDF but to demonstrate a technique. The “document” or “text” is used to illustrate a type of document such as a multilingual document, tri-fold brochure or use of the tag. The “relevance” of the document is present as part of a graphic to demonstrate the correlation between the Tag and what is on a page. Actual Text is not appropriate in these cases; Alt Text describing the relationship between a Tag and content is. In the case of illustrating the use of the Tag for a language change, the text that appears in the demonstration graphic is also in the body text of this tutorial.

An example of a graphic of content used to illustrate a process is a multilingual document with one language on the right and another on the left of the page. The content on the page is not part of the “relevant” content but is part of demonstrating the tagging of a PDF.

Figure 16 Sample multilingual PDF showing the content and Tags Tree



Note: Actual Text (and Alt Text) are available to adaptive technology users. There are people with disabilities who do not use adaptive technology but who could benefit from having information about the graphic available in surrounding content or by using a caption for the graphic.

<Caption> Tag

The <Caption> Tag is used when a caption is associated with the graphic. Captions are not attributes on a Tag; they are Tags in the Tags Tree. A caption provides the content author with a technique to add additional content that might not be in Alt Text.

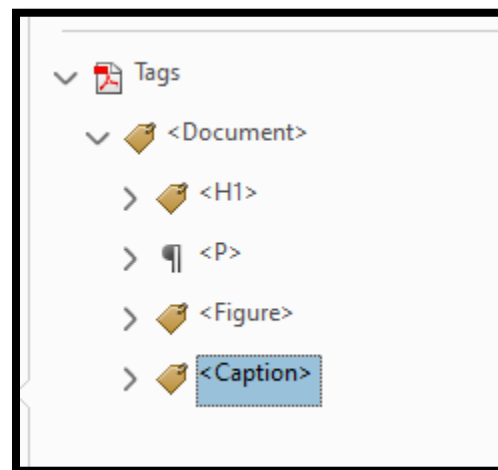
Sometimes captions are prefaced by “Figure x.”

It is suggested that captions appear before graphics and tables to let someone know that the next item that they will come across is a graphic or a table.

Captions are important (when they can be used) to support accessibility. There are two reasons for this:

1. If the document is going to be embossed in Braille (whether it is a PDF or not), graphics are not embossed in the Braille document. They must be created using a separate embosser and software, which physically separates them from the document. Using a caption provides information that a graphic is present and, in terms of matching tactile graphics, allows the end-user to associate the tactile graphic with its place in the content.
2. For those who cannot visually decode a graphic, providing additional information using a caption gives more context and it is available to everyone. If the document is printed, Alt Text is not available to anyone. A caption provides the context of the graphic to the surrounding content.

Figure 17 The <Caption> Tag in a PDF from Word when the Caption tool is used (Microsoft 365).



Microsoft Word 365 converts the Caption style to a <Caption> Tag in the Tags Tree as of January 2024. Microsoft 365 is the subscription suite, not the stand-alone version.

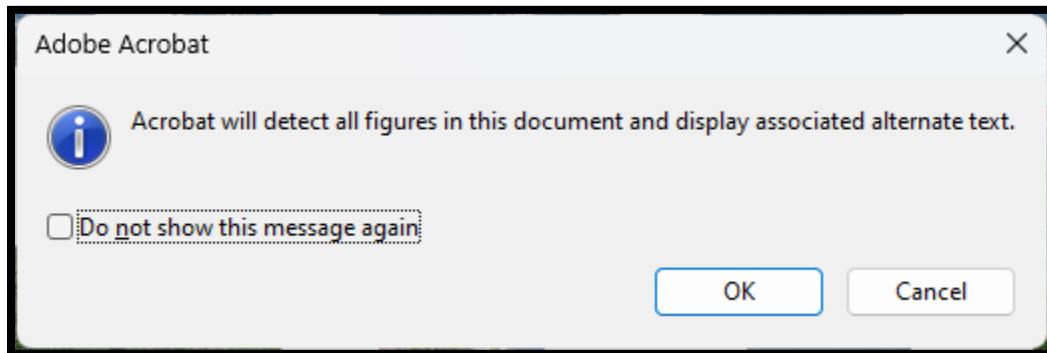
Adobe Acrobat Pro DC

Set Alternative Text Dialog

Adobe Acrobat Pro DC has a tool in the Accessibility tools in the Tools Task Pane to “Set Alternative Text”. This is a dialog that contains, from top to bottom: an arrow to go to the previous graphic, the current graphic and the total number of graphics in the document, an arrow to move to the next graphic, a checkbox to indicate that the

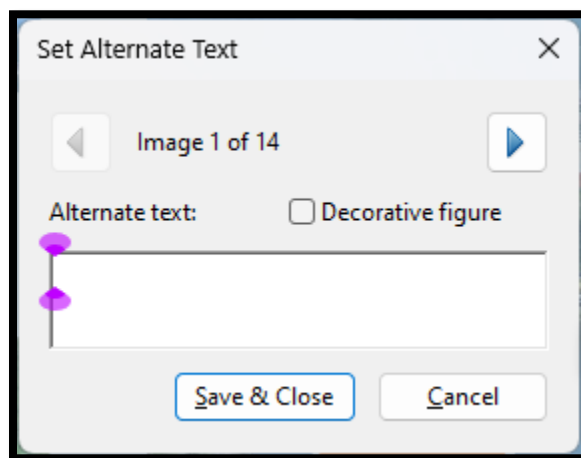
graphic is decorative, the text edit area where you can add or check the Alt Text, a Save and Close button and a Cancel button.

Figure 18 First step in the Set Alternative Text process in Adobe Acrobat Pro DC, the notification dialog.



When you go to the Set Alternative Text option, Acrobat notifies you that it will go through the document and identify all graphics. There is a check box in this dialog to not be advised of this in the future.

Figure 19 Adobe Acrobat Pro DC, Accessibility tools, Set Alternative Text dialog.



Once you activate the OK button, the Set Alternative Text dialog opens, and you can go through all the graphics in the PDF.

It takes a while to get used to not activating the Save and Close button thinking it is a Next button, which is the intuitive way we go through similar dialogs.

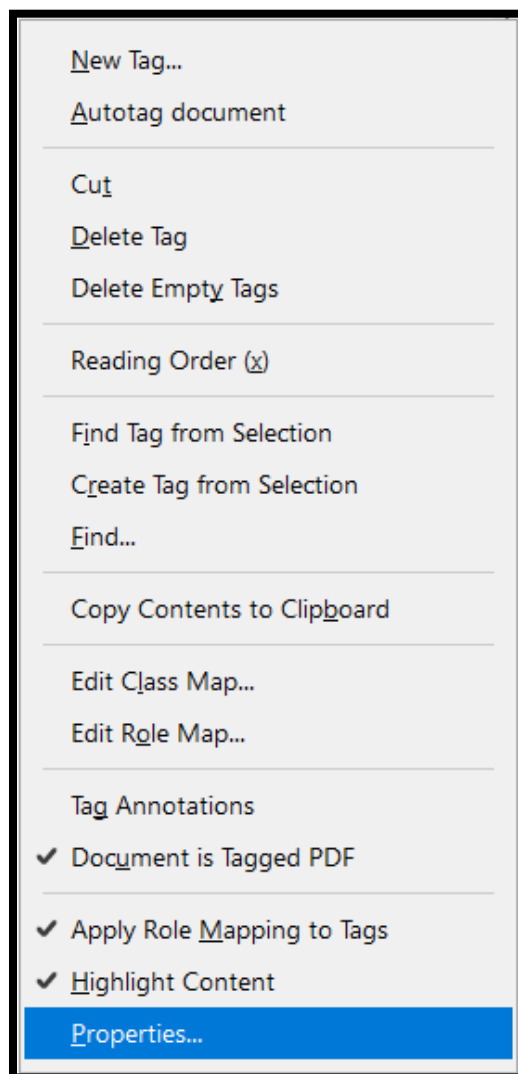
Adding Alt Text in the Object Properties Dialog for a Tag

As you go down the Tags Tree in the Navigation Panel to perform the quality assurance process in a PDF, you can add Alt Text to graphics using the Properties dialog.

Right-click on a <Figure> or <Formula> Tag.

Choose Properties which is the last item in the context menu.

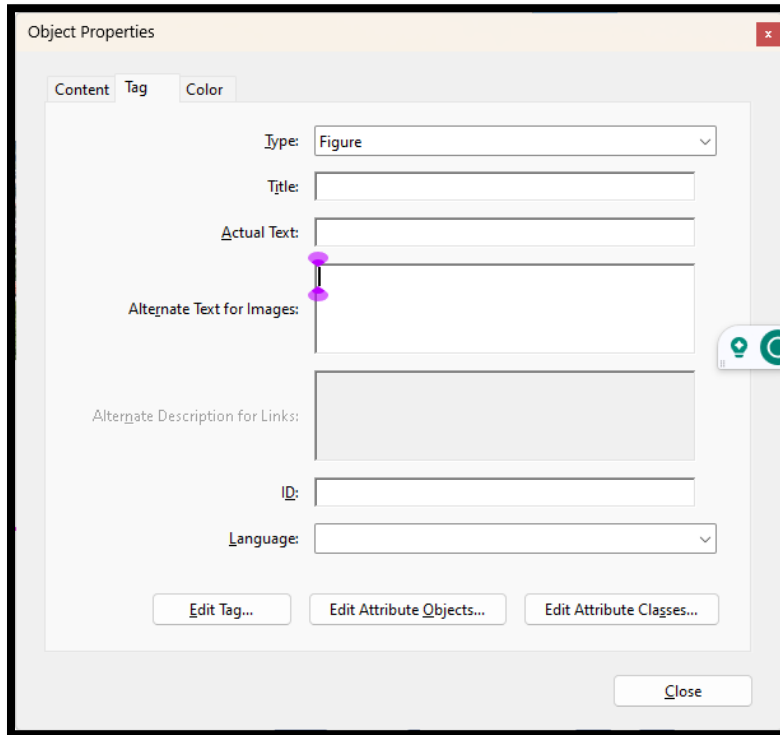
Figure 20 Context menu for a Tag in the Tags Tree (Adobe Acrobat Pro DC).



The Properties dialog opens, and you can add the Alt Text.

Activate the Close button to close the Properties dialog.

Figure 21 The Object Properties dialog for a Tag in Adobe Acrobat Pro DC.



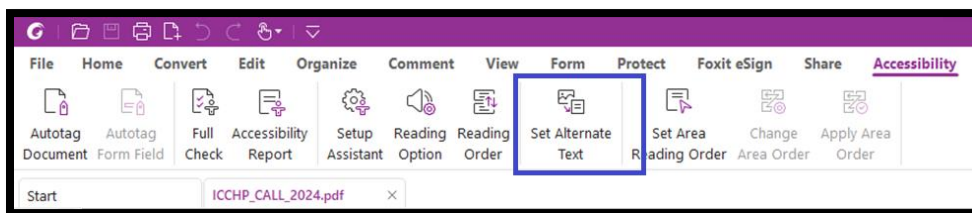
Foxit PDF Editor

Set Alternative Text Dialog

Foxit PDF Editor has an Accessibility Ribbon that contains the Set Alternative Text option.

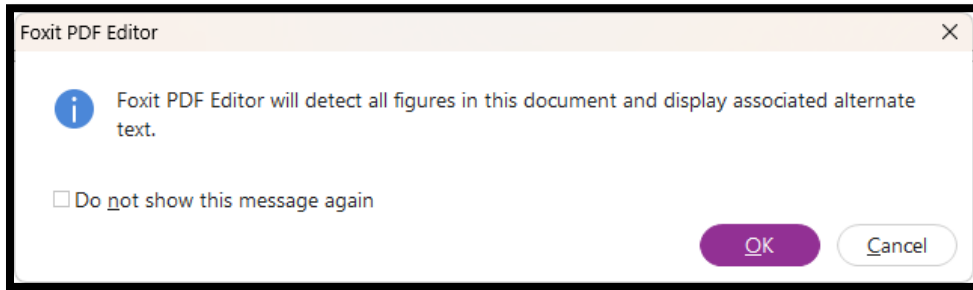
Note: Unlike Adobe Acrobat Pro DC, you will need to repeatedly add the Tags, Content, and Order Panels to the Navigation Pane. This is annoying.

Figure 22 The Foxit PDF Editor Accessibility Ribbon, Set Alternative Text option.



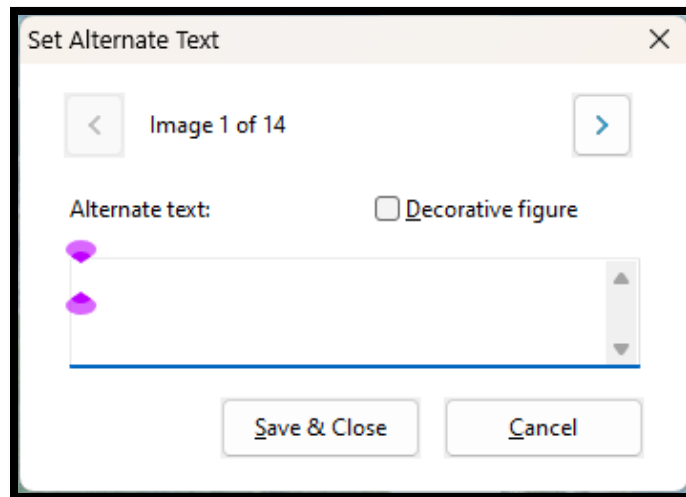
Once the Set Alternative Text option is chosen, the notification appears letting you know that Foxit is going to go through the document graphic by graphic.

Figure 23 First step in the Set Alternative Text process in Foxit PDF Editor, notification dialog.



When the Set Alternative Text dialog opens, the information is arranged, from top to bottom: An arrow to move to the previous graphic, the current graphic and total number of graphics, an arrow to move to the next graphic, a check box to mark the graphic as an Artifact/decorative figure, the plain text editor to add Alt Text, the Save and Close button and the Cancel button.

Figure 24 Foxit PDF Editor Set Alternative Text dialog.

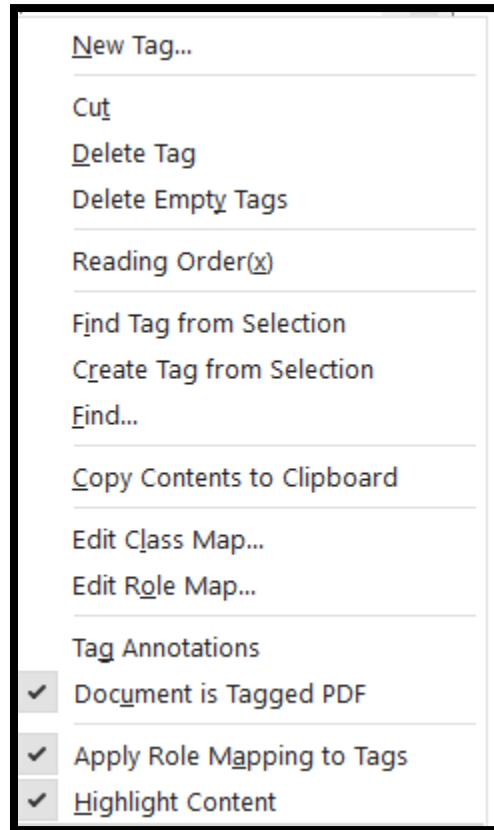


It takes a while to get used to not activating the Save and Close button thinking it is a Next button, which is the intuitive way we go through similar dialogs.

Adding Alt Text in the Object Properties Dialog for a Tag

As you go down the Tags Tree to perform the quality assurance process in a PDF, you can add Alt Text to graphics using the Object Properties dialog.

Figure 25 Context menu for a Tag in Foxit PDF Editor showing the Properties option.



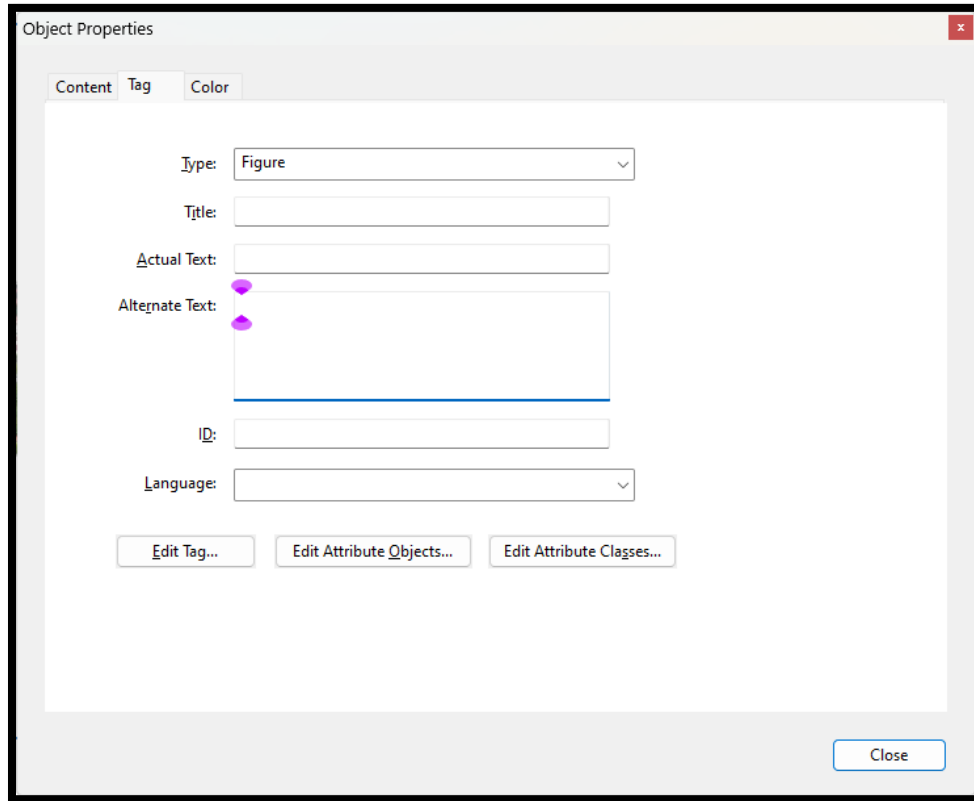
Right-click on a <Figure> or <Formula> Tag.

Choose Properties which is the last item in the context menu.

The Properties dialog opens, and you can add the Alt Text.

Activate the Close button to exit the Object Properties dialog...Alt + C doesn't work in Foxit.

Figure 26 The Object Properties dialog on a Tag in the Tags Tree (Foxit PDF Editor).



Word (Microsoft 365 Desktop)

Adding Alt Text to Graphics

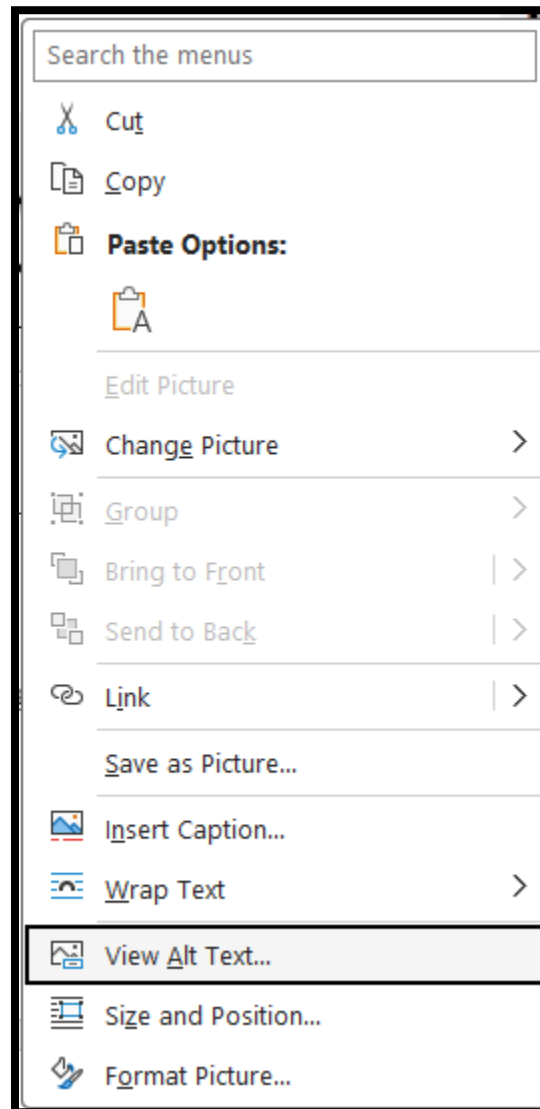
In the Microsoft Word application, it is easy to add Alt Text to graphics.

Select the graphic.

Press the AppKey (right-click equivalent) to open the context menu.

Press A for View Alt Text.

Figure 27 Context menu showing View Alt Text option in Microsoft Word (Microsoft 365).



The Alt Text Pane opens to the right of the document.

The focus is in the edit area.

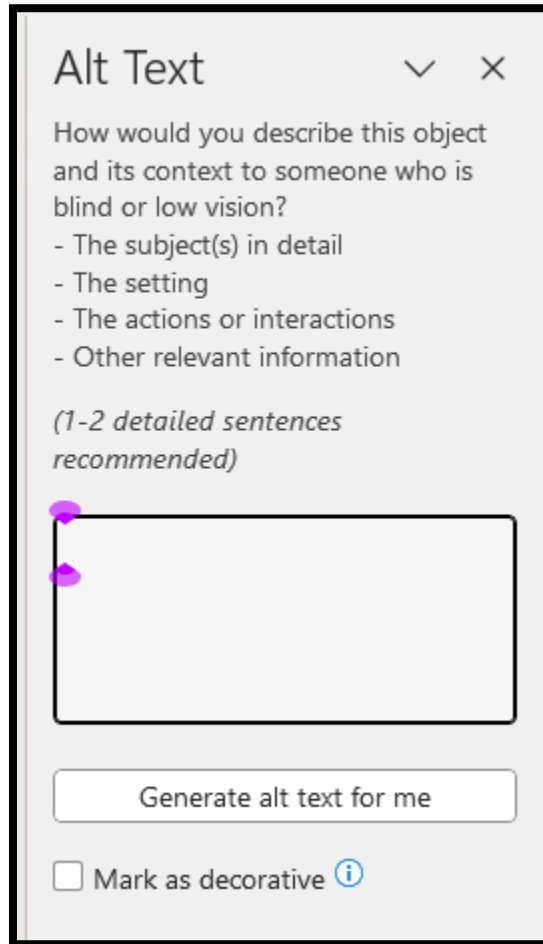
You will see a sample of Alt Text if you have “Automatically Generate Alt Text” turned on.

Make sure you read and edit the Alt Text, so it accurately reflects why the graphic is in the document and remove the disclaimer.

If you want to create the Alt Text from scratch, press Ctrl + A to Select All content in the Alt Text editor and press Delete.

You can then type original Alt Text for the graphic.

Figure 28 Alt Text Pane in Word (Microsoft 365).

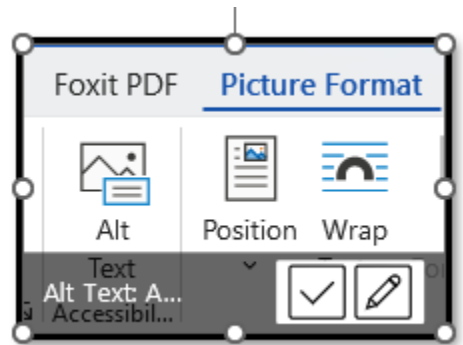


Close the Alt Text Pane by pressing Ctrl + Spacebar, C for Close.

When a graphic is inserted into a Word document, there are two buttons along the bottom of the graphic: Approve and Edit. The Alt Text for the graphic is shown to the left of the two buttons. Not all of it is visible. It is recommended that the Edit option is chosen to review all the Alt Text for the graphic if you are mouse-dependent.

If you use the keyboard, use the AppKey and choose View Alt Text.

Figure 29 Add Alt Text or Approve Generated Alt Text from the inserted graphic (Microsoft Word 365).



Note: If it is possible, add a Caption to the graphic. If someone needs a Braille copy of the document, they will not know that there is a graphic unless there is a caption for it. Braille translation software does not include the embossing of graphics. One needs separate tools and software to do that. Additionally, this means that the graphic is physically separated from the text. Not all documents can facilitate Captions, however, consider using them when it is possible.

In the Alt Text Pane, a graphic can also be marked as a decorative graphic. This is a check box. To get to it once the focus is in the edit area for the Alt Text, press Tab to land on the Generate Alt Text button (it is turned on) and Tab again to land on the check box to mark the graphic as decorative. Press the Spacebar to check the check box,

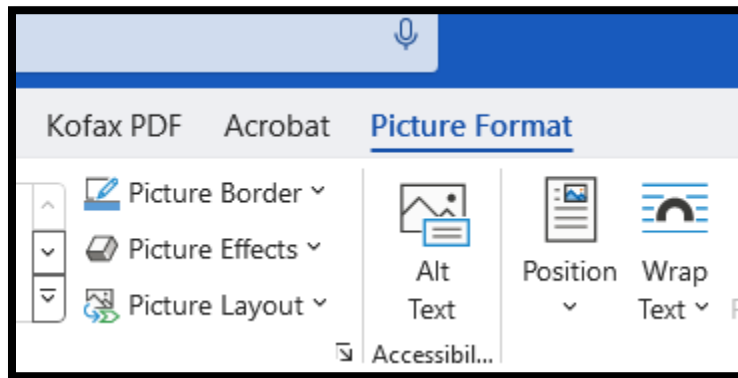
Adding Alt Text using the Picture Format Ribbon

There is another way in Word to open the Alt Text Pane.

Select a graphic.

Press Alt + J, P, A, T for the Picture Format Ribbon, Alt Text button in the Accessibility Group. The Alt Text Pane opens to the right of the document.

Figure 30 Alt Text button in the Accessibility group in the Picture Format Ribbon (Word 365).



The focus is in the Alt Text Editor.

If you use “Generate Alt Text” turned on, you need to approve or edit the Alt Text.

If you want to create the Alt Text from scratch, press Ctrl + A to Select All content in the Alt Text editor and press Delete.

You can then type the original Alt Text for the graphic.

When you’ve added the Alt Text, press Ctrl + Spacebar, C to Close the Alt Text Pane.

Adding Alt Text using the Accessibility Assistant

The Accessibility Check is now the Accessibility Assistant.

When an Accessibility Check is performed, there is an opportunity to add Alt Text to graphics that might have been missed.

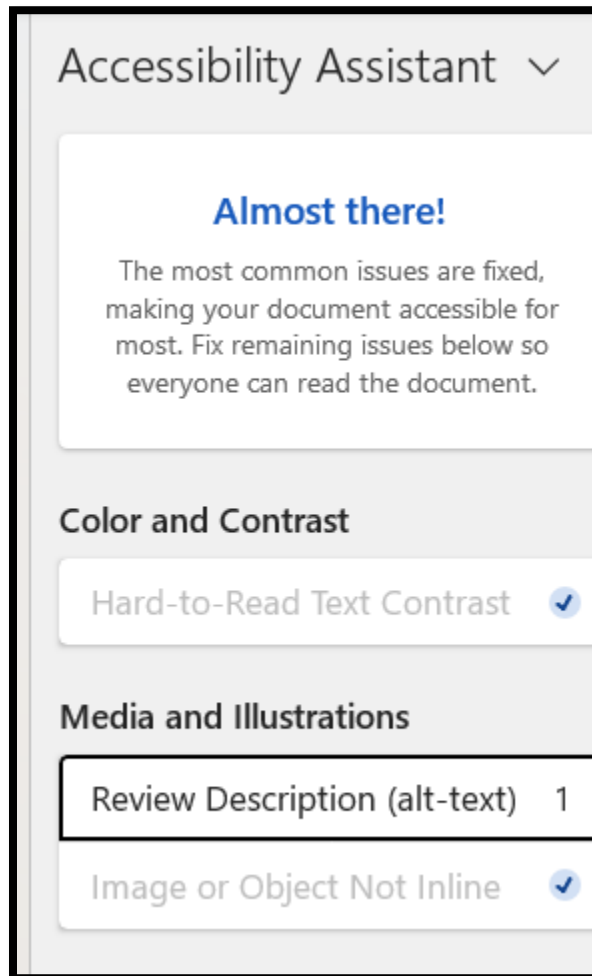
If you are using the keyboard, pressing F6 moves you forward through the Word user interface, and Shift + F6 moves you backward through the user interface.

There are three ways to access the Accessibility Checker in Word:

- Press Alt F, letter I, letter I, for the File menu, Info tab, Inspect Document, then Down Arrow to Check Accessibility.
- Press Alt + R, A, number 1, A for Review Ribbon, Check Accessibility, Check Accessibility.
- If the Accessibility Checker is running in the Status Bar, press F6 to get to the Status Bar, then press the Right and Left Arrows until you are on the Accessibility Checker, then press the Spacebar to open the Accessibility Pane.

When you ask for an accessibility check, the Accessibility Assistant Pane opens to the right of the document.

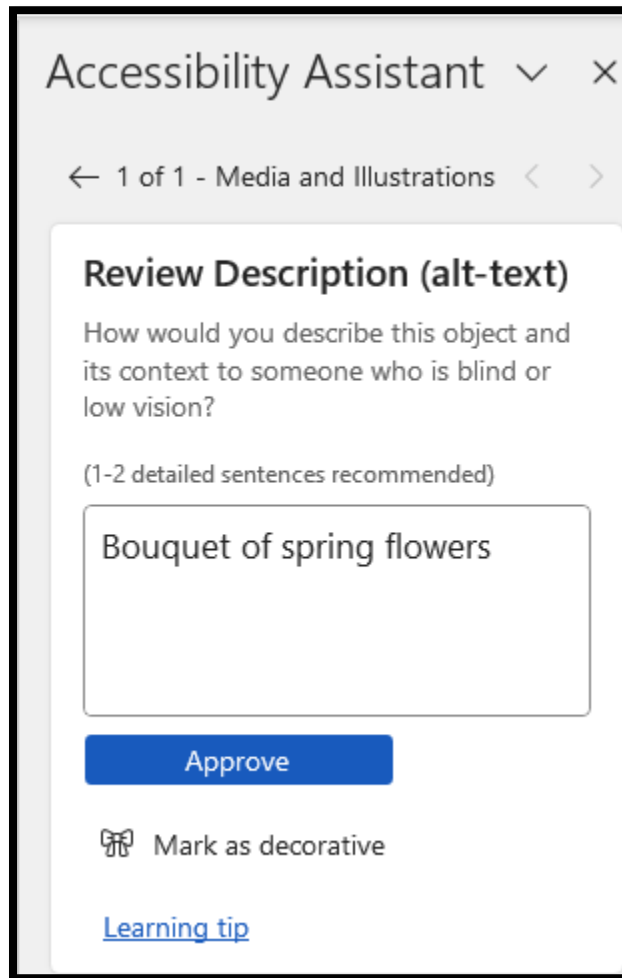
Figure 31 The Accessibility Assistant Pane in Word showing 2 graphics with no Alt Text.



With the focus on the Media and Illustrations issues, press the Spacebar to open an Alt Text editor for the first graphic without Alt Text.

Add the Alt Text and press Tab to move to the Approve button, then press the Spacebar to activate it.

Figure 32 Review Description (Alt Text) in the Accessibility Assistant (Word 365 desktop).



The Alt Text editor opens for the next graphic without Alt Text (if there is one).

Add the Alt Text for that graphic, press Tab to the Approve button, then press the Spacebar to activate it.

You can generate Alt Text or make a graphic decorative once you press the Spacebar to move to the Alt Text editor.

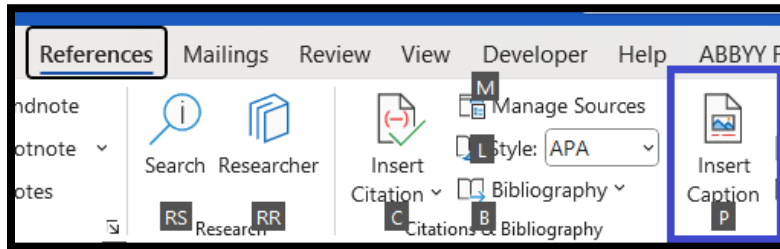
Adding a Caption to a Graphic

With the graphic selected in Word (desktop), press the AppKey or right-click and choose Insert Caption or press N. The complete keyboard command is AppKey followed by N.

The References Ribbon can also be used to access the Insert Caption tool.

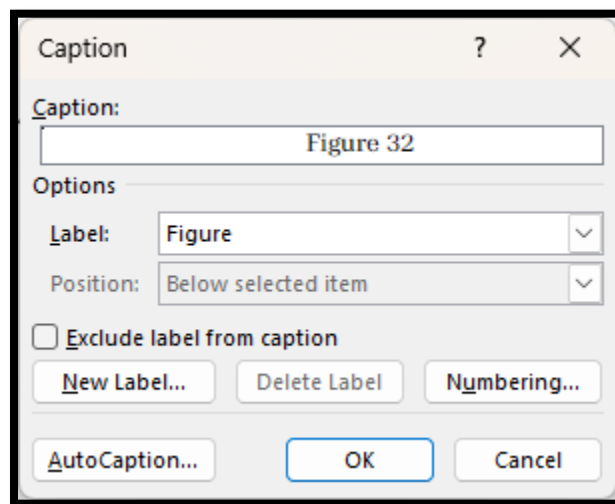
The keyboard command is Alt +S, P.

Figure 33 Insert Caption on the References Ribbon (Microsoft Word 365).



The Caption dialog opens. In the following graphic, I've modified my Caption style to be centered. When creating my tutorials and books, graphics are centred. Adding this to the Caption style avoids direct formatting.

Figure 34 Caption dialog (Microsoft Word 365).



In the Caption dialog, the first edit area is to type or copy and paste the caption's text.

The text will be prefaced with “Figure x” with x representing the sequential number for the graphic/caption.

The next area of the dialog has the Label (Alt + L) list. The possibilities are Figure, Table, and Formula. Make sure you have the right one for the type of content you are providing a caption for.

The next area determines whether the caption goes above or below the graphic. Just as with tables, place the caption before the graphic so that someone using adaptive technology knows that the next thing, they will come across is a graphic.

Other options in the Caption dialog are to exclude numbers, change the numbering, create a new label, AutoCaption, OK and Cancel.

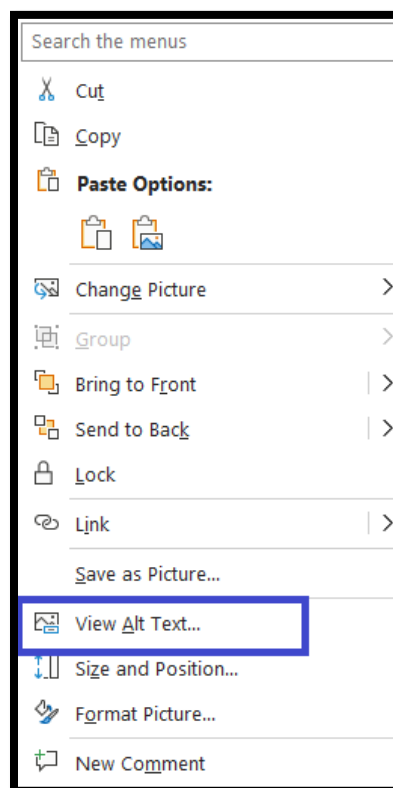
Note: If you use captions on graphics, you can create a Table of Figures for documents. This is a handy tool for reports, planning documents and other types of content. It makes finding maps, diagrams, and graphics easy. This is the same for tables; when captions are used for tables, you can create a Table of Tables so that the data is easier to find. Go to the References Ribbon, Table of Figures and choose which one to create. Leave the defaults as you would in a Table of Contents. Press Alt + S, G to open the Table of Figures dialog.

PowerPoint (Microsoft 365 Desktop)

Adding Alt Text to Graphics

Alt Text can be added to graphics as you add the graphic to a slide canvas or Slide Master.

Figure 35 Graphic context menu showing View Alt Text (PowerPoint 365).



Select a graphic.

Press the AppKey (right-click) and choose View Alt Text from the context menu.

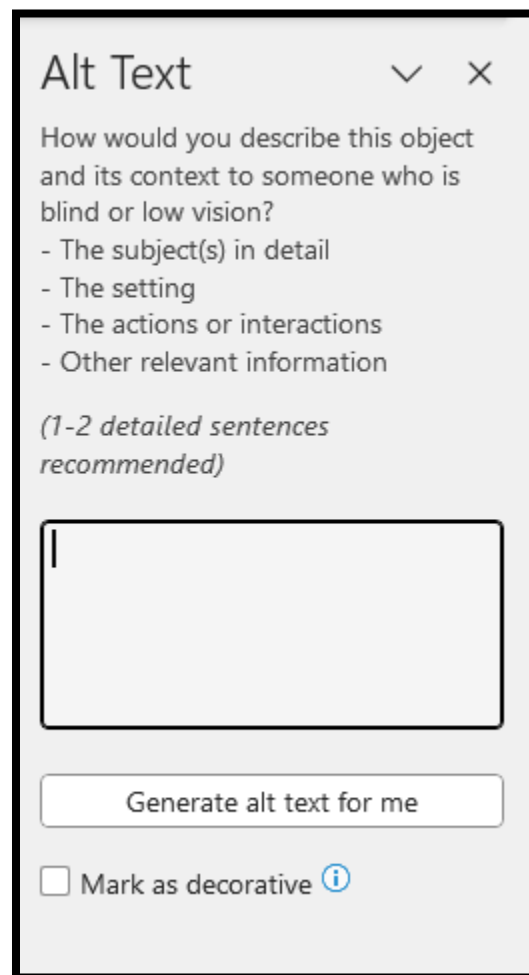
The Alt Text Pane opens to the right of the slide canvas or Slide Master canvas.

The focus is in the edit area where you can add the Alt Text. If “Automatically generate Alt Text” is turned on, you must review the Alt Text and approve it.

If you want to create the Alt Text from scratch, press Ctrl + A to Select All content in the Alt Text editor and press Delete.

You can then type original Alt Text for the graphic.

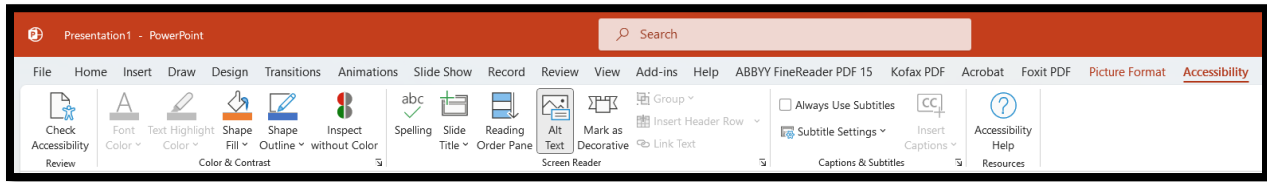
Figure 36 The Alt Text Pane in PowerPoint 365.



There are other tools in the Alt Text Pane to “Generate Alt Text for me” if you don’t like the existing Alt Text (if you have this option turned on) or to mark the graphic as decorative.

When the Alt Text Pane is launched, the Accessibility Ribbon appears just after the Picture Format Ribbon.

Figure 37 Accessibility Ribbon in PowerPoint 365.



The tools on the Accessibility Ribbon in PowerPoint include the ability to add an accessible Slide title placeholder for slides that don't have a Slide title. These are slides that have text boxes or shapes that replace an accessible default Slide Title placeholder. The Slide title placeholder is essential to providing the structure of a PowerPoint presentation and in exporting the presentation to tagged PDF.

When the Alt Text Pane is launched, the focus should be in the edit area where you can review the Alt Text (if you can generate Alt Text turned on).

If you want to create the Alt Text from scratch, press Ctrl + A to Select All content in the Alt Text editor and press Delete.

You can then type original Alt Text for the graphic.

In the Alt Text Pane, you can also mark the graphic as decorative or generate Alt Text if that option is turned on.

When the Alt Text is added, press Ctrl + Spacebar, C to Close the Alt Text Pane.

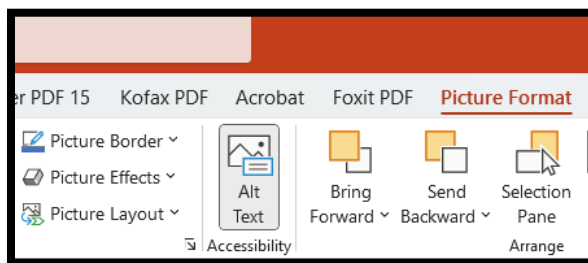
Using the Picture Format Ribbon

Alt Text can be added using the Picture Format Ribbon.

Select the graphic on a slide canvas or Slide Master.

Press Alt + J, P, A, T for the Picture Format Ribbon, Alt Text button in the Accessibility group.

Figure 38 The Alt Text button on the Picture Format Ribbon in PowerPoint 365.



When the Alt Text Pane is launched, the focus should be in the edit area where you can review the Alt Text (if you have the ability to generate Alt Text turned on).

If you want to create the Alt Text from scratch, press Ctrl + A to Select All content in the Alt Text editor and press Delete to remove existing Alt text.

You can then type original Alt Text for the graphic.

In the Alt Text Pane, you can also mark the graphic as decorative or generate Alt Text is that option is turned on.

When the Alt Text is added, press Ctrl + Spacebar, C to Close the Alt Text Pane.

Add Alt Text to Graphics Using the Accessibility Checker

In PowerPoint for Microsoft 365 subscription, the Accessibility Checker has not yet been revised to be the Accessibility Assistant (as of January 2024).

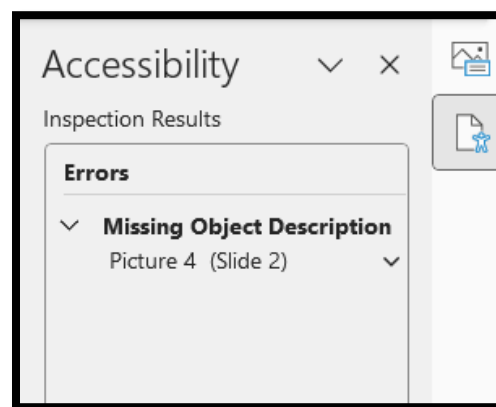
If you are using the keyboard, pressing F6 moves you forward through the PowerPoint user interface, and Shift + F6 moves you backward through the user interface.

There are three ways to access the Accessibility Checker in PowerPoint:

- Press Alt F, letter I, letter I, for the File menu, Info tab, Inspect Document, then Down Arrow to Check Accessibility.
- Press Alt + R, A, number 1, A for Review Ribbon, Check Accessibility, Check Accessibility.
- If the Accessibility Checker is running in the Status Bar, press F6 to get to the Status Bar, then press the Right and Left Arrows until you are on the Accessibility Checker, then press the Spacebar to open the Accessibility Pane.

When you ask for an accessibility check, the Accessibility Pane opens to the right of the document.

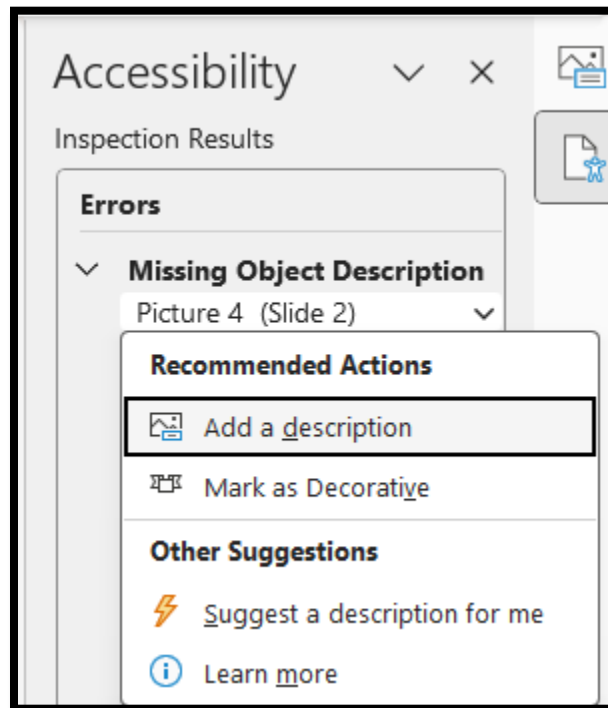
Figure 39 Accessibility Pane in PowerPoint 365 showing Missing Object Description list.



If the focus is not in the list of checkpoints, press Tab to move into the list.

Then, locate the desired element using the Up, Down, Left and Right Arrows.
Press the Spacebar to open the context menu for the element.
Choose to add a description of the first item.

Figure 40 The Accessibility Checker in PowerPoint 365 allows adding Alt Text.



The other options in the context menu are:

- Add a description (D).
- Mark as Decorative (V).
- Suggest a Description for me (G)
- Learn More (M)

Once Alt Text is provided, press Ctrl + Spacebar followed by C for Close, to return to the Accessibility Checker. The graphic in the list will disappear.

If the Accessibility Pane or the Alt Text Pane are open, there is access to the Accessibility Ribbon.

PDF 2: Creating Bookmarks in PDF Documents

Bookmarks in PDFs are an optional element according to the ISO 32000 – 1:2008 and ISO 14289 – 1:2014 standards.

For conformance to WCAG versions, Bookmarks are an “advisory” element.

WCAG Success Criteria

[PDF2: Creating bookmarks in PDF documents](#)³⁰.

- Advisory for [2.4.5: Multiple Ways](#)³¹ (WCAG 2.0, 2.1, 2.2 AA).
 - [Understanding 2.4.5 Multiple Ways](#)³².

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards.

ISO 32000-1: 2008 - Table 22 – User access permissions.

12.3.3 - Document Outline.

ISO 14289 – 1: 2014.

7.17 Navigation.

Why Bookmarks are Important Navigational Features

Bookmarks add to the accessibility of PDFs. Bookmarks provide navigational support for those not using screen readers or Text-to-Speech tools. Bookmarks support the ability to navigate by Heading instead of a Table of Contents or in digital content where there is no Table of Contents.

Most PDF Accessibility Checkers will check to see if Bookmarks are present.

A tool like the Bookmarks Panel in PDF Editors is the Navigation Pane in Microsoft Word (all versions). The Navigation Pane in Word is accessed by pressing Alt + W, K for View Ribbon, Navigation Pane.

³⁰ PDF 2 Creating Bookmarks in PDF documents, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF2>

³¹ Success Criteria 2.4.5 Multiple Ways, W3C: <https://www.w3.org/TR/WCAG22/#multiple-ways>

³² Understanding 2.4.5 Multiple Ways, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/navigation-mechanisms-mult-loc.html#:~:text=2.4.5%20Multiple%20Ways%3A%20More%20than%20one%20way%20is,result%20of%2C%20or%20a%20step%20in%2C%20a%20process.>

Adobe Acrobat Pro DC

Adding Bookmarks using the Bookmarks Panel

The Bookmarks Panel is accessible using the keyboard. However, adding Bookmarks is a mouse dependent activity because you must select text in the visual representation of the content (the PDF).

1. Press F4 to open the Navigation Pane.
2. The focus will be on one of the tabs in the Navigation Pane.
3. Use the Up and Down Arrows to move to the Bookmarks tab.
4. Press the Spacebar to move into the list of Bookmarks.
5. Press the Up and Down Arrows to move through the Bookmarks and press Enter on the topic/Bookmark you want to go to.

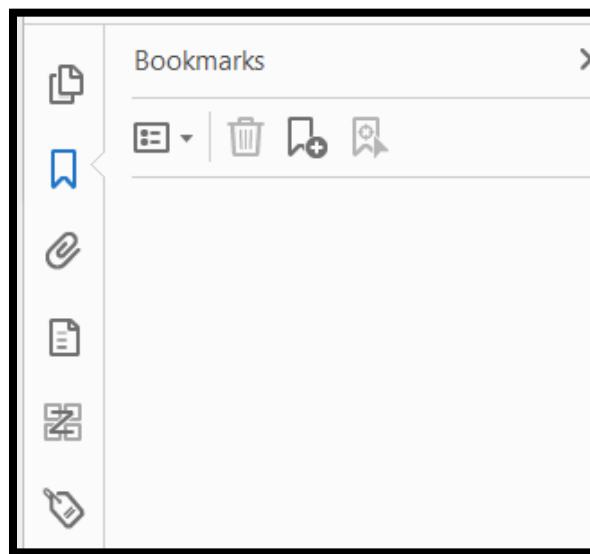
If the focus is lost from the Navigation Pane, press F6 or Shift + F6 to move back to it.

Adding Bookmarks is a mouse dependent activity. You must be able to select the text in the PDF to make it a Bookmark.

This technique adds individual Bookmarks manually.

Using the Select Text tool, select the Heading text in the PDF that you want to be a Bookmark.

Figure 41 Bookmarks Panel in Adobe Acrobat Pro DC with Add Bookmark button active.



In the Bookmarks Panel, click on the Add Bookmarks button.

The Bookmark is added.

The Bookmark is in edit mode. If the text is not correct, you can edit it.

Most often, the text is correct. Press Enter to accept the Bookmark text.

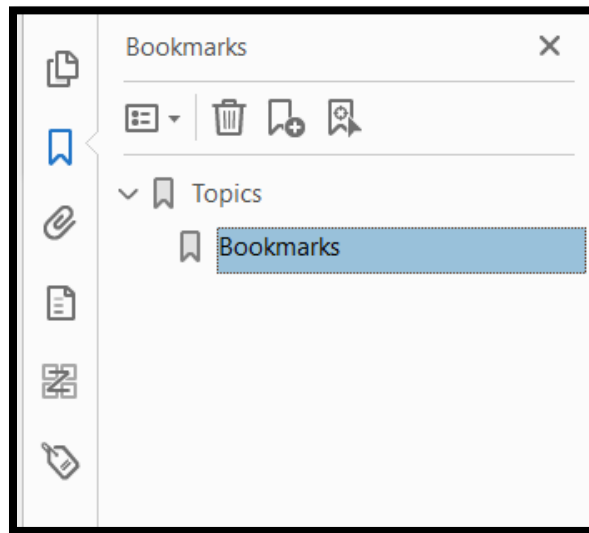
It will be placed just after the previous Bookmark. If all Bookmarks are at the same level, it will be placed at the end of the Bookmarks list. Use the mouse to move it to its logical place.

Bookmarks should be nested, using the mouse, to reflect the document outline/Heading levels.

If you nest a Bookmark under another one, select the nested Bookmark to add another Bookmark at the same level.

If you want to add a Bookmark at the top level, select the previous top-level Bookmark, select the text for the next Bookmark at the same level and add it.

Figure 42 Nested Bookmarks in the Bookmarks Panel of Adobe Acrobat Pro DC.



Bookmarks can be nested by moving them to their place in the logical reading order/outline order of the document while in the Bookmarks Panel.

Adding Bookmarks using the Keyboard

This method can be used if the button for adding a Bookmark is not working. As with most applications, several tools exist to do the same thing.

This activity, despite the title, is also mouse-dependent.

Use the mouse to select the Heading text in the PDF.

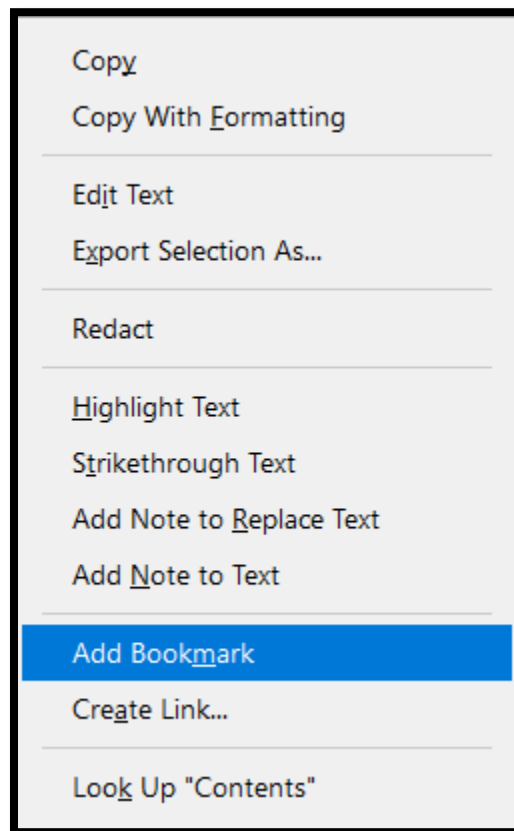
Press Ctrl + B to Add a Bookmark.

The Bookmark will appear in the Bookmarks Panel positioned just after the previous Bookmark. If all Bookmarks are at the same level, the new Bookmark will appear at the end of the Bookmarks list. It can then be moved to its logical place.

Using the Context Menu

Another option to manually add Bookmarks is to use the context menu.

Figure 43 Adobe Acrobat Pro DC context menu to create a Bookmark.



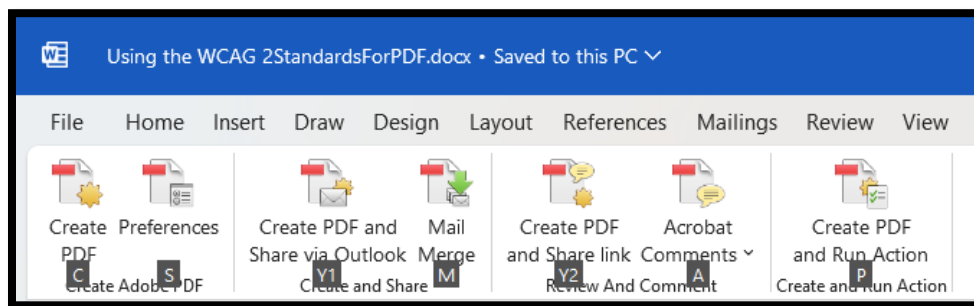
1. Select the Heading text to be used as a Bookmark.
2. Right-click and choose Add Bookmark from the context menu.
3. The Bookmark is added at the next place in the Bookmarks Panel.
4. The Bookmark is in edit mode so the text can be edited if necessary.
5. Either press Enter or click off the Bookmark to accept the text.

Using the Preferences Dialog

Bookmarks can be set in Microsoft Word documents using the Preferences settings from the Acrobat Ribbon.

The keyboard command to access the Preferences dialog in Microsoft Word 365 is Alt + Y, 4, S on my desktop computer. The position might be different on your desktop computer, however, once the Acrobat Ribbon is visible, the letter S will open the Preferences dialog.

Figure 44 Acrobat Ribbon in Microsoft Word 365.



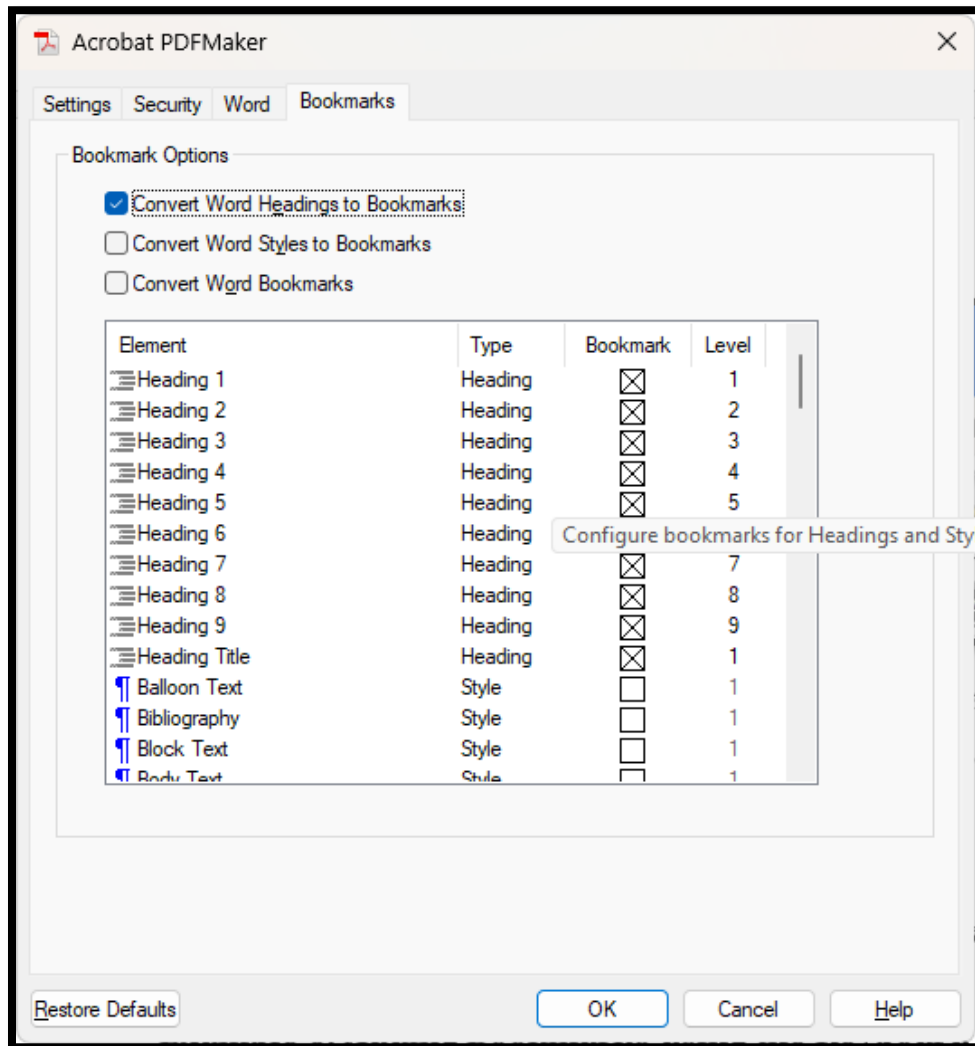
When the Preferences dialog opens, use Ctrl + Tab to move to the Bookmarks tab.

While navigating the Acrobat Preferences dialog, you cannot access the checkboxes to check or uncheck an option for Bookmarks using the keyboard. That activity is mouse dependent.

Although all Heading levels are checked to create Bookmarks, remember when authoring documents that PDF only recognizes 6 levels of Headings. Any Heading beyond Heading 6 will not be recognized by the PDF conversion process. In most instances, it will be tagged using a <P> tag.

This requires manual remediation in the PDF Editor reassign the Headings beyond H6 to be H6s in the PDF. Even though they are not supported in PDF (or HTML), Headings beyond H6 are still navigational points in PDFs.

Figure 45 Bookmarks tab in the Preferences dialog from the Acrobat Ribbon in Microsoft Word 365.

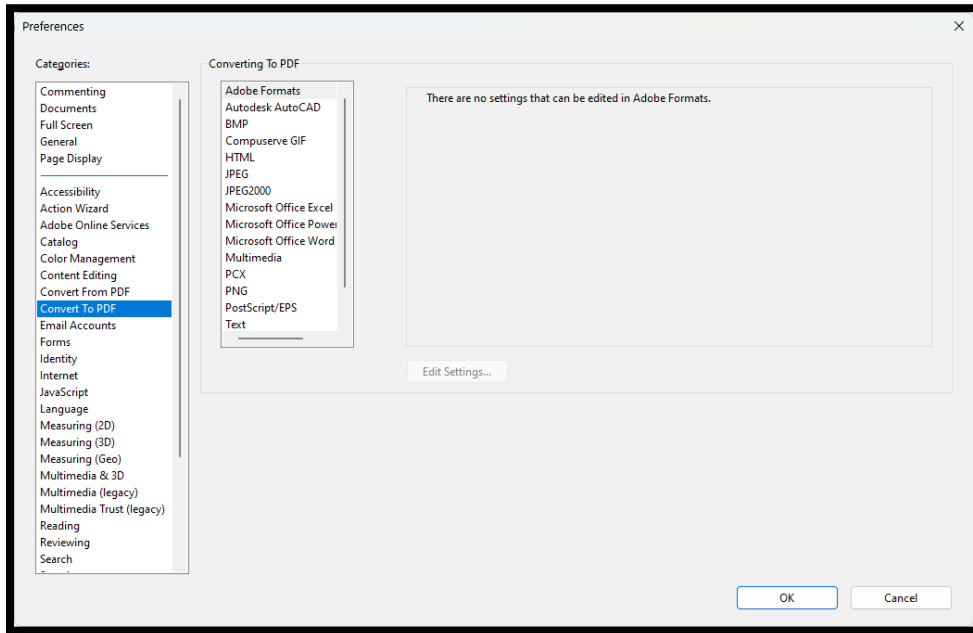


Bookmark Settings in Adobe Acrobat Pro DC for Microsoft Word

Bookmarks can be set for Microsoft Word 365 in Adobe Acrobat Pro DC. A document doesn't need to be open to access the Preferences.

Press either Alt + E, N for the Edit menu, Preferences; or Ctrl + K.

Figure 46 Adobe Acrobat Pro DC Preferences dialog with Convert to PDF selected.



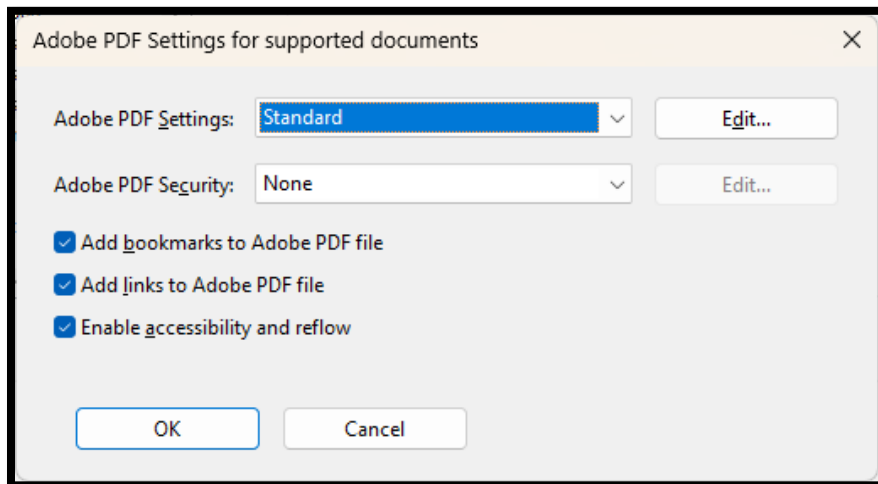
When the Preferences dialog opens, press C until you find Convert to PDF.

Press the Tab to move into the list of applications to convert to PDF.

Press M for Microsoft Word.

Once Microsoft Word is selected, press Alt + E to open the Edit Settings dialog.

Figure 47 Adobe PDF Settings for Supported Documents.



Add Bookmarks to Adobe PDF file should be checked by default. This will use Headings in the Word document to create the Bookmarks.

If this option is not checked, use the Tab to move to it, the Spacebar to check it and then move to and activate the OK button.

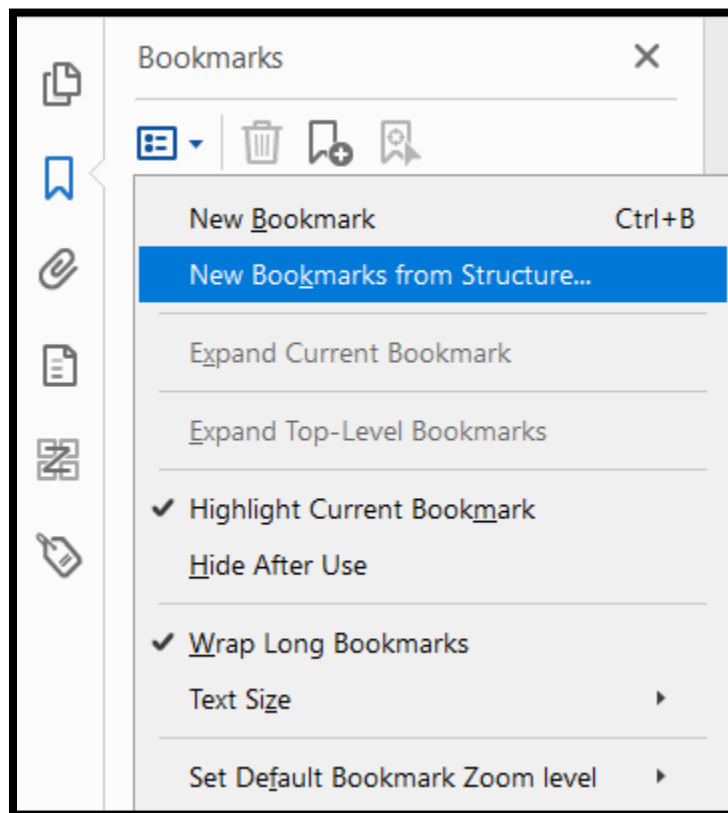
If this check box is checked, press the Escape key until you are back to the Acrobat user interface.

Using the “New Bookmarks from Structure” Option

Bookmarks can be created using the structure of a PDF using the Options button in the Bookmarks Panel.

With no visible Bookmarks in the Bookmark Panel, right-click and choose “New Bookmarks from Structure”.

Figure 48 New Bookmarks from Structure option in the Bookmarks Panel Options menu (Adobe Acrobat Pro DC).

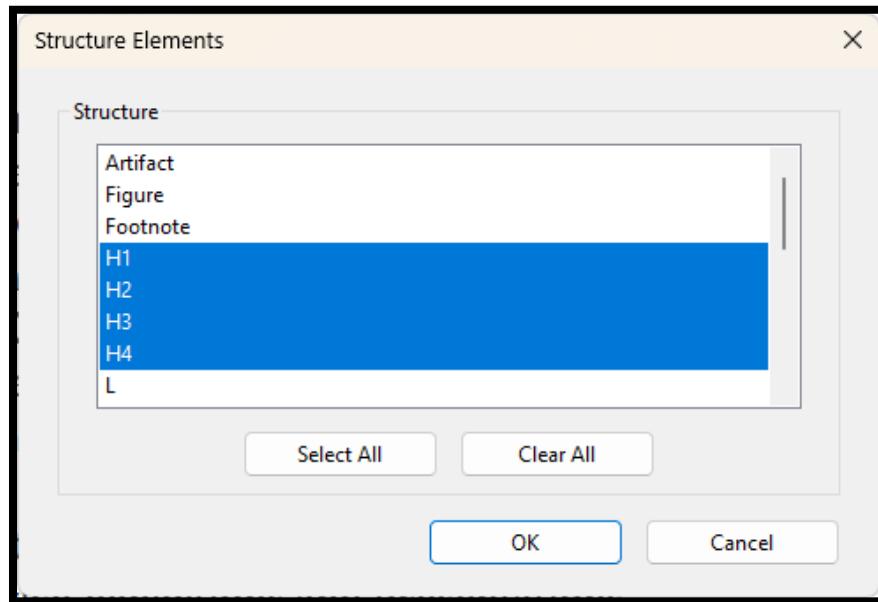


Once the New Bookmarks from Structure option is activated, a dialog opens providing the ability to choose which structure element is used for Bookmarks.

To choose several Headings, hold down the Ctrl key and click the Heading levels that are to be Bookmarks.

Typically, Headings are selected for Bookmarks to synchronize with the Headings in the document (navigational points).

Figure 49 Structure Elements dialog showing several Heading levels to be used as Bookmarks (Adobe Acrobat Pro DC).



If there are Headings beyond H6, you may need to manually remediate these to be H6s and add them to the Bookmarks Panel. PDFs (and HTML) have six levels of Headings.

Foxit PDF Editor

Adding Bookmarks using the Bookmarks Panel

Bookmarks can be added manually in the Foxit PDF Editor.

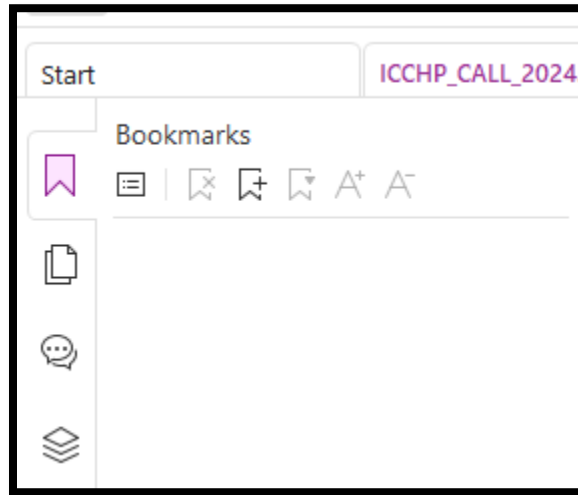
- Press F4 to open the Navigation Pane to the left of the document.
- Use the Up and Down Arrows to locate the Bookmarks tab.
- Press Tab to move into the row of buttons in the Bookmarks Panel.
- Keep pressing Tab until you land on the first Bookmark if there are Bookmarks in the document.

If there are no Bookmarks in the document, the addition of Bookmarks is a mouse dependent activity.

Using the Select Text tool, select the Heading text in the document that needs to be a Bookmark.

In the Bookmarks Panel, click the Add Bookmark button.

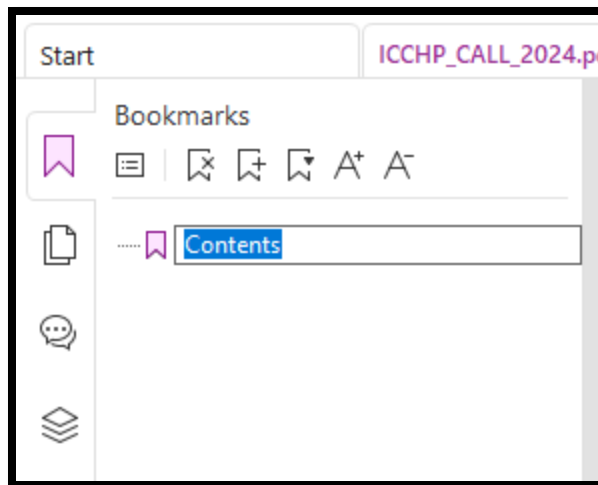
Figure 50 Bookmarks Panel in Foxit PDF Editor.



As a Bookmark is added, it is in Edit mode. The text can be verified or edited. It should be the same text as the Heading.

Press Enter or click out of the Bookmark to exit Edit mode.

Figure 51 Bookmarks Panel with Bookmark in Edit mode (Foxit PDF Editor).



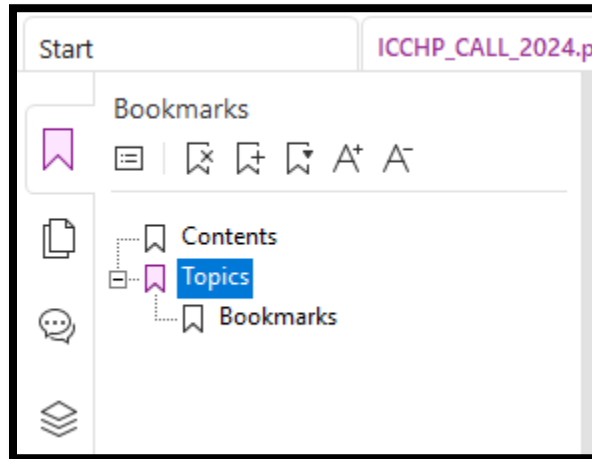
As Bookmarks are added, they should be nested to reflect the Heading levels.

Bookmarks can be moved around the Bookmarks Panel to reflect the document outline or logical order of topics/Headings.

If a Bookmark is at a second level (H2), and it is selected, the next Bookmark will be added at that level.

If a Bookmark representing H1 is selected, the next Bookmark will be added at that level.

Figure 52 Nested Bookmarks in the Bookmarks Panel of Foxit PDF Editor.



Adding Bookmarks using the Keyboard

Bookmarks can be added to a PDF using the keyboard. However, it is a mouse-dependent activity. There are several ways to add Bookmarks. Sometimes one won't work, and it is good to have an alternate way of doing things.

Use the mouse and the Select Text tool to select the Heading text that is to be a Bookmark.

Press Ctrl + B to add a Bookmark.

The Bookmark is added and is in Edit mode. The text can be accepted by pressing Enter or right-clicking anywhere away from the Bookmark, or edited if the text is not the same as the corresponding Heading.

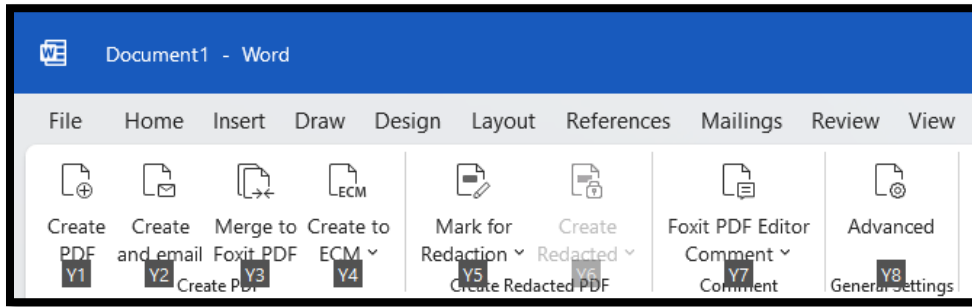
Using the mouse, Bookmarks can be moved around the Bookmarks Panel and nested to reflect Heading levels.

Using the Preferences Dialog in Microsoft Word 365

Access the Foxit PDF Ribbon in Word by pressing the keyboard command identified in Word. The keyboard command sequence will depend on how many add-ins are installed on your desktop. On my computer, the keyboard command is Alt + Y, 5, Y,8.

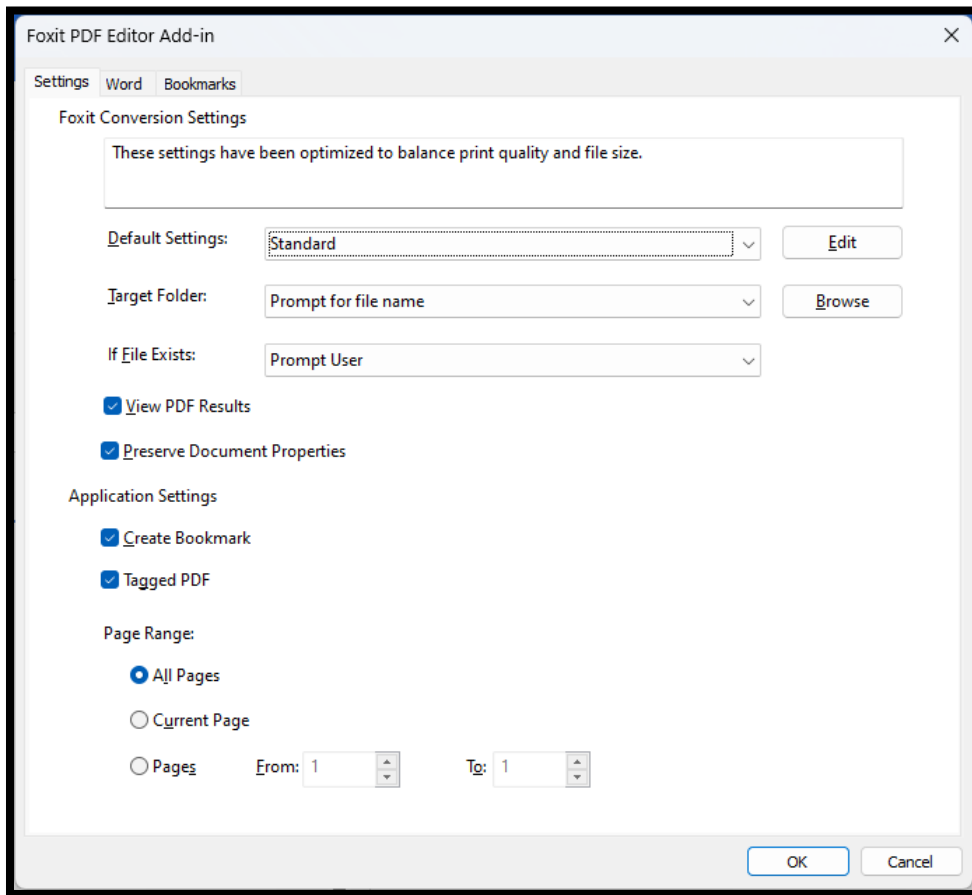
The Y, 8 part of the sequence is on the Foxit PDF Ribbon itself and should be consistent.

Figure 53 Foxit PDF Editor Ribbon in Microsoft Word 365.



The check box to Create Bookmarks is checked by default. The keyboard command to move to it and either check or uncheck it is Alt + C.

Figure 54 Foxit PDF Editor Add-in Settings dialog in Word.



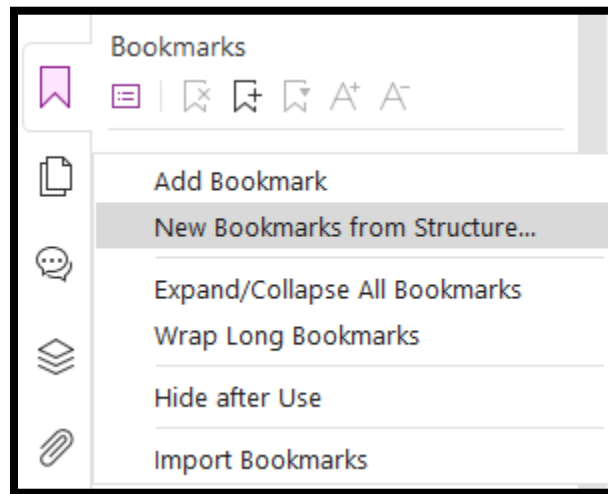
If the check box is checked, press the Escape key to dismiss the dialog.

Using the “Bookmarks from Structure Option

If the PDF has no Bookmarks, the “New Bookmarks from Structure” option can be used to create them.

In the Bookmarks Panel, click on the Option button on the left of the Bookmarks Toolbar.

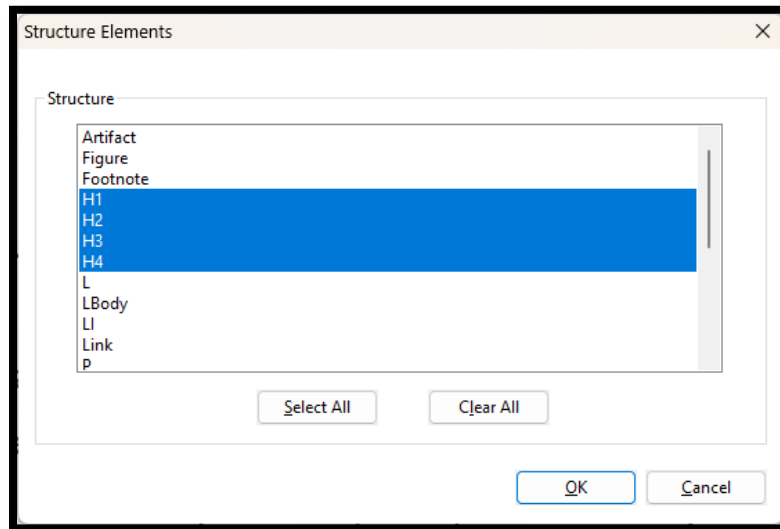
Figure 55 Bookmarks Panel, Options context menu, New Bookmarks from Structure (Foxit PDF Editor).



Once the New Bookmarks from Structure option is activated, the Structure Elements dialog opens.

Typically, Bookmarks are created from Heading in PDFs which synchronizes the navigation through the document by Heading/Bookmark.

Figure 56 Structure Elements dialog showing several Heading levels selected to create Bookmarks (Foxit PDF Editor).



Word (Microsoft 365 Desktop)

Save As PDF Options

Bookmarks can be created when the Word document is converted to tagged PDF.

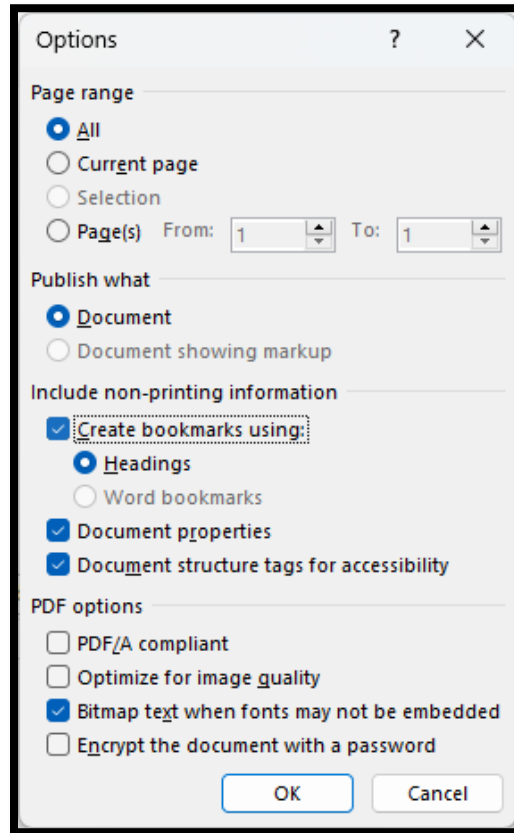
- Press Alt + F, A, M for File, Save As, More Options.
 - F12 will open the Save As dialog if you have access to the Function Keys.
- This opens the Save As dialog.
- Once the option for PDF is chosen, the Options button is visible.
- Press Alt + letter O while in the Save As dialog when the File Type is PDF.

The Options dialog has a check box to Create Bookmarks. This can only be checked if there are Headings in a Word document. When creating a template, ensure there are Headings in the template. The setting to create Bookmarks can then be associated with the template and documents created using the template.

Not every document has Headings. For example, a one-page memo may not have Headings.

The ability to generate Bookmarks when the Word document is converted to tagged PDF using the Microsoft Save As, PDF, can be turned on for both individual documents and document templates.

Figure 57 Options dialog from the Save As dialog once the PDF file type is chosen.



PowerPoint (Microsoft 365 Desktop)

Save As PDF

There is no setting to add Bookmarks to a tagged PDF when using the Microsoft PowerPoint 365 conversion tool.

However, if accessible Slide Title Placeholders are used on each slide, Bookmarks will be created, providing a content hierarchy.

The Slide Title placeholder on the Title Slide will convert to <H1>.

The Slide Title placeholder on the Section Header slide will convert to a<H1>.

All other slides that use the default Slide Title placeholder will convert to <H2>.

In PowerPoint, these are the only two levels of Headings used in presentations.

PDF 3: Ensuring Correct Tab and Reading Order in PDF Documents

This success criterion should be divided into two separate checkpoints. The Tab Order and Logical Reading Order are separate elements of a PDF.

WCAG Success Criteria

[PDF3: Ensuring correct tab and reading order in PDF documents](#)³³.

- Sufficient to meet [1.3.2 Meaningful Sequence](#)³⁴ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.2 Meaningful Sequence](#)³⁵.
- Sufficient to meet [2.1.1 Keyboard](#)³⁶. (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 2.1.1 Keyboard](#)³⁷.
- Sufficient to meet [2.4.3 Focus Order](#)³⁸. (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 2.4.3 Focus Order](#)³⁹.

ISO 32000 – 1:2008 and ISO – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.18.3 Tab Order.

7.1 General/logical reading order.

7.2 Text/logical reading order.

7.12 Article Threads/Logical Reading Order.

7.17 Navigation/logical reading order, and 7.18.1 Annotations General.

³³ PDF 3 Ensuring correct Tab and Reading Order in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF3>

³⁴ Success Criteria 1.3.2 Meaningful Sequence, W3C: <https://www.w3.org/TR/WCAG22/#meaningful-sequence>

³⁵ Understanding 1.3.2 Meaningful Sequence, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/content-structure-separation-sequence.html>

³⁶ Success Criteria 2.1.1 Keyboard, W3C: <https://www.w3.org/TR/WCAG22/#keyboard>

³⁷ Understanding 2.1.1 Keyboard, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/keyboard-operation-keyboard-operable.html>

³⁸ Success Criteria 2.4.3 Focus Order, W3C: <https://www.w3.org/TR/WCAG22/#focus-order>

³⁹ Understanding 2.4.3 Focus Order, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/navigation-mechanisms-focus-order.html>

Confusion about Tab Order and Logical Reading Order

It is incorrect to state that those using adaptive technology “Tab” through any type of digital content other than links and form controls.

The Tab is used to move from link to link or form control to form control. Screen readers have specific keyboard commands to read character by character, word by word, line by line, or paragraph by paragraph. Screen readers have keyboard commands unique to “skim” through PDFs by Heading, table, graphic, list, list item or other element. Screen readers have different keyboard commands to read and navigate through tables.

Think of this. If someone was just using the Tab key to move through content, how would we know which “Tab” moved us character by character, which “Tab” moves us word by word, which “Tab” moves us line by line, which “Tab” moves us paragraph by paragraph, which “Tab” moves us page by page, which “Tab” lets us navigate by Heading, table, list, or graphic? If we stop to think of the implications of using a single key to navigate every element, we see the fallacy in this type of thinking. It is the same when we think of text with no punctuation.

It is essential that the Tab Order for links and form controls be based on the document structure (Tags). This means that the <Link> and <Form> Tags are correctly implemented in the PDF and the Tags Tree.

This manual check should be done before you perform the first accessibility check on a PDF. Once all the “oops, I forgot to check this” items are checked, the results of the Accessibility Check will provide the information that needs to be focused on.

There are other elements that should be checked before the first Accessibility Check:

- Document Title is in the Properties dialog.
- The Initial View is set to Document Title in the Properties dialog.
- The Language is defined for the document in the Properties dialog.
- Bookmarks are present in the Bookmarks Pane.

An accessibility check should not be the last thing done in the PDF remediation process. It should be an ongoing part of remediating the PDF.

Reading Order

The Tab Order is different from the Logical Reading Order. As stated, The Tab is used to move from link to link or form control to form control.

The primary focus for accessible PDFs is the Tags Panel. The Order Panel provides a page-only view of the content order. This tutorial will show the Order Panel and advise how to use it. However, the primary focus should be on the Tags Tree to represent the logical reading order of the entire content in the PDF.

The Order Panel displays the “page architecture” or the order the content will be read on the page. The Tags Tree is the order the content will be read in the PDF document. Using the example of the Tri-fold Brochure, the Order Panel can identify the logical reading order of content on the first three panels of the tri-fold brochure. The Tags Panel lets remediators rearrange the logical reading order of the entire document.

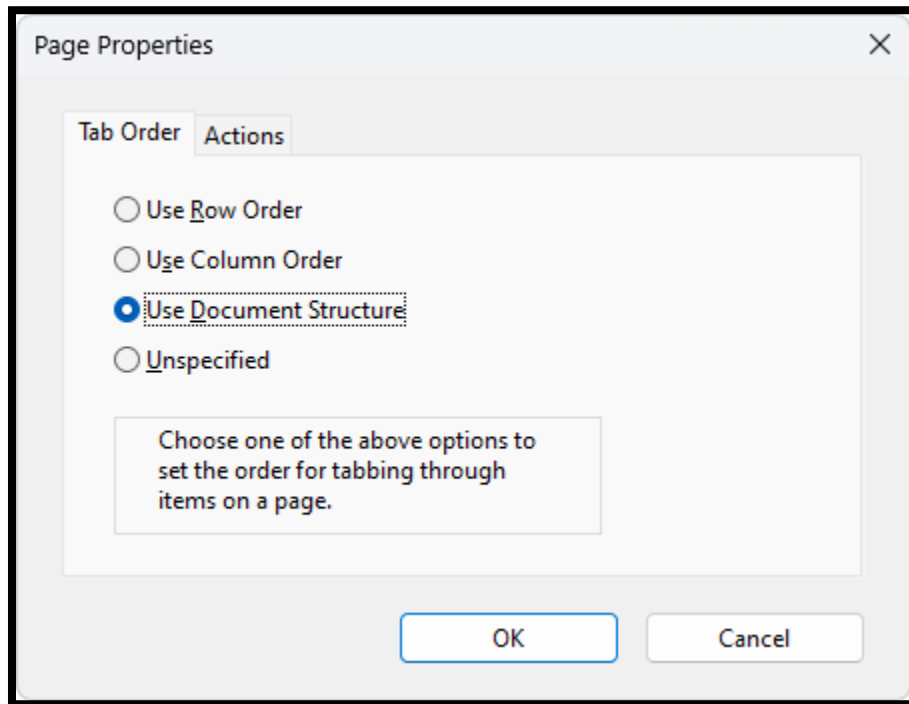
Adobe Acrobat Pro DC

Setting the Tab Order (Adobe Acrobat Pro DC)

With the PDF document open, go to the Pages Panel.

1. Press F4 to open the Navigation Pane.
2. Press Shift + F6 until you land on the Navigation Pane.
3. Use the Up and Down Arrows to find the Pages tab.
4. Press Tab to move into the Pages tab.
5. Press Ctrl + A to Select All pages.
6. Press the AppKey or right-click to open the context menu.
7. Press the letter O for Page Properties.
8. In the Object Properties dialog, press Alt + D for Use Document Structure.
9. Move to and activate the OK button.

Figure 58 Page Properties dialog in Adobe Acrobat Pro DC showing Tab Order settings.

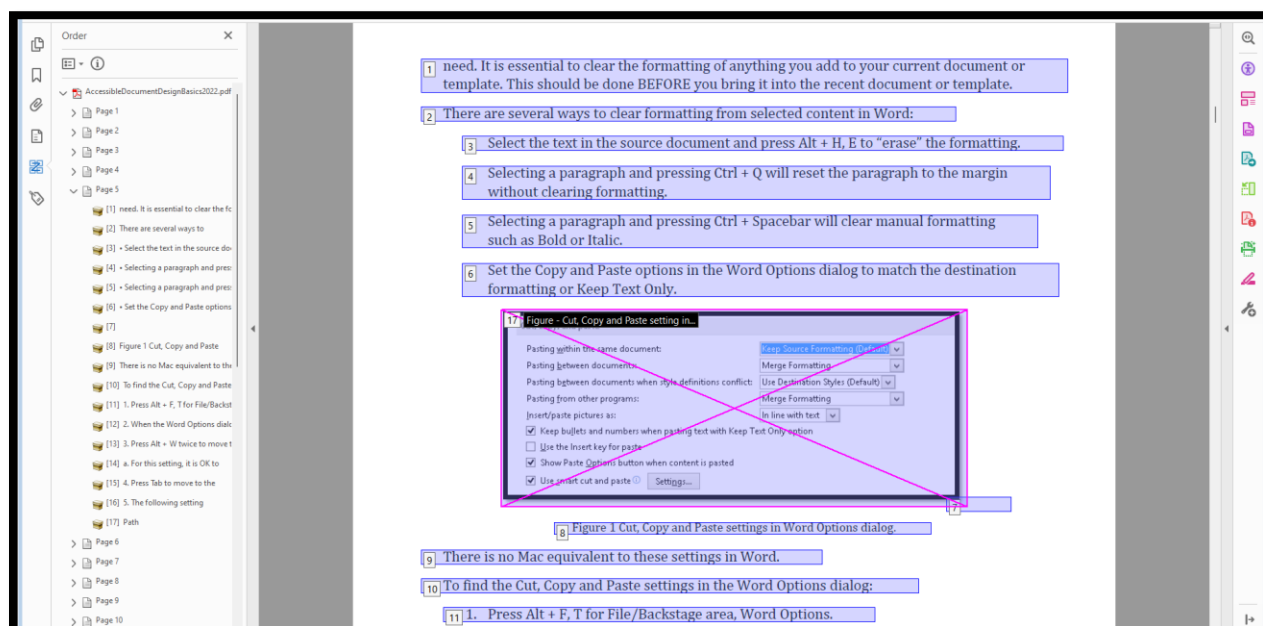


Order Panel (Reading Order)

The Order Panel can be accessed using the keyboard.

1. Press F4 to open the Navigation pane.
2. Press Shift + F6 to move from the document to the Navigation Pane.
3. Press the Up and Down Arrows until you locate the Order Panel.
4. Press the Tab to move into the Order Panel.
5. Use the Up, Down, Left and Right Arrows to move through, expand and collapse pages to see the content order on a page.
 - a. Although a screen reader can be used to read the information in the Order Panel, a screen reader depends on Tags to read (access) the content in PDFs. When an item is selected in the Order Panel, it is highlighted in the visual representation of the document. This correlation is not available to those using screen readers unless they have some functional vision.

Figure 59 View of a PDF page in the Order Panel (Adobe Acrobat Pro DC).



Some remediations can be made in the Order Panel.

Each block of content is represented by a number (the default). This is the easiest way to view the content order on each page.

Using the mouse, blocks of content can be dragged to their logical place in the reading order of the individual pages.

By default, the colours used to represent various types of content, such as text, figures, and tables, are black. These elements are easier to find if you change the colours. This is done in the Reading Order Panel.

The Reading Order Panel can be opened in two ways:

Press the AppKey or right-click in the Order Panel and choose Show Reading Order Panel.

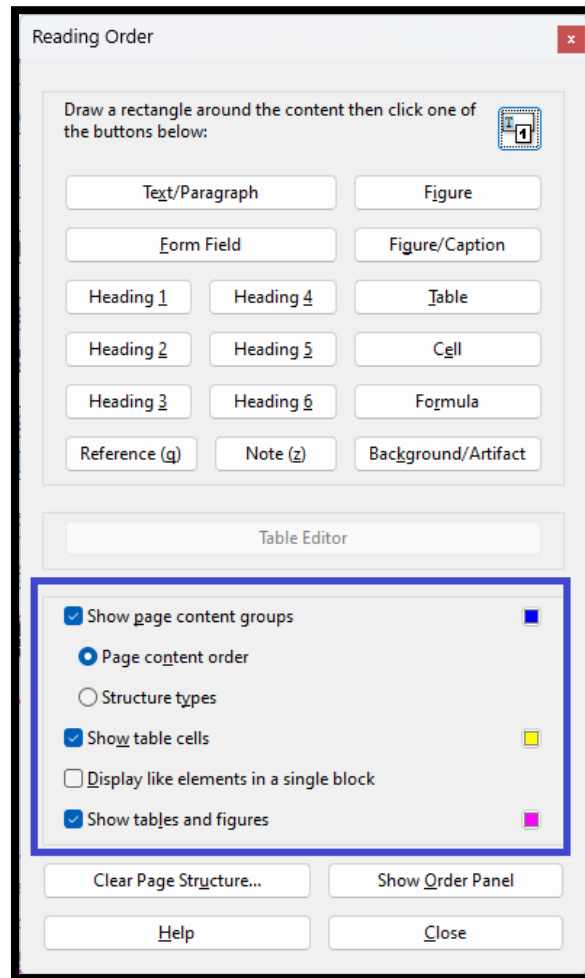
In the Accessibility tools in the Tools Task Pane, click on Reading Order Panel.

The Reading Order Panel opens and floats over the PDF.

Move the Reading Order Panel out of the way of your workspace.

You may need to use Ctrl + Minus to Zoom Out or Ctrl + Plus Sign to Zoom In depending on what you are working on.

Figure 60 Reading Order Panel settings (Adobe Acrobat Pro DC).



I recommend the following settings in the Reading Order Panel.

- Use “Page content order” instead of “Structure type”. If structure type is chosen, every “structure type” will be a Tag which isn’t helpful. It is more helpful to see the numerical order of content on the page.
- Uncheck the check box to “Display like elements in a single block”. It is easier to see the individual blocks of content with their numerical order than having a single page of content that is paragraphs in a single block of text.

Try both settings to determine which ones are the best for your needs.

I also recommend changing the colours to bright ones so that the text, graphics and tables stand out better on the page.

Changes made in the Reading Order Panel will be available in the Order Panel.

Tags Panel (Reading Order)

The focus of remediation will be on the Tags Panel. If the Order Panel and Tags Panel “disagree” in any way, use the Tags Tree in the Tags Panel as the final “decision-maker”.

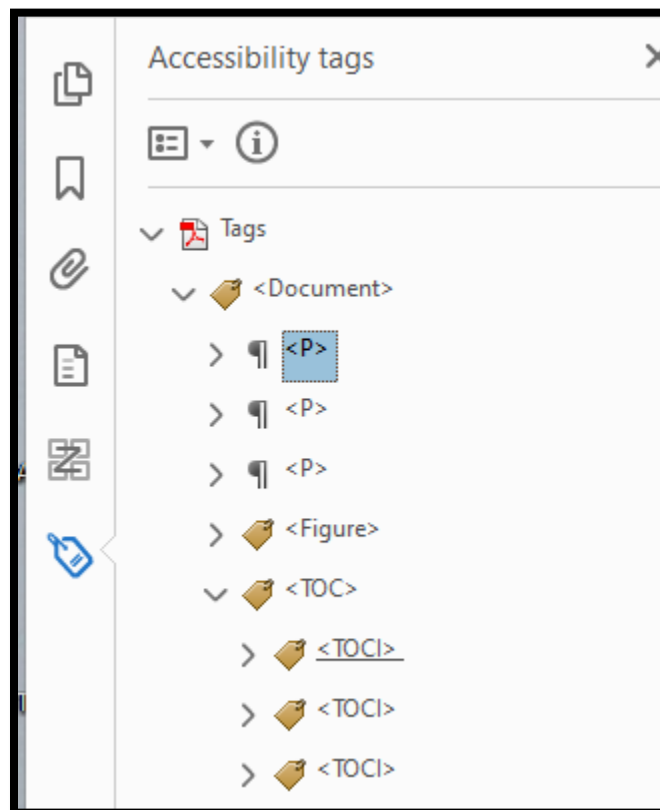
The Tags Tree is an essential part of a quality assurance process for PDFs.

It is recommended that one go down the Tags Tree element by element, checking that:

- Content that needs a Gag, has a Tag.
- The Tag is correct for the content.
- The Tags are in a logical reading order “for the document”.

This includes Headings being sequential, there is no Heading beyond H6, Lists are tagged correctly, and Tables are tagged correctly. For tables, this includes an empty <TH> or <TD> cell where there is no content and no ColSpan or RowSpan to retain the structure of the table.

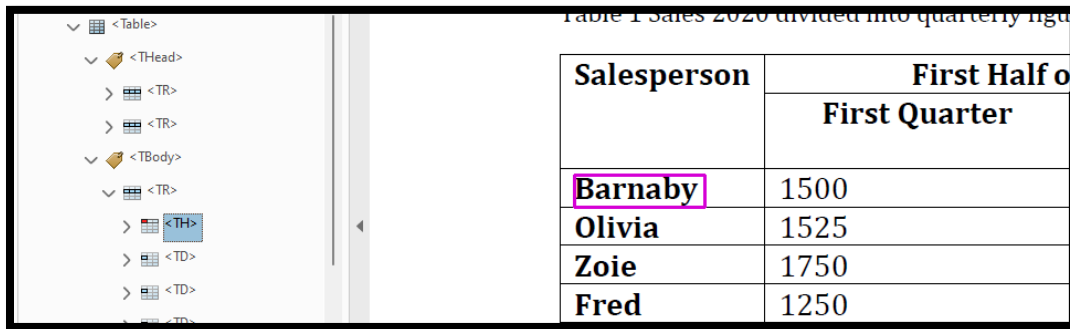
Figure 61 Sample of Tags in the Tags Tree (Adobe Acrobat Pro DC).



The corresponding content is highlighted in the document as someone moves down the Tags Tree using the Up, Down, Left and Right Arrow keys.

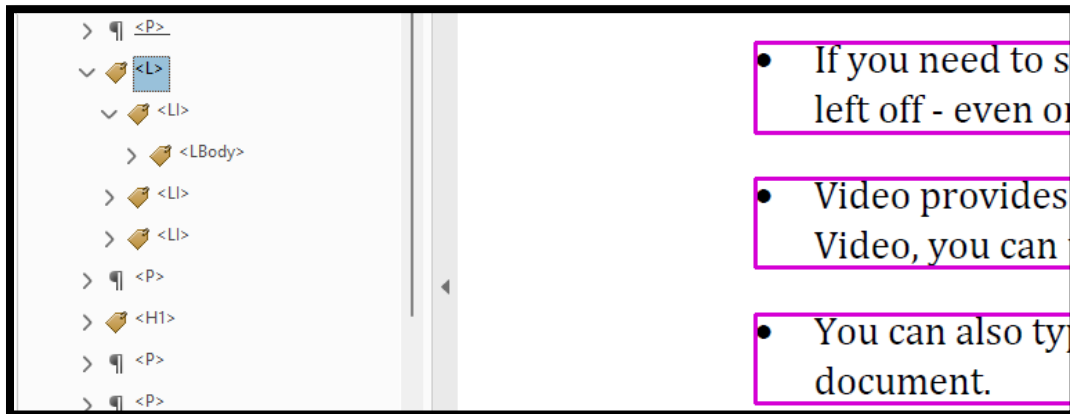
Although a screen reader can be used to read the information in the Tags Panel, a screen reader depends on the Tags to read (access) the content in PDFs. When an item is selected in the Order Panel, it is highlighted in the visual representation of the document. This correlation is not available to those using screen readers unless they have some functional vision.

Figure 62 Sample table Tags in a PDF document with corresponding content highlighted (Adobe Acrobat Pro DC).



As one goes down the Tags Tree, using the Left and Right Arrows to expand and collapse elements, the correct Tag can be identified for the type of content.

Figure 63 Sample List Tags in the Tags Tree (Adobe Acrobat Pro DC).



Foxit PDF Editor

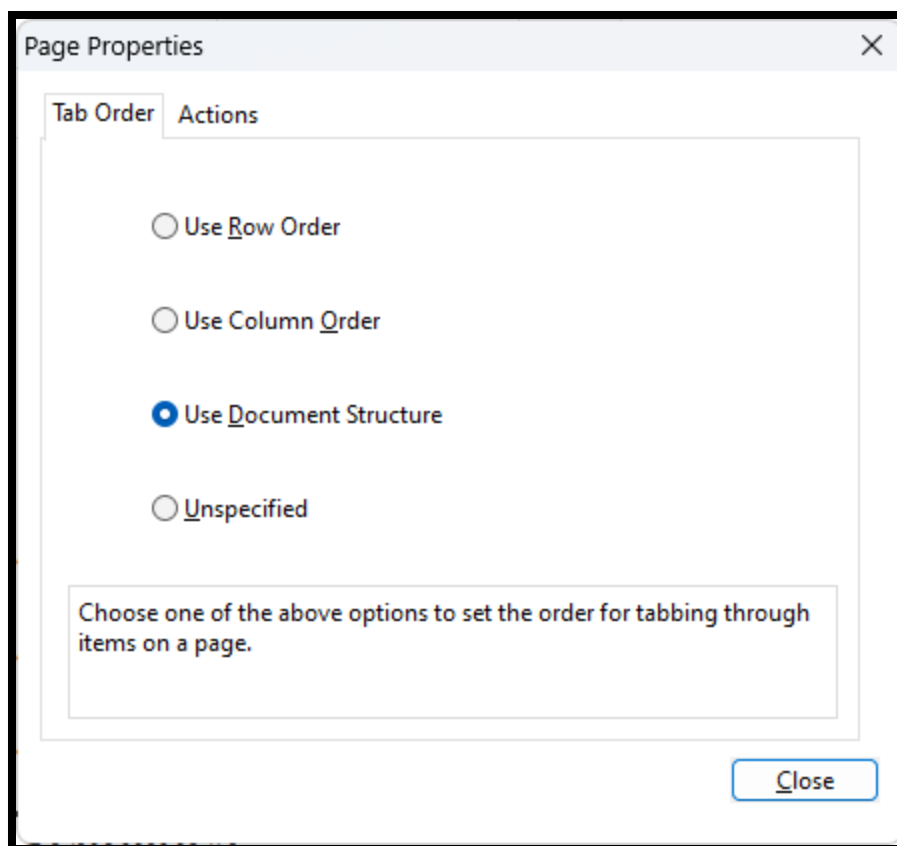
If the Order, Tags and Content Panels aren't in the Navigation Pane to the right of the PDF document, use the Right Click to open the context menu and choose Order to add it. Foxit typically makes you add the Tags, Order and Content Panels each time you launch the application.

Setting the Tab Order (Foxit PDF Editor)

This process is mouse-dependent. There are no usable keyboard commands.

1. Click on the Pages tab icon in the Navigation Pane.
2. Click on any page.
3. Select all pages in the PDF.
4. Right-click in the Pages Panel and choose Properties.
5. In the Page Properties dialog, click Use Document Structure if it isn't already checked.
6. Click OK.

Figure 64 Page Properties dialog in Foxit PDF Editor.



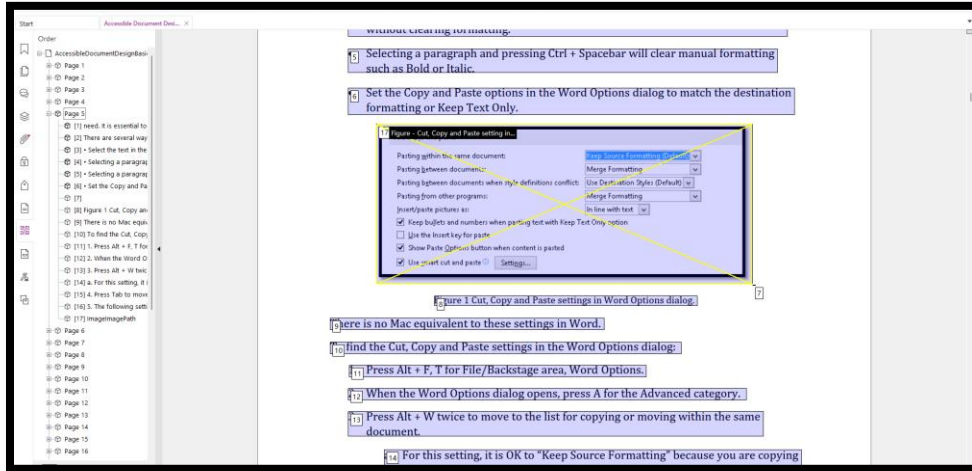
Reading Order Panel (Foxit PDF Editor)

Accessing the Order Panel in the Navigation Pane is a mouse-dependent activity.

Click the Order Panel icon.

The information in the Order Panel is organized by page. Each element on the page is represented by a number by default.

Figure 65 Sample PDF in the Order Panel (Foxit PDF Editor).



If the reading order for the page is not numerically correct, the block of content that is out of order can be moved to its correct place using the mouse.

If there is a difference between the Order Panel and the Tags Tree, use the Tags Tree as the final determination of the logical reading order for the page/document.

Some remediations can be made in the Order Panel.

Each block of content is represented by a number (the default). This is the easiest way to view the content order on each page.

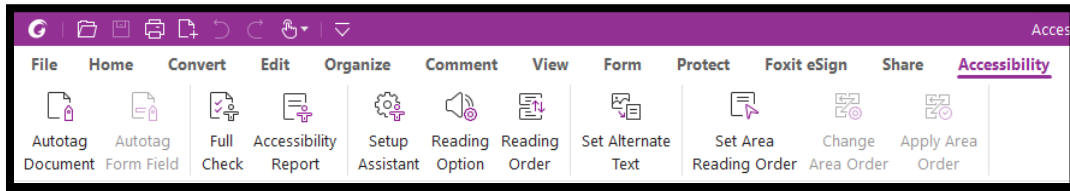
Using the mouse, blocks of content can be dragged to their logical place in the reading order of the individual pages.

By default, the colours used to represent various types of content, such as text, figures, and tables, are black. These elements are easier to find if you change the colours. This is done in the Reading Order Panel.

The Reading Order Panel can be opened in two ways:

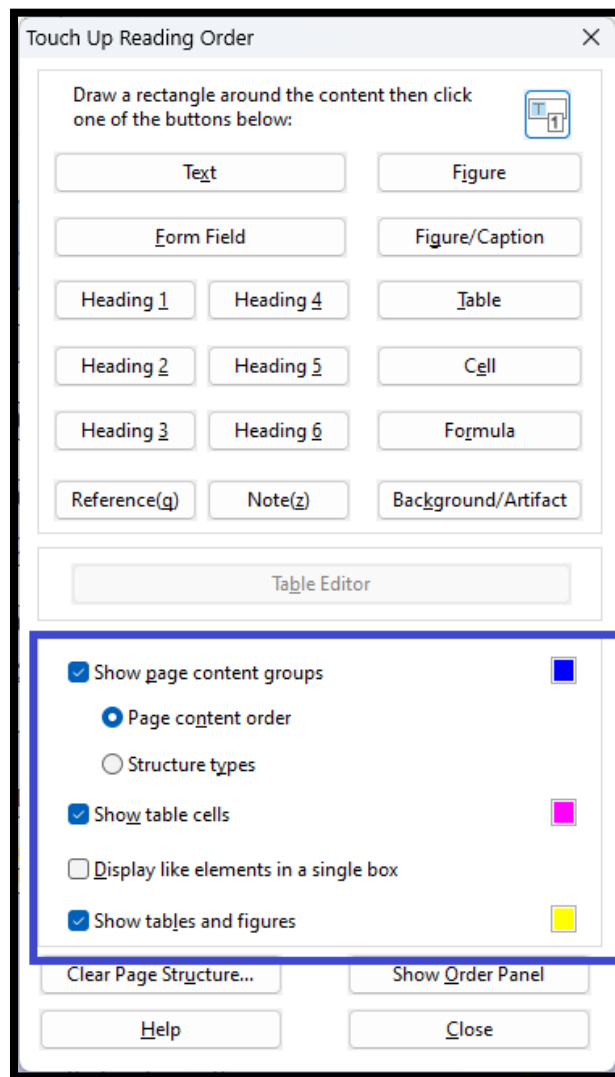
- The Reading Order Panel can be launched by right-clicking anywhere in the Order Panel and choosing “Show Reading Order Panel”.
- The Reading Order Panel can be launched using the Accessibility Ribbon.

Figure 66 Accessibility Ribbon in Foxit PDF Editor.



There are some helpful settings in the Reading Order Panel. I recommend changing the default colours from black to colourful colours that make each element stand out better.

Figure 67 Touch-up Reading Order Panel showing settings in Foxit PDF Editor.



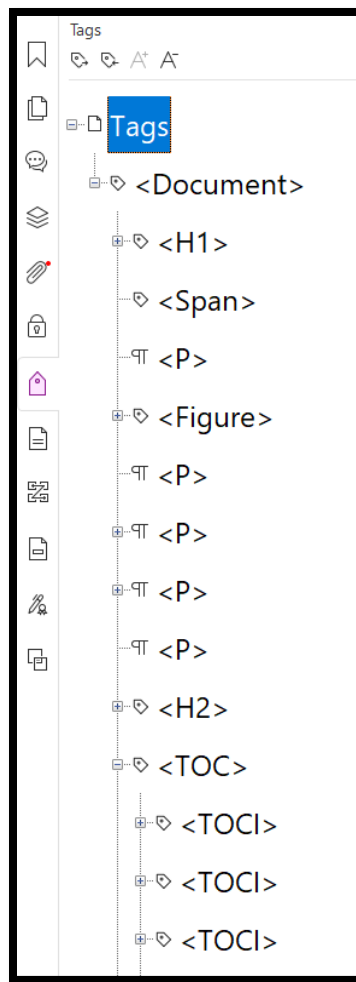
There are two settings to consider. I recommend the following; however, you can experiment to see which ones work for you.

- Use “Page structure elements” instead of “Structure types”. If you chose the structure types of option, everything says , which doesn’t give you information about whether the element is a paragraph, Heading, or something else.
- Do not check “Display like elements in a single block”. If there is a page of paragraphs, they will visually appear as one large block instead of being visually separated. Having all of one type of element in a single block doesn’t let you see if a paragraph has been tagged as a single <P> Tag or several <P> Tags.

Tags Panel (Foxit PDF Editor)

If the Tags tab is not visible on the Navigation Pane, right-click on the Navigation Pane to the left of the PDF document and choose Tags from the context menu.

Figure 68 Sample Tags Tree in the Tags Panel of Foxit PDF Editor.



The preceding graphic illustrates a typical Tags Tree in the Tags Panel.

If a Tag is selected, its corresponding content is highlighted in the PDF.

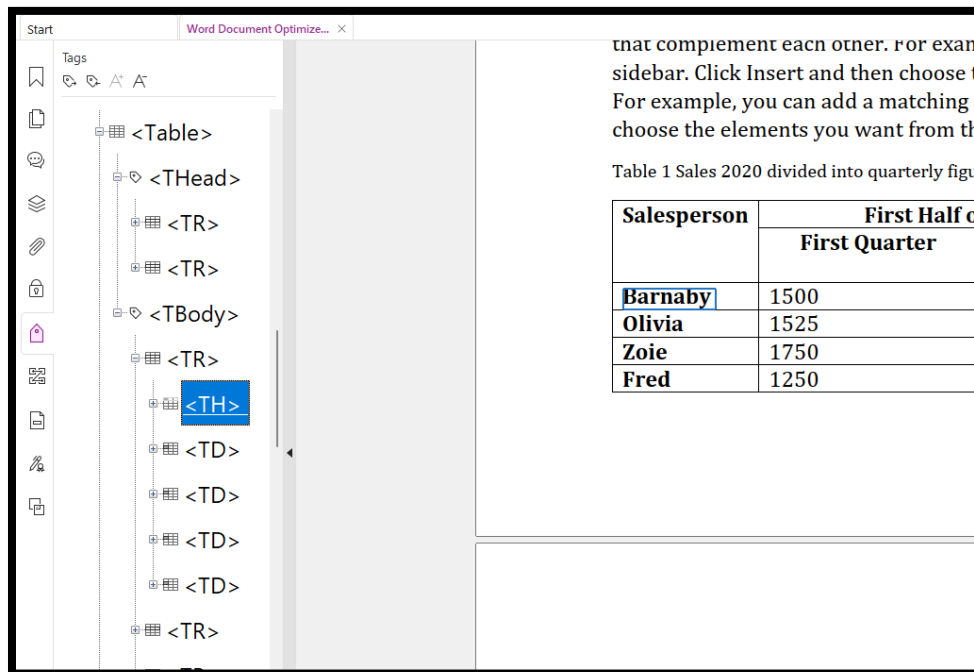
When an item is selected in the Order Panel, it is highlighted in the visual representation of the document.

When a Tag is out of logical reading order for the document, it can be moved using the mouse to its correct place in the Tags Tree.

As you go down the Tags Tree, you perform three essential parts of a quality assurance process.

- The PDF has Tags.
- The Tags are correct for the type of content.
- The Tags are in a logical reading order for the content. This may not be the logical reading order for the document. For example, a tri-fold brochure where the panel visually on the right needs to be read first to let someone using adaptive technology know what the brochure is about. The title panel of the brochure is followed by the three panels on the inside of the brochure, which are followed by the two back panels of the brochure.

Figure 69 Sample <Table> Tags in the Tags Panel in Foxit PDF Editor.

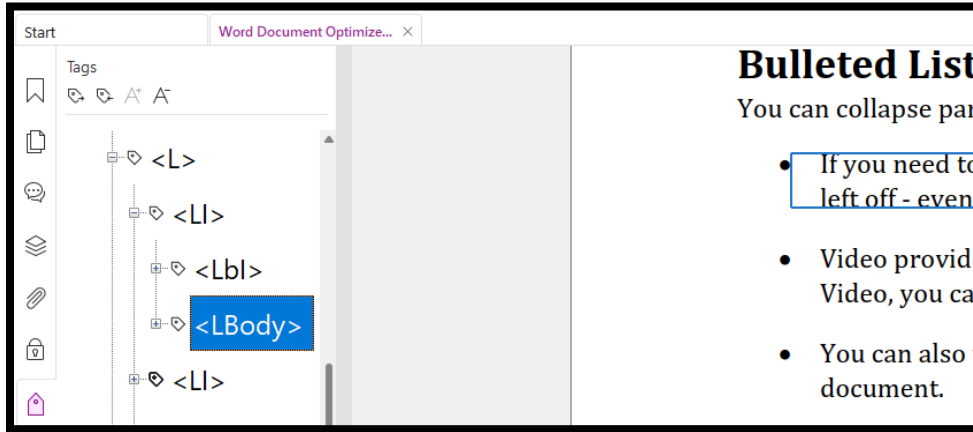


As you move down the Tags Tree using the Left, Right, Up or Down Arrows, Tags can be expanded or collapsed to ensure that all Tags needed for structure elements are present.

For example, if a table has empty cells, an empty <TH> or <TD> Tag is needed to keep the table structure intact.

When the parent <Table> to <L> Tag is selected, the Left and Right Arrows are used to expand or collapse the tag.

Figure 70 Sample <List> Tag in the Tags Tree in PDF Editor.



PDF 4: Hiding Decorative Images with the Artifact Tag in PDF Documents

Some page elements in PDFs do not directly relate to the content. These can be decorative lines, graphics used to fill space, background graphics, etc. These “Artifacts” are not part of the content of the PDF. They do not appear in the Tags Tree.

There is no “Artifact” Tag so they can’t be tagged. Artifacts are not attributes on other Tags. We “mark” something as an Artifact.

WCAG Success Criteria

[PDF4: Hiding decorative images with the Artifact Tag in PDF documents](#)⁴⁰.

- Sufficient to meet [1.1.1 Non-text Content](#)⁴¹ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.1.1 Non-text Content](#)⁴².

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of the first iteration of either standard..

ISO 14289 – 1:2014.

7.1 General and 7.3 Graphics.

Decorative Graphics or Artifacts

In Microsoft 365 desktop applications, graphics can be “marked as decorative”, meaning adaptive technology will ignore them. A caveat is that this may not be backward compatible when sharing content. The ability to “Mark as decorative” is the equivalent of Artifacts in PDFs.

When the Word, PowerPoint or Excel content is converted to tagged PDF, graphics marked as decorative become Artifacts or part of the background and are ignored when reading PDFs using adaptive technology.

⁴⁰ PDF 4 Hiding decorative images with the Artifact Tag in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF4>

⁴¹ Success Criteria 1.1.1 Non-text Content, W3C: <https://www.w3.org/TR/WCAG22/#non-text-content>

⁴² Understanding 1.1.1 Non-text Content, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/text-equiv-all.html>

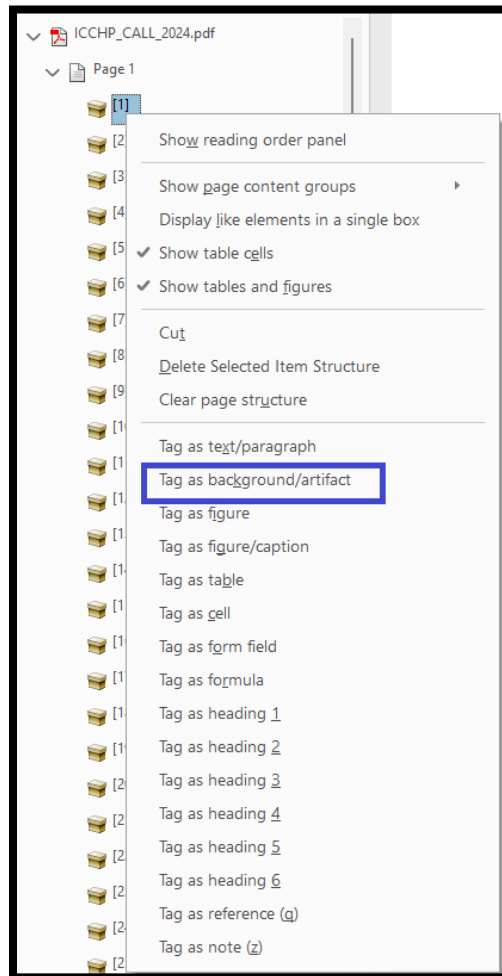
Adobe Acrobat Pro DC

Using the Order Panel to Create Artifacts

In the Order Panel, select the blank line or graphic that you want to be an Artifact.

Right-click and choose Tag as Background/Artifact.

Figure 71 Order Panel with a blank line selected and the context menu showing Tags as Background/Artifact (Adobe Acrobat Pro DC).



Contiguous elements can be selected by holding down the Shift key and using the Down Arrow.

Non-contiguous elements can be selected by holding down the Ctrl key and using the mouse to select individual elements.

Using the Reading Order Panel to Create Artifacts

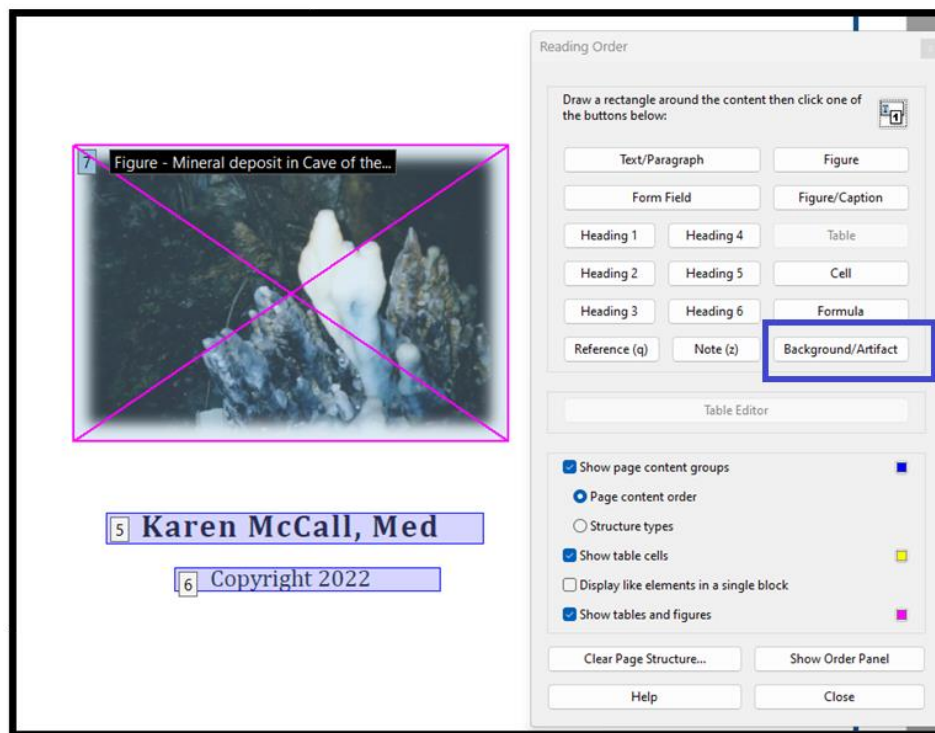
Launch the Reading Order Panel from the Accessibility tools.

Move the Reading Order Panel out of the way to see all elements on the page. On the Numpad to the right of the main keyboard, press Ctrl + Plus Sign to Zoom In or Ctrl + Minus to Zoom Out.

Using the mouse, select a blank line or graphic.

Click the Background/Artifact button in the Reading Order Panel.

Figure 72 Graphic in a PDF selected showing the buttons in the Reading Order Panel active (Adobe Acrobat Pro DC).



To select contiguous or non-contiguous elements, hold down the Ctrl key and click on the elements you want to be Artifacts.

Using the Content Panel to Create Artifacts

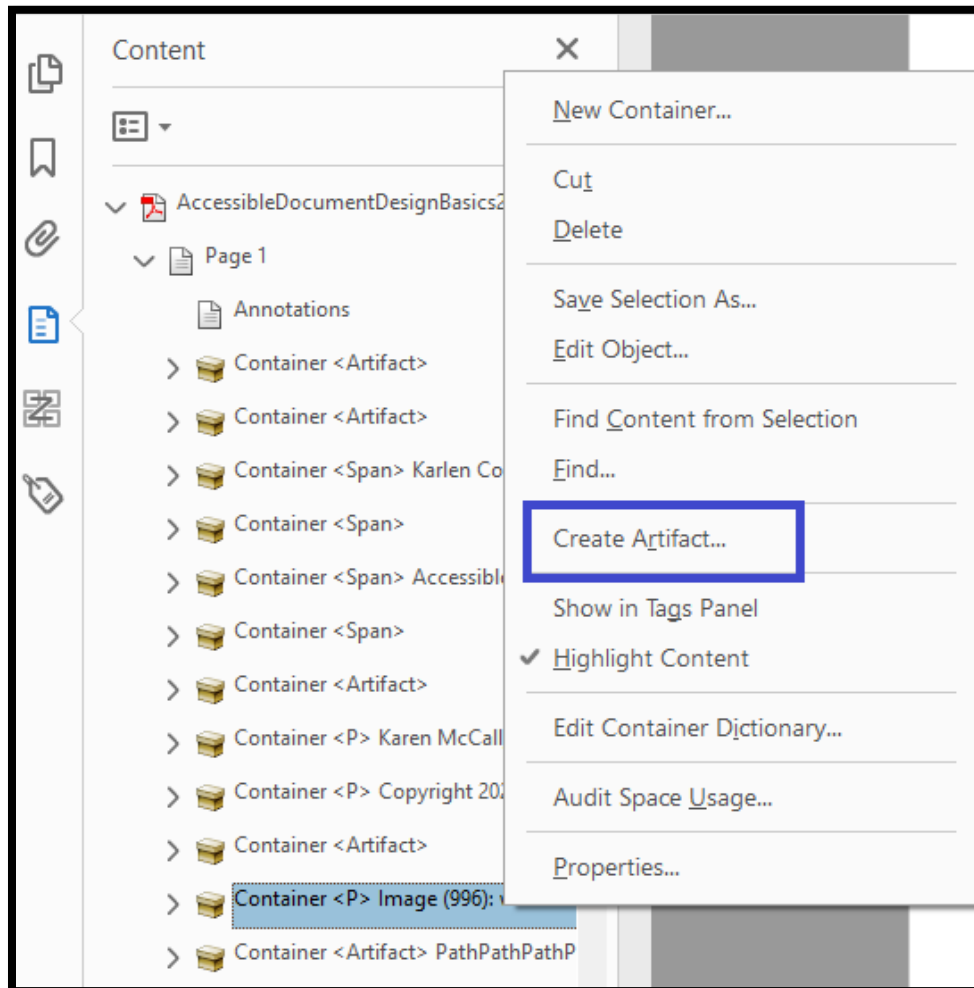
In the Content Panel, select a blank line or graphic that you want to be an Artifact.

Right-click and choose Create Artifact.

The Artifact dialog opens, and page Artifact is selected. Accept the default.

Activate the OK button.

Figure 73 Container selected in the Content Panel with context menu showing Create Artifact (Adobe Acrobat Pro DC).



Contiguous elements can be selected by holding down the Shift key and using the Down Arrow.

Non-contiguous elements can be selected by holding down the Ctrl key and using the mouse to select individual elements.

Foxit PDF Editor

Using the Order Panel to Create Artifacts

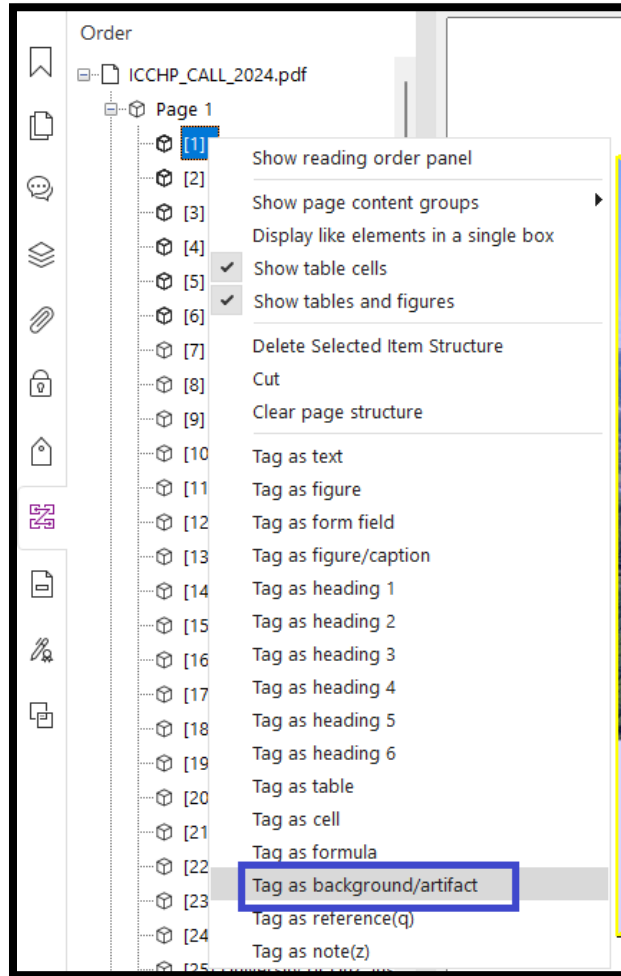
Select the Order Panel from the Navigation Pane to the left of the PDF.

Foxit doesn't keep tools added to the Navigation Pane. The Tags, Content and Order Panels may need to be added frequently.

In the Order Panel, select the blank line or graphic you want to be an Artifact.

Right-click and choose Tag as Background/Artifact.

Figure 74 Order Panel with blank line selected and context menu showing Tag as Background/Artifact (Foxit PDF Editor).



Contiguous elements can be selected by holding down the Shift key and using the Down Arrow.

Non-contiguous elements can be selected by holding down the Ctrl key and using the mouse to select individual elements.

Using the Touch-up Reading Order Panel to Create Artifacts

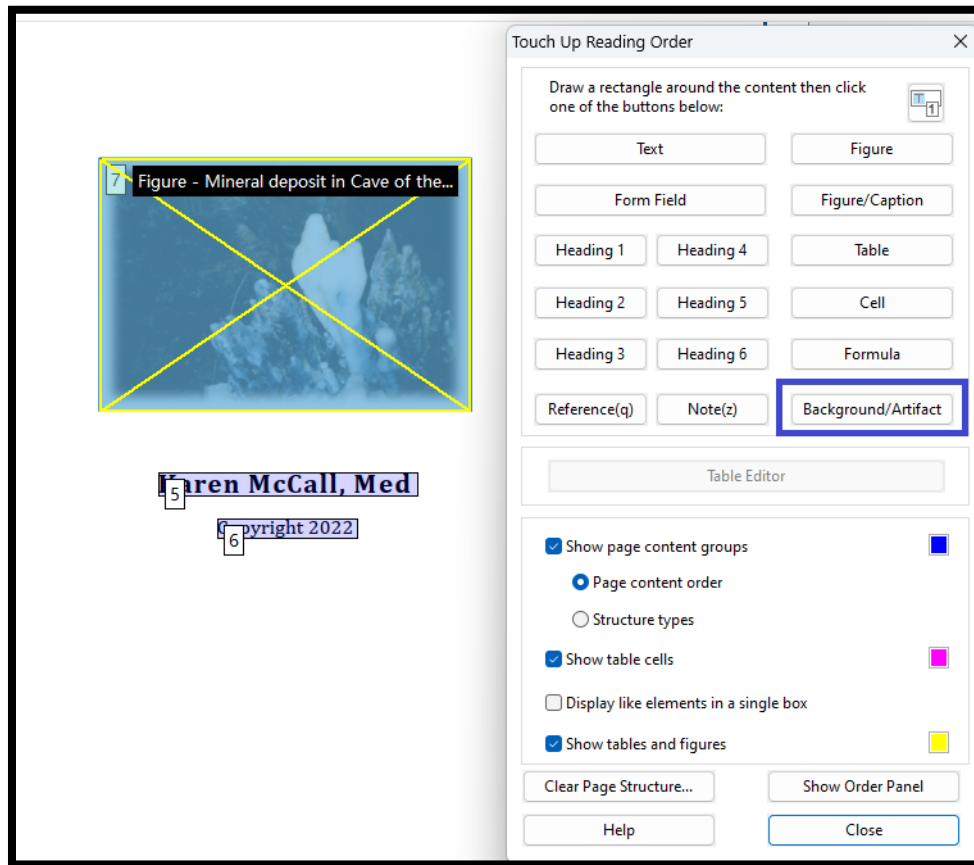
From the Accessibility Ribbon, launch the Reading Order Panel.

When the Touch-up Reading Order Panel opens, move it out of the way of your workspace. You can press Ctrl + Plus Sign to Zoom In or Ctrl + Minus to Zoom Out.

Click on the blank line or graphic you want to be an Artifact.

Click on the Tag as Background/Artifact button in the Touch-Up Reading Order Panel.

Figure 75 Touch-Up Reading Order Panel showing graphic selected and Tag as Background/Artifact button active (Foxit PDF Editor).



To select contiguous or non-contiguous elements, hold down the Ctrl key and click on the elements you want to be Artifacts.

Using the Content Panel to Create Artifacts

Foxit doesn't keep tools added to the Navigation Pane. The Tags, Content and Order Panels may need to be added frequently.

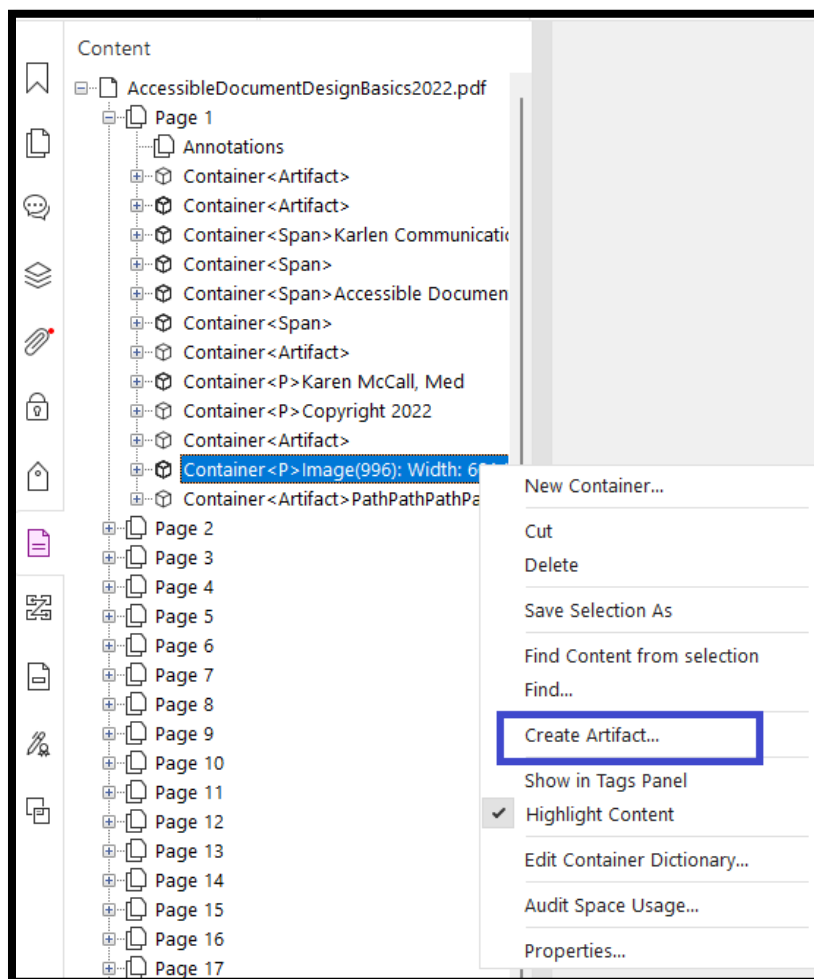
In the Content Panel to the left of the PDF, select a blank line or graphic you want to be an Artifact.

Right-click and choose Create Artifact.

The Create Artifact dialog opens, and the default is to create a page Artifact.

Activate the OK button.

Figure 76 Content Panel with a graphic selected and the context menu to Create Artifact showing (Foxit PDF Editor).



Contiguous elements can be selected by holding down the Shift key and using the Down Arrow.

Non-contiguous elements can be selected by holding down the Ctrl key and using the mouse to select individual elements.

Microsoft 365 (Desktop)

The techniques in Word to eliminate blank lines are:

- Don't use the Enter key to create space.
 - If you want something to start at the top of the next page, use the Paragraph dialog, Line and Page breaks tab, and Page Break Before check box. This makes it easier to move content forward a page or backward a page. This functionality can be added to a style.

- Modify the spacing in an existing style or new style to add space around the text.
 - Spacing can be added before or after content by using the Format button in the Modify Style or Create New Style dialog and choosing Paragraph. In the paragraph dialog, on the Indents and Spacing tab, adjust the spacing before and/or after the use of the style.
- Create a new style with the spacing you want.
- Avoid using direct formatting to create space.
 - This means don't use the Paragraph dialog independent of the Modify or New Style dialogs to add space.

Mark Graphics as Decorative in Word

Select a graphic in the Word document.

Press A or right-click and choose View Alt Text.

The Alt Text Pane opens to the right of the document.

The focus is in the edit area where you can add the Alt Text.

Press Tab to land on the Mark as Decorative check box.

Use the Spacebar to check it.

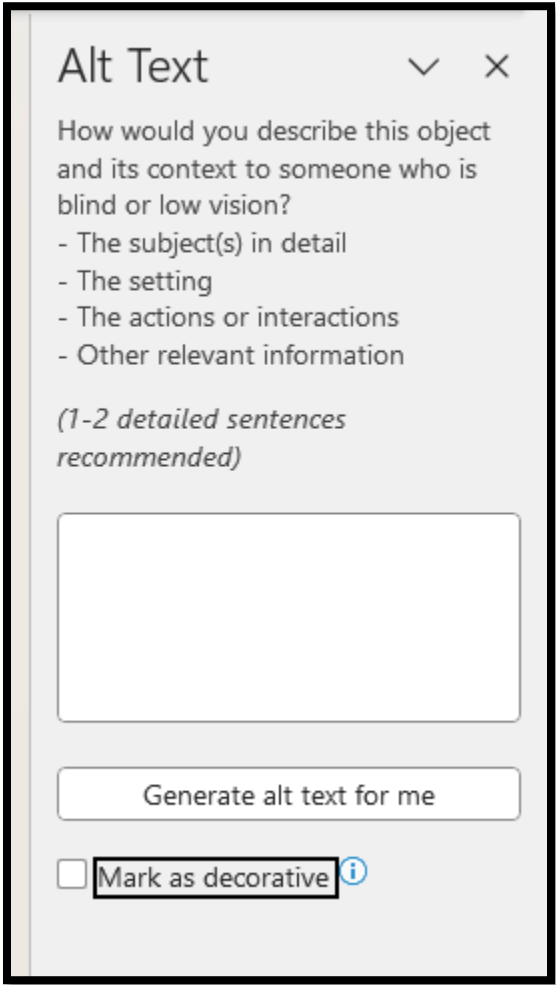
Note: The “null” attribute does not work in word processing, presentation, spreadsheet, or desktop publishing PDFs. These applications have no concept of “null” Alt Text. What those of us who use adaptive technology hear is “graphic, quote, quote” or “graphic quote, Space, quote”. This is distracting.

Use the tools in the applications to designate graphics as part of the background, fillers or elements of the PDF that are not essential to the understanding of the content.

Remember that content in a Page Header or Page Footer will be Artifacts when converted to tagged PDF. Any information essential to the text of the document, such as the document's title, must also appear on the cover page of the document.

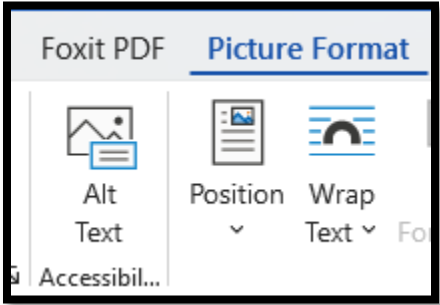
Information that might be in a watermark such as “Draft”, “Confidential” or “Do Not Copy” must appear at the top of the cover page in the text of the document. If it doesn't, adaptive technology will not “see” it.

Figure 77 Alt Text Pane showing Mark as Decorative check box (Microsoft Word 365).



The Alt Text Pane can be accessed through the Picture Format Ribbon once a graphic is selected.

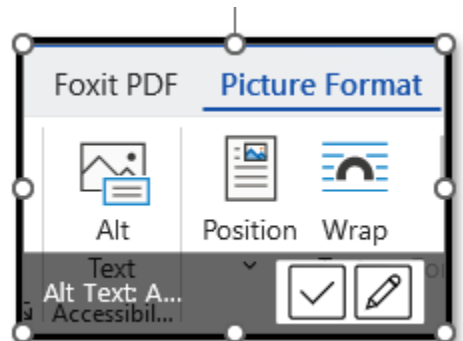
Figure 78 Alt Text button on the Picture Format Ribbon (Microsoft Word 365).



When a graphic is inserted into a Word document, there are two buttons along the bottom of the graphic: Approve and Edit. The Alt Text for the graphic is shown to the

left of the two buttons. Not all of it is visible. It is recommended that the Edit option is chosen to review all the Alt Text for the graphic.

Figure 79 Add Alt Text or Approve Generated Alt Text from the inserted graphic (Microsoft Word 365).



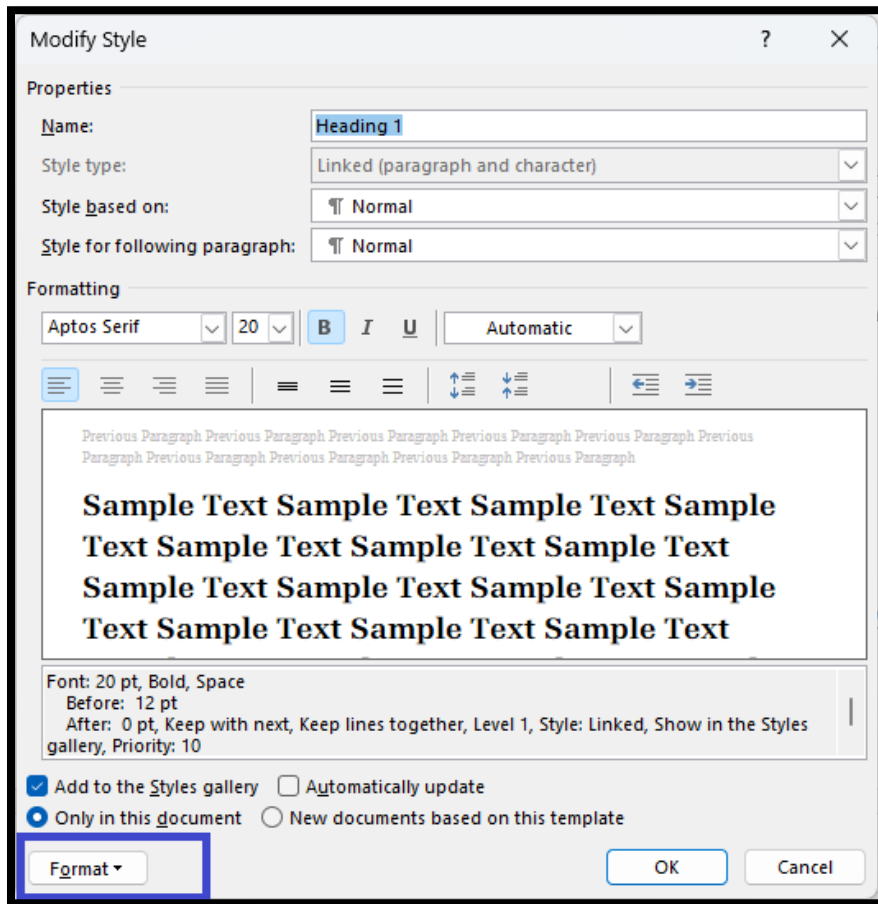
This option is not keyboard accessible. If you use a screen reader, you will hear the instructions to use the AppKey and choose View Alt Text to open the Alt Text Pane.

Modify a Style to add Space Above or Below Text

An existing style can be modified to create space around the text, and a new style can include additional spacing. The dialog is the same for both processes. I create a Picture Style if I want space before or after a graphic or if I want graphics centred in my documents.

In the Modify Style dialog or the New Style from Formatting dialog, press Alt + letter O to open the Format button in the lower left of the dialog.

Figure 80 Modify Style dialog showing Format button (Microsoft Word 365).



In the context menu for Format, select P for Paragraph, which opens the Paragraph dialog.

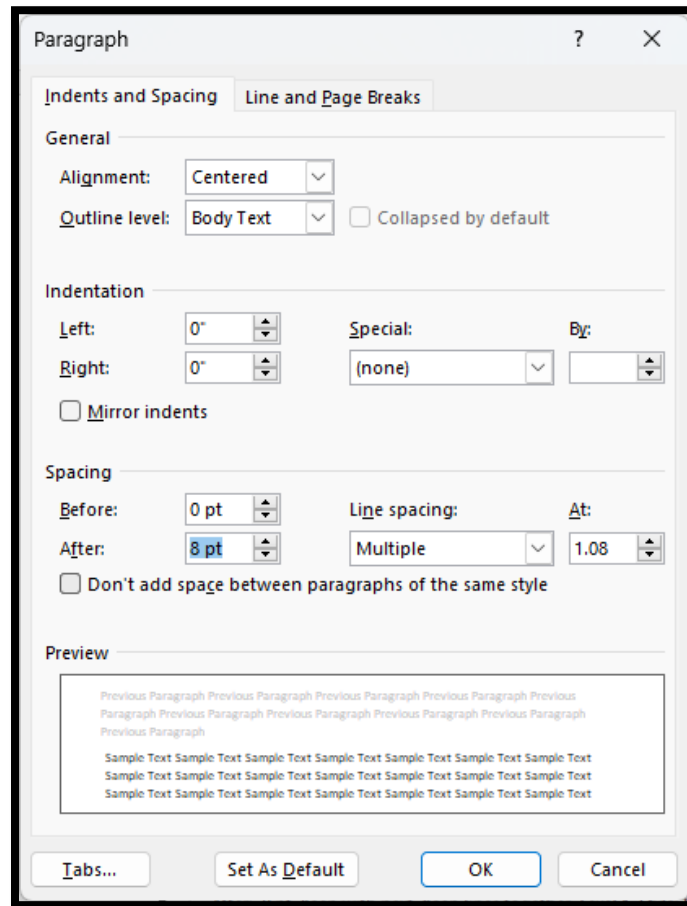
Uncheck the check box to “Don’t add spacing between paragraphs of the same style”.

Space can then be added before and/or after the text.

This eliminates pressing the Enter key to add space before or after text.

Note: Press Alt + H, P, G to open the Paragraph dialog to move content to the top of the next page. Pres Ctrl + Tab to move to the Line and Page Breaks tab and press Alt + B for Page Break Before. To move content back to the previous page, simply reverse the process. This is a more efficient way of moving content to the next page or back.

Figure 81 The paragraph dialog showing settings to add space after the text. (Microsoft Word 365).



PDF 5: Indicating Required Form Controls in PDF Forms

When a PDF form is created, there needs to be a clear indication of which form controls are required. I would include in this that any required format is clearly indicated. For example, a date or birthdate.

WCAG Success Criteria

[PDF5: Indicating required form controls in PDF forms](#)⁴³.

- Sufficient to meet [3.3.1 Error Identification](#)⁴⁴ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 3.3 1: Error Identification](#)⁴⁵.
- Sufficient to meet [3.3.2 Labels or Instructions](#)⁴⁶ (WCAG 2.0, 2.1, 2.2 A) when used with G131: Providing descriptive labels .
 - [Understanding 3.3.2 Labels or Instructions](#)⁴⁷ when used with [G13 Providing Descriptive Labels](#)⁴⁸.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.7.3.1.

Table 227: Field flags common to all field types.

ISO 14289- 1:2014.

7.18.4 Forms.

⁴³ PDF 5 Indicating required form controls in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF5>

⁴⁴ Success Criteria 3.3.1 Error Identification, W3C: <https://www.w3.org/TR/WCAG22/#error-identification>

⁴⁵ Understanding 3.3.1 Error Identification, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/minimize-error-identified.html#:~:text=3.3.1%20Error%20Identification%3A%20If%20an%20input%20error%20is.has%20occurred%20and%20can%20determine%20what%20is%20wrong.>

⁴⁶ Success Criteria 3.3.2 Labels or Instructions, W3C: <https://www.w3.org/TR/WCAG22/#labels-or-instructions>

⁴⁷ Understanding 3.3.2 Labels or Instructions, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/minimize-error-cues.html>

⁴⁸ Guideline 13 Providing Descriptive Labels, W3C: <http://www.w3.org/TR/2016/NOTE-WCAG20-TECHS-20161007/G131>

The Importance of Identifying Required Form Controls

Typically, the required fields are outlined in red in a PDF reader or editor. However, this cannot be the only means of identifying required form controls. One reason is that 1/3 of the male population has red/green colour blindness. There are other colour deficits that make it difficult to depend on colour as the sole indicator of anything in digital content.

The form template must clearly indicate a strategy for identifying required form controls. Usually, this is represented by an asterisk before the form starts.

For example, An * indicates a required field.”

However, using an asterisk can create an accessibility barrier even if it is included in the Tooltip. Consider the fast speed that those using adaptive technology read. It is easy to miss something that says, “First and Last Name star”. Most of the time, the asterisk is read as a symbol, and the symbol is “star”. While those reading the text without adaptive technology may calculate that what they are looking at is an asterisk, this may not translate when an “*” is used in a Tooltip. Writing the word “asterisk” may also be problematic. The clearer method of identifying a required form control is to include the full word “required” in the Tooltip.

The asterisk can be present in the form's text as a visual reminder. Writing the complete word required in the Tooltip provides more readability and usability for those using screen readers at fast speeds and those using Text-to-Speech tools who may have learning, cognitive or print disabilities.

There are two parts to indicate that form controls are required. There is usually a check box in the Properties dialog for form controls, and the text will be in the Tooltip.

Note: Do not change the default appearance of any form control. This includes changing the outline colour for required form controls. Your decisions will override the end-user choices in how form controls are displayed in the PDF form. If someone can't visually decode the colours you've chosen, they can't swap them out for ones they can see better if you make the colour choices.

For example, I changed all required fields to fuchsia instead of red...just because I don't like using red. My choice.

Adobe Acrobat Pro DC

Set Required Form Control

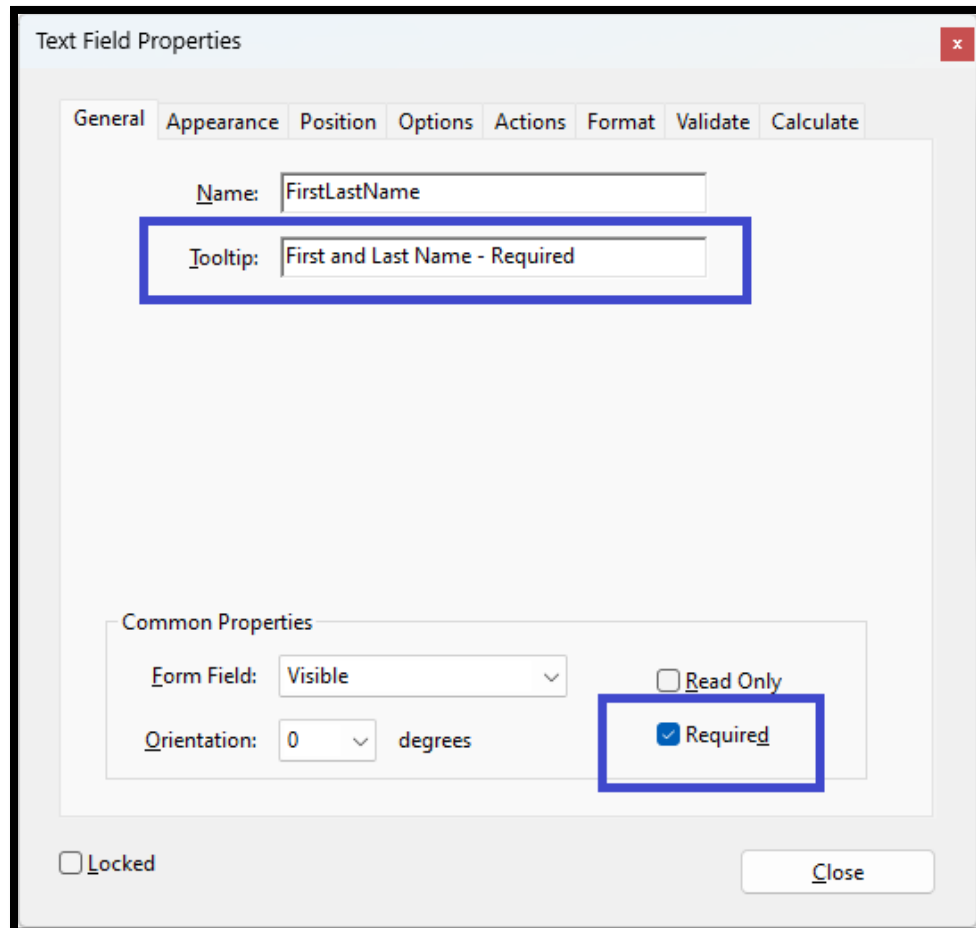
From the Prepare Form tools, add a form control.

There is an opportunity to make the form control required as soon as the mouse button is released. You'll need to go into the Properties anyway to add the Tooltip, so this example shows the Properties dialog method.

Once the mouse button is released, click on the "All Properties" link to open the Properties dialog.

Add the ToolTip for the form control. For example, First and Last name (Required).

Figure 82 Text Field Properties dialog showing the Tooltip indicating a required field and the Required check box checked (Adobe Acrobat Pro DC).



I suggest that the entire word "required" be written so there is no confusion by someone using their adaptive technology on a fast speed, or by someone using a natural phoneme choice that does not recognize some symbols. The abbreviation can

cause confusion for the same reason. If someone is reading at a fast speed with their adaptive technology, they may hear something that sounds like “rec” which is meaningless. If form controls are required, that fact should be clear.

Check the check box for Required in the lower right of the Properties dialog for the form control.

Activate the close button to return to the PDF form.

Do not create required form controls unless the question is indicated as required in the text instructions for the form.

Note: I add CamelCase names for form controls that match the question so that when I add the <Form> Tag and annotation to the Tags Tree, I can quickly identify the correct annotation. Without intuitive names, form controls will be named “Text1”, “Text2”, “Checkbox1”, “Checkbox2” and forth. This can make it difficult to associate a form control with the corresponding question in the Tags Tree as you add them. The name of the form control is not the same as the ToolTip.

Foxit PDF Editor

Set Required Form Control

From the Form Ribbon, click on the form control you want to add to the PDF form.

Once you add the form control to the page and release the mouse button, there will be a pop-up with the ability to name a form control and make it required. Since you must go into the “All Properties” dialog, anyway, click on All Properties.

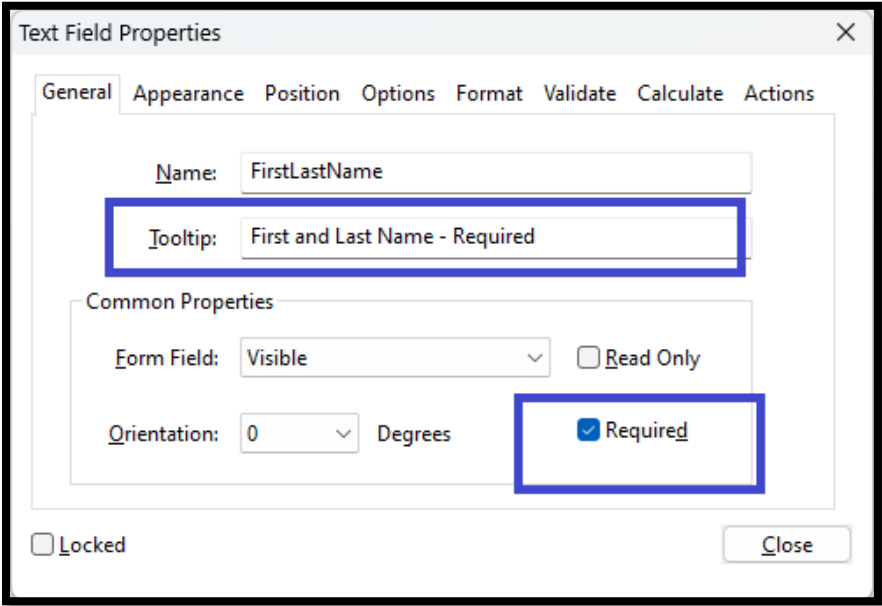
The Properties dialog opens. Give the form control a meaningful name.

Add the ToolTip. For example: “First and Last Name – Required”.

Click the Required check box.

Click Close.

Figure 83 Text Field Properties showing a ToolTip that indicates a required field and the Required check box checked (Foxit PDF Editor).



I suggest that the entire word “required” be written so there is no confusion by someone using their adaptive technology on a fast speed, or by someone using a natural phoneme choice that does not recognize some symbols. The abbreviation can cause confusion for the same reason. If someone is reading at a fast speed with their adaptive technology, they may hear something that sounds like “rec” which is meaningless. If form controls are required, that fact should be clear.

Note: I add CamelCase names for form controls that match the question so that when I add the <Form> Tag and annotation to the Tags Tree, I can quickly identify the correct annotation. Without intuitive names, form controls will be named “Text1”, “Text2”, “Checkbox1”, “Checkbox2” and forth. This can make it difficult to associate a form control with the corresponding question in the Tags Tree as you add them.

PDF 6: Using Table Elements for Table Markup in PDF Documents

Tables in PDFs have a specific structure that includes a parent <Table> element and child elements that create the structure of a table. It is important that even blank cells in a table are present in a table structure to keep the table stable for adaptive technology.

WCAG Success Criteria

[PDF6: Using table elements for table markup in PDF documents](#)⁴⁹.

- Sufficient to meet [1.3.1 Info and Relationships](#)⁵⁰ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.1 Info and Relationships](#)⁵¹.

ISO 3200 – 1:2008 and ISO 14289 – 1:2014

There is currently no free version of either first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.5 Tables.

Table Structure Basics

A table can have merged or split cells. These cells are identified in the PDF remediation process by using a ColSpan or RowSpan. This is typically only available as a remediation technique if the PDF Editor has a “Table Editor” tool or equivalent. The Table Editor tool is covered under the PDF Techniques for WCAG 2.x PDF 10.

⁴⁹ PDF 6 Using table elements for table markup in pdf documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF6>

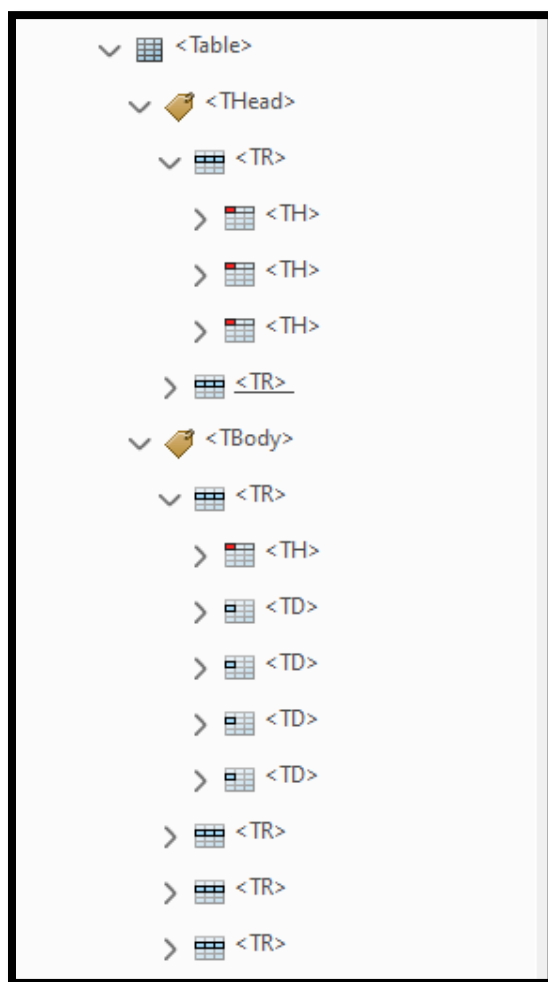
⁵⁰ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

⁵¹ Understanding 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/UNDERSTANDING-WCAG20/content-structure-separation-programmatic.html>

Note: The Table Editor (where available), the Order and Reading Order Panels are not the tools to use to remediate a table structure. This must be done in the Tags Tree. While the Table Editor can reassign <TH> and <TD> cells and add the ColSpan and RowSpan information cannot remediate mistagged cells. Likewise, the Order and Reading Order Panels can “Tag as a Table” but any remediation to the table must be done in the Tags Tree. There are examples of mistagging using the Order and Reading Order Panels in this section.

The following is an example of a table in the Tags Tree that does not have source information and therefore does not have a <TFoot> Tag.

Figure 84 Sample table Tags in the Tags Tree of a PDF.



Tables (and lists) are all about relationships. The relationship between the column and row titles in a table to the corresponding data cells in the table. Using the correct

elements for each part of the table in a PDF is essential to understanding the data in the table. The following represents a well-structured table with 5 rows and 3 columns in a PDF document.

<Table>

<THead> representing the Table Header Row(s).

<TR> There will be a <TR> Tag for every Table Row in the table.

<TH> For Table Header cells. These identify column and row titles.

<TH>

<TH>

<TBody> This Tag represents the body of the table which contains the data.

<TR>

<TH> Representing the row title.

<TD> Representing a Table Data cell.

<TD>

<TR>

<TH>

<TD>

<TD>

<TR>

<TH>

<TD>

<TD>

<TFoot> This Tag is used if the table has source information in the last row.

<TR>

<TD> This is usually a merged cell with the source cited in data.

As you move down the table elements, the corresponding content is highlighted in the Document.

Make sure that any empty cells have an empty <TH> or <TD> cell to ensure the stability of the table. If you are the content author, ensure that there are no empty cells in the

table. Typically cell A1 is left blank, however, it should contain some content to identify the information in Column A. For cells in the data range, adding a dash to indicate that there is no data for that point provides everyone with a clear understanding that content hasn't been missed, there is no data for that pint.

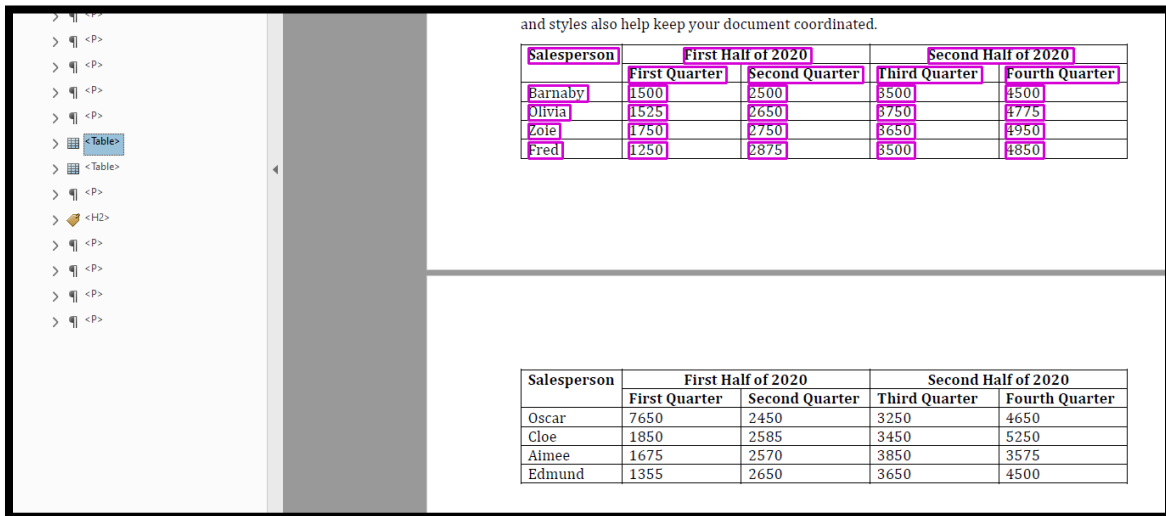
The Tags Tree has the same look and feel in Adobe Acrobat Pro DC and Foxit PDF Editor.

Word processed and desktop published documents have page breaks. Sometimes a paragraph, list or table spans multiple pages. To preserve the relationship of the information in a table (paragraph or list), all the table elements for a single table must be in a single parent <Table> tag.

Note: It is necessary to have “Header Rows Repeat” for tables spanning multiple pages. This allows someone reading the table data to quickly associate the column titles with the data instead of having to go back to the start of the table. This is done in the source application such as a word processor.

The following is an example of a table spanning multiple pages in a Word document. The Word document was converted to tagged PDF and remediated.

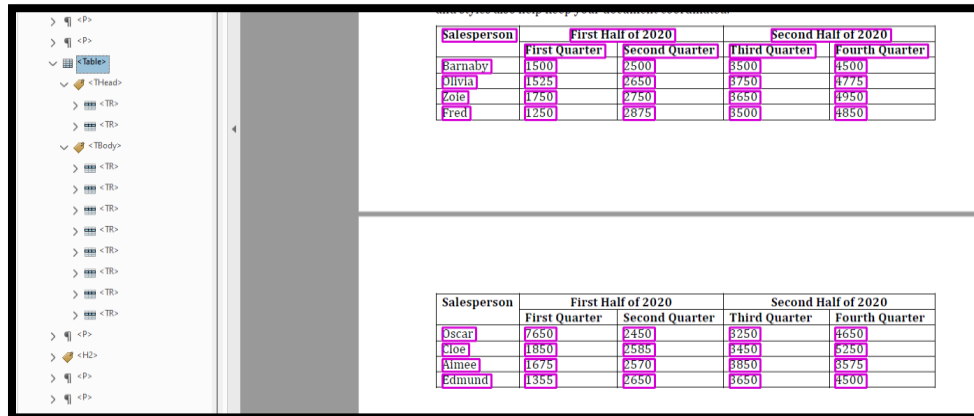
Figure 85 Table spanning two pages in a PDF showing separate <Table> Tags for each table.



The remediation for this type of accessibility barrier is to use the Content Panel to Artifact the Table Headers on the subsequent page(s), then expand the second parent <Table> Tag and move the <TR> Tags to the first <Table> structure.

The following graphic shows the remediated table.

Figure 86 Table spanning multiple pages remediated to join the table so it is a single <Table> structure.



The process of joining the Tags for a table spanning multiple pages can only be done in the Tags Tree once the subsequent Header Rows Repeat have been made Artifacts.

Adobe Acrobat Pro DC

Tagging a Table in the Order Panel

This topic is included to demonstrate the reason not to use the Order Panel or Reading Order Panel to create or remediate tables in PDFs.

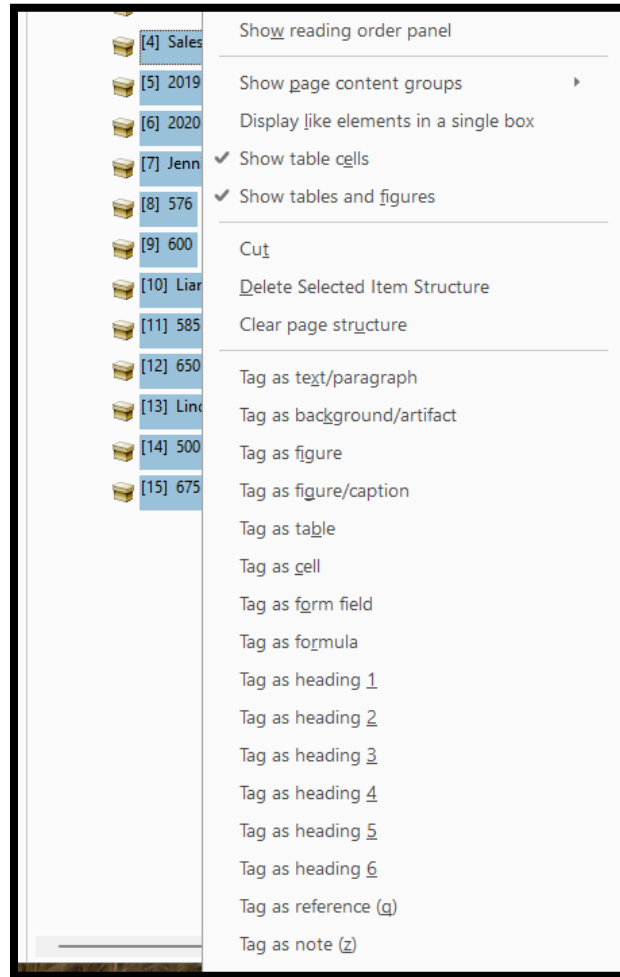
The Tags Tree is the best place to remediate most table issues. Some elements of tables can be remediated in the Order Panel and the Reading Order Panel, however, if the table has been tagged incorrectly, the Tags Tree is the place to work in. For example, if a table has been mistagged or completely missed in the tagging process, the Order Panel can be used to create the <Table> structure.

To add a table to a PDF in the Order Panel, select the first cell contents of the table.

Hold down the Shift key and use the Down Arrow to select the remainder of the cell contents for the table.

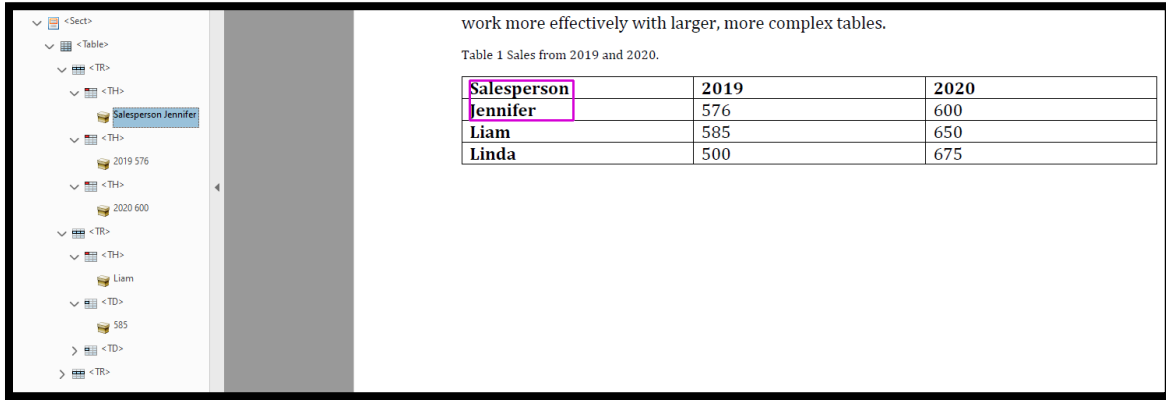
Right-click and choose Tag as Table. Switch to the Tags Tree to check the results.

Figure 87 Order Panel with individual cell contents selected and context menu visible (Adobe Acrobat Pro DC)



This technique can result in a mistagged table as shown in the following graphic. The contents of cells for rows 1 and 2 have been combined. This cannot be remediated in the Order Panel or the Reading Order Panel. The text must be separated in the Tags Panel, Tags Tree.

Figure 88 Mistagged table tagged using the Order Panel (Adobe Acrobat Pro DC).



Using the same table sample, the results of tagging the table using the Reading Order Panel has similar results.

Tagging a Table using the Reading Order Panel

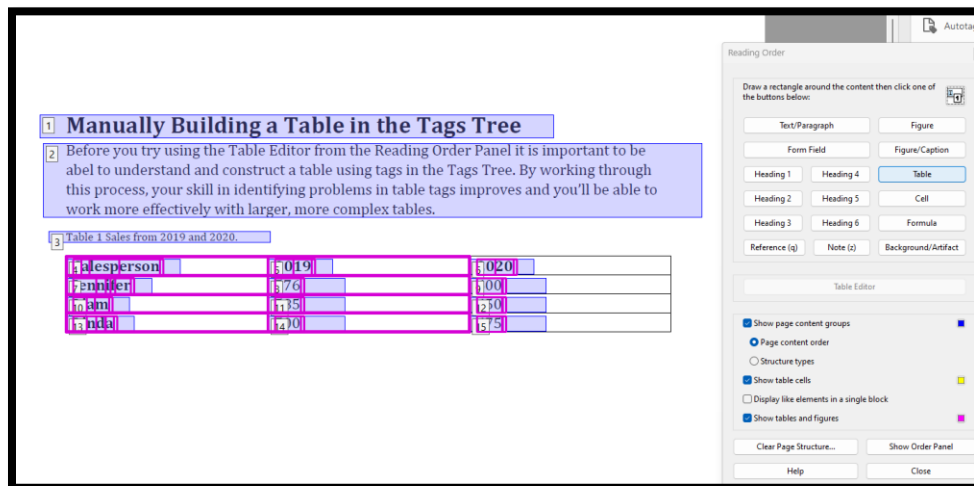
This topic is included to demonstrate the reason not to use the Order Panel or Reading Order Panel to create or remediate tables in PDFs.

Launch the Reading Order Panel from the Accessibility tools in the Tools Task Pane.

Select the table.

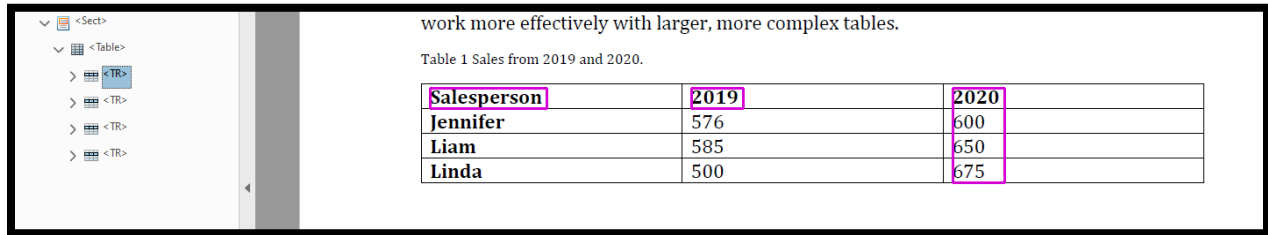
The button to create a Table becomes active.

Figure 89 Reading Order Panel showing active Table button and a table selected in a PDF (Adobe Acrobat Pro DC).



Once the table has been tagged as a table using the Reading Order Panel, switch to the Tags Tree to check the results. This is where you'll see any mistagging.

Figure 90 Table mistagged using the Reading Order Panel shown in the Tags Tree (Adobe Acrobat Pro DC).



For this simple table, all the cells in column C have been lumped together in once cell.

As with mistagged tables from the Order Panel, the table structure must be remediated in the Tags Tree. The contents of the cells will need to be separated and added to their respective <TH> or <TD> cells once the table structure is remediated.

Foxit PDF Editor

Tagging a Table in the Order Panel

This topic is included to demonstrate the reason not to use the Order Panel or Reading Order Panel to create or remediate tables in PDFs.

The Tags Tree is the best place to remediate most table issues. Some elements of tables can be remediated in the Order Panel and the Reading Order Panel, however, if the table has been tagged incorrectly, the Tags Tree is the place to work in. For example, if a table has been mistagged or completely missed in the tagging process, the Order Panel can be used to create the <Table> structure.

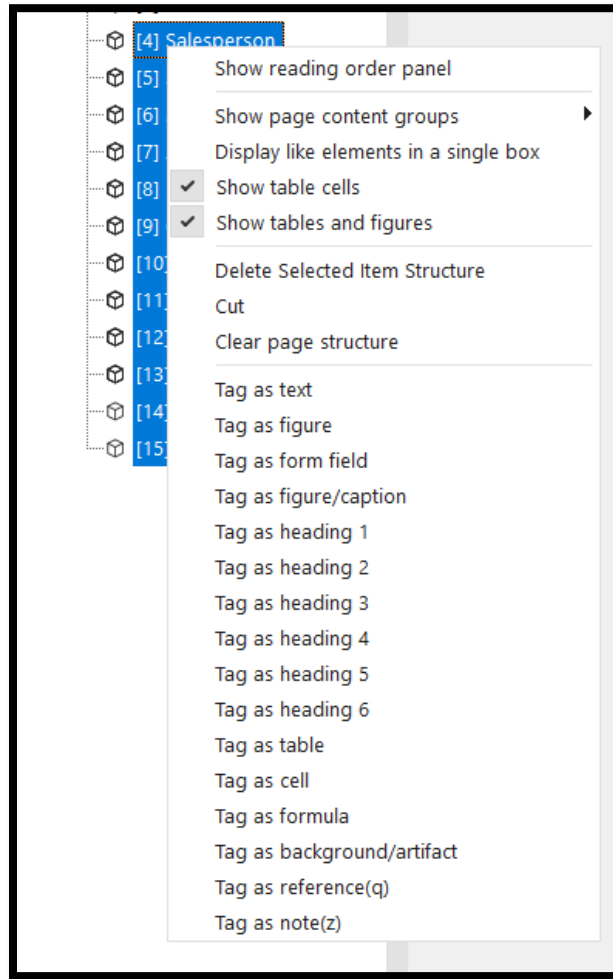
In the Order Panel, select the first cell contents of the table.

Holding down the Shift key to select the remaining parts of the table doesn't work in Foxit PDF Editor. You'll need to use the Ctrl key and select EVERY cell content individually until all the table data is selected.

Right-click and choose Tag as Table.

Switch to the Tags Tree to check the results.

Figure 91 Order Panel with table cells selected and context menu to Tag as Table (Foxit PDF Editor).



As we saw in Adobe Acrobat Pro DC, the table has been mistagged.

This time, the cells are scattered throughout the <TR> or Table Row Tags. This means the data will not make any sense to someone using adaptive technology to read the PDF.

There were also some cells that were merged with others.

Figure 92 Sample table structure created using the Order Panel with mistagged cells (Foxit PDF Editor).

The screenshot shows the Foxit PDF Editor interface. On the left is the Tags Tree, which displays a hierarchical structure of HTML tags: <Table>, <TR>, <TD>, 576, <TR>, <TD>, 585, <TR>, <TD>, <TR>, <TD>, <TR>, <TD>, <TR>, <TD>, <TR>, <TD>, <TR>, <TD>. The <TR> tag is highlighted in blue. On the right is the main content area, which contains the following text and table:

Manually Building a Table in the Tags Tree
Before you try using the Table Editor from the Reading Order Panel it is important to be able to understand and construct a table using tags in the Tags Tree. By working through this process, your skill in identifying problems in table tags improves and you'll be able to work more effectively with larger, more complex tables.

Table 1 Sales from 2019 and 2020.

Salesperson	2019	2020
Jennifer	576	600
Liam	585	650
Linda	500	675

Tagging a Table using the Reading Order Panel

This topic is included to demonstrate the reason not to use the Order Panel or Reading Order Panel to create or remediate tables in PDFs.

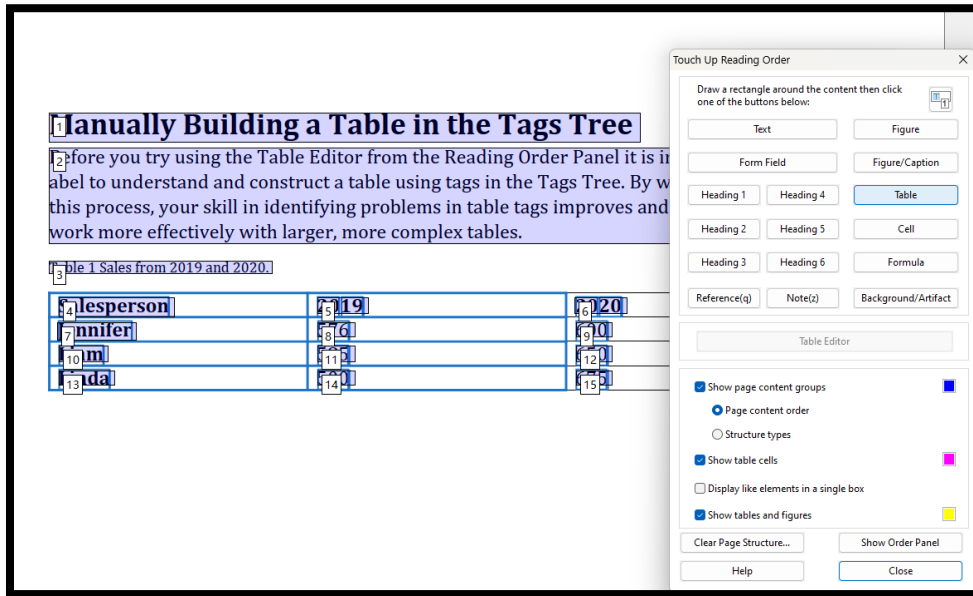
Launch the Reading Order Panel from the Accessibility Ribbon.

Select the table.

The button to create a Table becomes active.

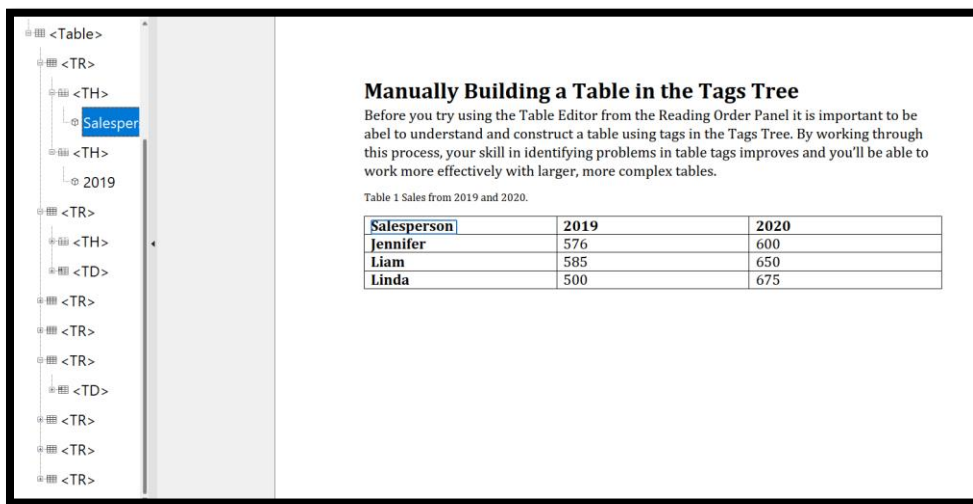
Once the table has been tagged as a table using the Reading Order Panel, switch to the Tags Tree to check the results. This is where you'll see any mistagging.

Figure 93 PDF showing Reading Order Panel over the document.



As with mistagged tables from the Order Panel, the table structure must be remediated in the Tags Tree. The contents of the cells will need to be separated and added to their respective <TH> or <TD> cells once the table structure is remediated.

Figure 94 Tags Tree showing table has been mistagged.



PDF 7: Performing OCR on a Scanned PDF Document to Provide “Actual” Content

The text of this PDF technique for WCAG states that you are providing “Actual Text”. However, Actual Text is an attribute on a <Figure> Tag and will not provide an accessible PDF if you are working on a scanned graphic of a document. Since Actual Text is an attribute, it cannot have Headings, lists, table, figures, or other structural elements. The Actual Text editor is a plain text editor.

The WCAG technique for scanned PDFs should read that it provides access to the content of the PDF using structural elements. These structural elements include paragraphs, lists, graphics, tables, and Headings which are not available when the Actual Text attribute is used.

WCAG Success Criteria

[PDF7: Performing OCR on a scanned PDF document to provide actual text](#)⁵².

- Sufficient to meet [1.4.5 Images of Text](#)⁵³ (WCAG 2.0, 2.1, 2.2 AA).
 - [Understanding 1.4.5 Images of Text](#)⁵⁴.
- Sufficient to meet [1.4.9 Images of Text \(No Exception\)](#)⁵⁵ (WCAG 2.0, 2.1, 2.2 .AAA)
 - [Understanding 1.4.9 Images of Text \(No Exception\)](#)⁵⁶.

ISO 14289 – 1: 2008 and ISO 14289 – 1:2014

There is currently no free version of either first iteration of the ISO standards..

ISO 32000 – 1:2008.

14.9.3Alternate Descriptions.

⁵² PDF 7 Performing OCR on a scanned PDF document to provide “Actual Text”, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF7>

⁵³ Success Criteria 1.4.5 Images of Text, W3C: <https://www.w3.org/TR/WCAG22/#images-of-text>

⁵⁴ Understanding 1.4.5 Images of Text, W3C:

<https://www.w3.org/WAI/WCAG21/Understanding/images-of-text.html>

⁵⁵ Success Criteria 1.4.9 Images of Text (No Exception), W3C:

<https://www.w3.org/TR/WCAG22/#images-of-text-no-exception>

⁵⁶ Understanding 1.4.9 Images of Text (No Exception), W3C:

<https://www.w3.org/WAI/WCAG21/Understanding/images-of-text-no-exception>

How Actual Text becomes an Accessibility Barrier

Providing Actual Text for large pieces of content in scanned PDFs, including entire pages can cause the adaptive technology to stop working as it is overwhelmed by a large amount of text as an attribute. This is the same for pages of Alt Text.

As an attribute, someone using adaptive technology reads all the text or none of the text. Using either the Actual Text or the Alt Text attributes on Tags prevents the end-user from going through the text in a granular manner.

The purpose for the process of OCR (Optical Character Recognition), or text recognition, is to provide access to the live content on the page/in the document.

Note: OCR (Optical Character Recognition) or text recognition works best when you have a clean, clear document to work with. The poorer the quality of the printed page, the more likely the text recognition will have problems. At that point, a stand-alone OCR tool may be the only means of creating an accessible PDF from the scanned content.

Using the Artifact, Alt Text, and Actual Text Attributes and the <Caption> Tag

There are 4 possible techniques that can be used when considering graphics in PDFs. The attributes (Artifact, Alt Text, and Actual Text) are not to be used in combination with each other. The <Caption> Tag can be used with graphics that have the Alt Text or Actual Text attribute. An attribute is added to a <Figure> Tag to provide additional information about the graphic.

Avoid using Alt Text and Actual Text in a PDF. This is extra work that is not needed. The adaptive technology looks for Alt Text. If there is no Alt Text, it then looks for Actual Text. If there is no Alt Text or Actual Text, we simply hear “unlabelled graphic” (not helpful).

Artifacts

After reading through ISO 32000 – 1:2008 and ISO 14289 – 1:2014, it is not clear what an Artifact is classified as. Although in 320005 – 1:2008 there is reference to a “Tag” when discussing Artifacts, there is no Artifact Tag.

Turning to ISO 14289 – 1:2014 7.1, Real Content and Artifacts: “Content that does not render and does not have a rendered equivalent shall be marked as an artifact”

Artifacts do not appear in the Tags Tree. Artifacts can be identified in the Content Panel as a description of a Container. They do not appear anywhere else in the PDF remediation tools.

Graphical elements that are part of the background, considered to be decorative and do not provide additional support to relevant are Artifacts. Artifacts are not available to adaptive technology. They are invisible. Artifacts can be decorative lines or repeating elements (page headers and footers as well as page numbers). Table gridlines are a good example of visual elements that should be Artifacts and not read or seen by adaptive technology.

Note: With the publishing of PDF – 2:2020 we might see an <Artifact> Tag in PDFs. In the past few years, when the <Artifact> Tag has been added to the Tags tree, it has not been possible to hide Artifacts. In turn, this makes it impossible to have a PDF/UA – 1:2014 conforming PDF. ISO 32005 clearly states that as soon as a PDF- 2 Tag is used, the PDF is considered a PDF- 2 document regardless of the intent of the remediator/content author. With no means of saying “I want a PDF – 1:2014 document before conversion and no means of making the <Artifact> Tag a true Artifact as we know them, we will not be able to create PDF that conform to ISO 14289 – 1:2014.

Alt Text (Attribute)

Alt Text or Alternative Text is used when a graphic has relevance to surrounding content. For example, instructions that show a dialog, a chart or diagram that illustrates data contained in the surrounding text.

It is important to include punctuation in Alt Text. Without punctuation, text dribbles on with no pauses and no ability to understand the structure of the Alt Text.

Alt Text should be concise and describe what the graphic is in the document instead of describing clouds, landscapes, and costumes unless those elements are directly related to the surrounding content. There is no “standard” for a number of characters or words. However, the goal is to concisely describe the purpose of the graphic in the content.

For organizational logos, Alt Text can be the “Karlen Communications logo”, for example. The important thing about the logo is that it is a logo or landmark that verifies that the PDF is published by an organization.

For formulae, write out the formula in longhand. This means typing 1 plus 2 equals, 6 times 4 equals and so forth. Adaptive technology will read symbols as “star” for an *,

slash for a “/” and dash for a -. This is true for complex equations that contain fractions, sine and cosine and square roots. Whether symbols are read or not also depends on the natural phoneme synthesized voice used by the end-user. A good example of things that might be missing in the natural phoneme voices such as Heather and Daniel. An example is the word “wasted” which the Daniel synthesized voice reads as “was ted”.

Avoid using abbreviations when providing Alt Text for formulae.

Note: Alt Text (and Actual Text) is available to those using adaptive technology. There are many people with disabilities who do not use adaptive technology but who could benefit from having information about the graphic available in surrounding content or by using a caption for the graphic.

Actual Text (Attribute)

The use of the Actual Text attribute is a bit trickier to determine. Keeping in mind that Actual Text is an attribute on “live content” and not “live content” as might be defined as text on a page; we must remember that as an attribute there is no structure to the information.

For example, if a PDF is a scanned graphic of a page or pages, using Actual text creates accessibility barriers for those who use adaptive technology. As an attribute, if there are Headings, lists, graphics, or tables on the visual representation of the page, these cannot be represented in an attribute such as Actual Text (or Alt Text). Punctuation is essential, however, not being able to distinguish structural elements or navigate the content creates a huge accessibility barrier.

For these types of PDFs, performing OCR (Optical Character Recognition) or text recognition is the only means of ensuring that structural Tags are available.

Another barrier for those using adaptive technology that underlines or highlights where they are reading in the document, is that as an attribute, the highlight is not available when large blocks of text are rendered using the Actual Text attribute. For large blocks of text, performing OCR and ensuring that the content is correctly tagged in the Tags Tree is the most accessible technique.

Actual Text can be used for small pieces of text, such as a paragraph, where the text has been created in something like Adobe Illustrator or Adobe Photoshop because the font used doesn’t have a complete character set.

Note: Actual Text (and Alt Text) is available to those using adaptive technology. There are many people with disabilities who do not use adaptive technology but who could benefit from having information about the graphic available in surrounding content or by using a caption for the graphic.

Using the <Caption> Tag

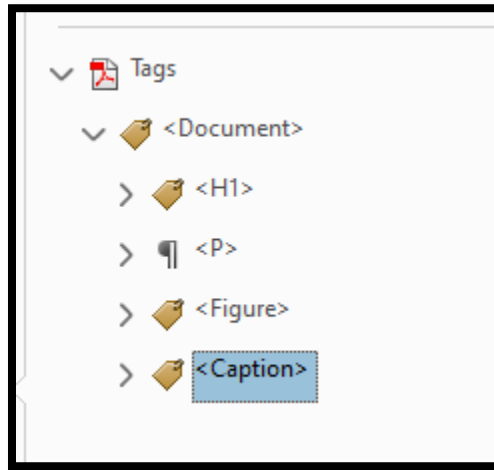
The <Caption> Tag is used when a caption is associated with the graphic. Captions are not attributes on a tag; they are Tags in the Tags Tree. A caption provides the content author with a technique to add additional content that might not be in Alt Text.

Sometimes captions are prefaced by “Figure x” and sometimes they are not. They appear directly before or after a graphic in a document.

Captions are important when they can be used to support accessibility. There are two reasons for this:

- If the document is Brailled (whether it is a PDF or not), graphics are not embossed in the Braille document. They must be created using a separate embosser and software. This physically separates them from the document. Using a caption provides information that a graphic is present and, in terms of matching tactile graphics, allows the end-user to associate the tactile graphic with its place in the content.
- For those who cannot visually decode a graphic, providing additional information using a caption gives more context and is available to everyone. If the document is printed, Alt Text is not available to anyone. A caption provides the context of the graphic to the surrounding content.

Figure 95 The <Caption> Tag in a PDF from Word when the Caption tool is used (Microsoft 365).



Tagging Scanned Documents (Accessibility)

It is important that you read the scanned document thoroughly once the text recognition has been done. Often, words will have no spaces between them but won't show up as "suspect" text. Other issues are spaces between each character in a word. Both scenarios create inaccessible content because none of the content makes sense.

Figure 96 Paragraph where all the words are together with no spaces between them.



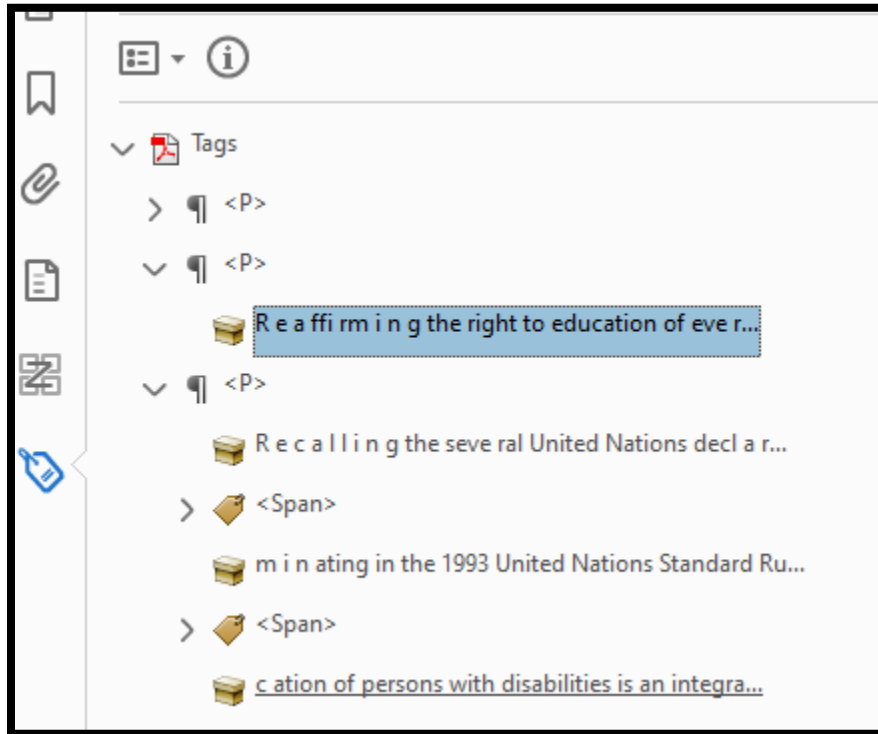
All the words are run together with no space between them. However, when we look at the text on the page, there are spaces between words, and everything looks "normal".

Figure 97 The text for the misrecognized text with no spaces between words.

As our nation develops a network of EV charging stations, we must include access for persons with disabilities and comply with the Americans with Disabilities Act (ADA). ADA

This is why it is essential that before you begin remediating the Tags, you read the text to ensure it is correct.

Figure 98 Sample scanned document after text recognition showing spaces between characters in words.



If the text is unreadable after performing the text recognition in a PDF Editor, you may want to explore purchasing either [ABBYY FineReader](#)⁵⁷ or [Kofax OmniPage Pro](#)⁵⁸. Both are powerful stand-alone OCR or text recognition tools. Both let you edit the text that adaptive technology will read so that there are individual words with no spaces between characters.

Adobe Acrobat Pro DC

Create From Scanner Tools

A scanned graphic of document pages can be started from the File, Create, From Scanner option in Acrobat.

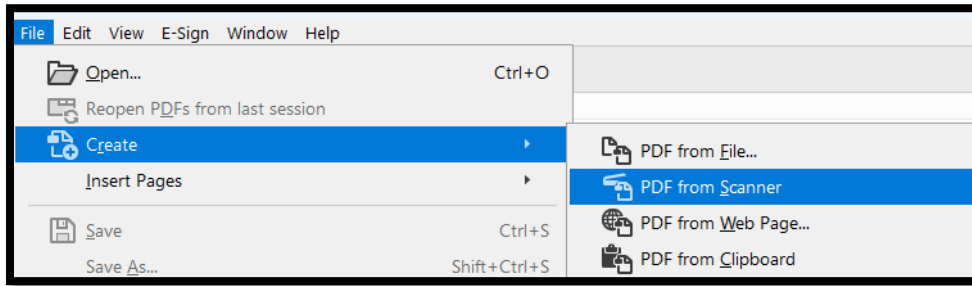
Go to File, Create, From Scanner.

Once you perform these keyboard commands, everything else is a mouse-dependent activity.

⁵⁷ ABBYY FineReader, ABBYY: <https://PDF.abbyy.com/finereader/16/getting-started/>

⁵⁸ Kofax OmniPage Pro, Kofax: <https://www.tungstenautomation.com/Products/omnipage>

Figure 99 File, Create, From Scanner (Adobe Acrobat Pro DC).



This opens a dialog where you can choose your scanner and other settings for the scanned graphics of pages.

When the first page is scanned, another dialog asks if the scan is complete or you want to scan more pages.

The next step is to go to the Scan and OCR tools in the Tools Task pane and recognize the text.

Scan and OCR Tools

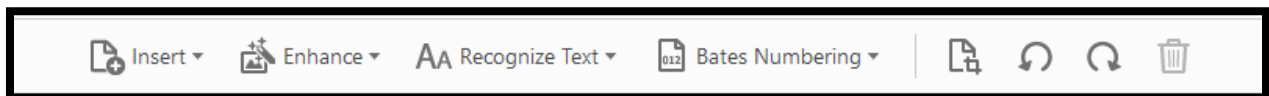
This is a mouse-dependent activity.

Once you have a scanned graphic of a page or document, use the Scan and OCR tools. I typically add these tools to the Tools Task pane.

These tools allow you to scan directly into Acrobat just as File, Create, From Scanner does.

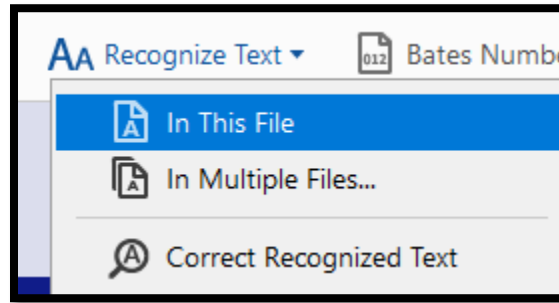
Once you activate Scan and OCR, a Toolbar appears just above the PDF document.

Figure 100 Scan and OCR Toolbar in Adobe Acrobat Pro DC.



The next step is to choose an option from the drop-down list for Recognize Text. In the following graphic, "In this File" is selected.

Figure 101 Recognize Text options (Adobe Acrobat Pro DC).



After choosing to recognize text in the current file, another Toolbar opens just under the first one. This Toolbar has a setting for language and the text recognition process itself.

Figure 102 Recognize Text Sub-Toolbar (Adobe Acrobat Pro DC).

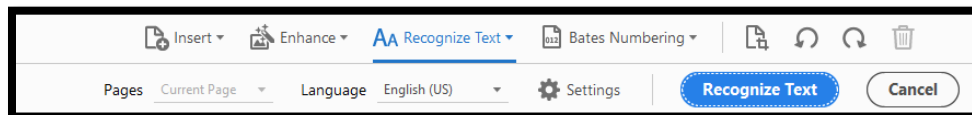
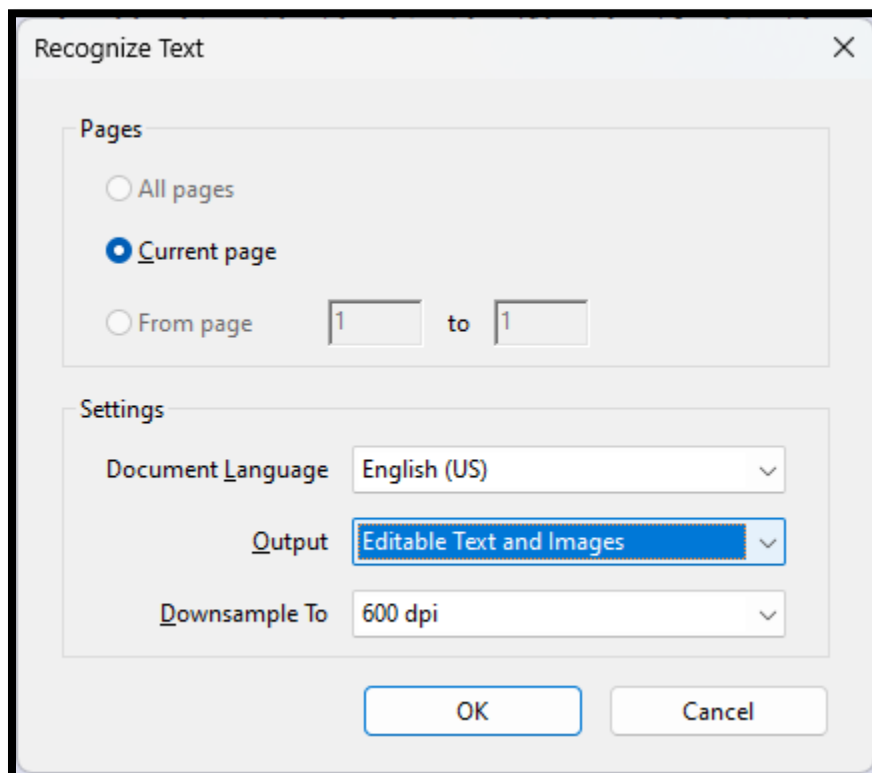


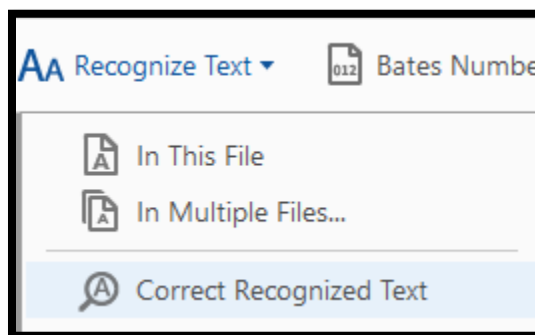
Figure 103 Recognize Text dialog for the OCR settings (Adobe Acrobat pro DC).



After the text is “recognized” the second Toolbar disappears.

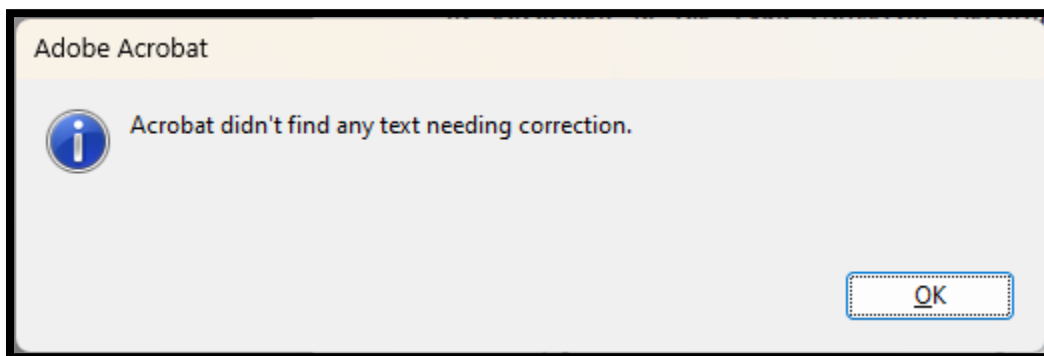
Choose the Recognize Text option again and this time choose Correct Recognized Text.

Figure 104 Recognized Text sub-menu (Adobe Acrobat Pro DC).



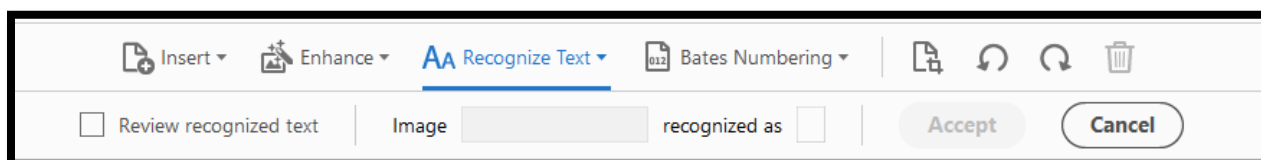
The document used for this example is the same one with spaces between characters in words that were used to demonstrate the efficiency of the Adobe Acrobat Pro DC OCR tools.

Figure 105 Adobe Acrobat dialog showing no text reading concerns (Adobe Acrobat Pro DC).



At this point, the PDF is not tagged. This is why we can't trust the on-board OCR (Text Recognition tools). Once this PDF is tagged and reviewed with a screen reader, it is painfully obvious that there are many words with spaces between characters in words making the content unreadable.

Figure 106 The Correct Text Recognition toolbar (Adobe Acrobat Pro DC).



In all the years since Adobe Acrobat Pro 9 that I've tested the Scan and OCR tools, I've never been able to trust them in terms of text recognition accuracy. For that reason, I use ABBYY FineReader. The advantage of using a stand-alone tool like FineReader is

that you can save the resulting recognized PDF as a tagged PDF and start the remediation in Acrobat immediately. Another advantage is that my screen reader works in their text editor so I can go through the document and hear the misrecognized text (if any).

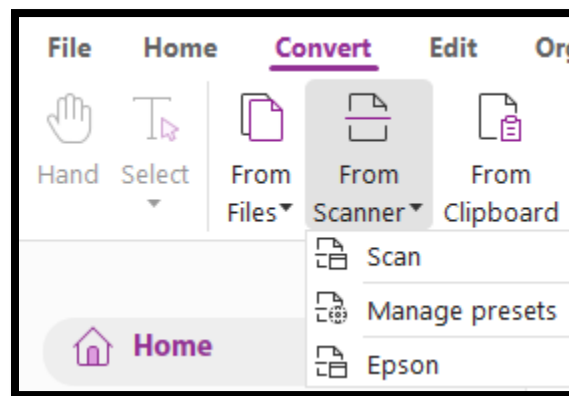
Foxit PDF Editor

Convert Ribbon (Scan Tool)

The ability to scan pages or a document into Foxit PDF Editor is found in the Convert Ribbon from Scanner.

This is a mouse-dependent activity.

Figure 107 Convert Ribbon showing From Scanner (Foxit PDF Editor).



A dialog opens where you can choose the scanner and other settings for the resulting pages/document.

Note: I didn't have the choice not to use the scanner software. When I did use the scanner software, Foxit crashed after launching the Text Recognition dialog. I could not create a scanned document and perform text recognition/OCR in Foxit. I had to use Adobe Acrobat to create the scanned document and then perform the Text Recognition in Foxit. This was the current version of Foxit as of January 2024.

Once a page has been scanned, a dialog appears asking if you are finished scanning or have more pages to scan.

If Foxit doesn't crash, follow the instructions in the dialog.

Recognize Text Tool

This is also a mouse-dependent activity.

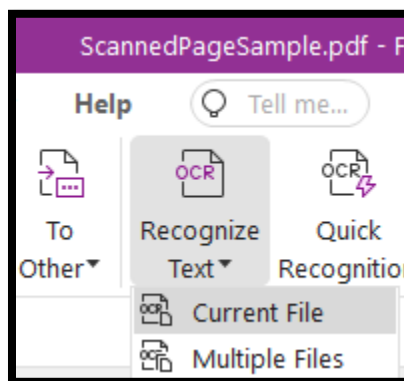
The Recognize Text button is on the Convert Ribbon.

The options under the Recognize Text button are performing the text recognition in the Current File or in Multiple Files.

The ability to go through any misrecognized text is in the dialog for recognizing the text.

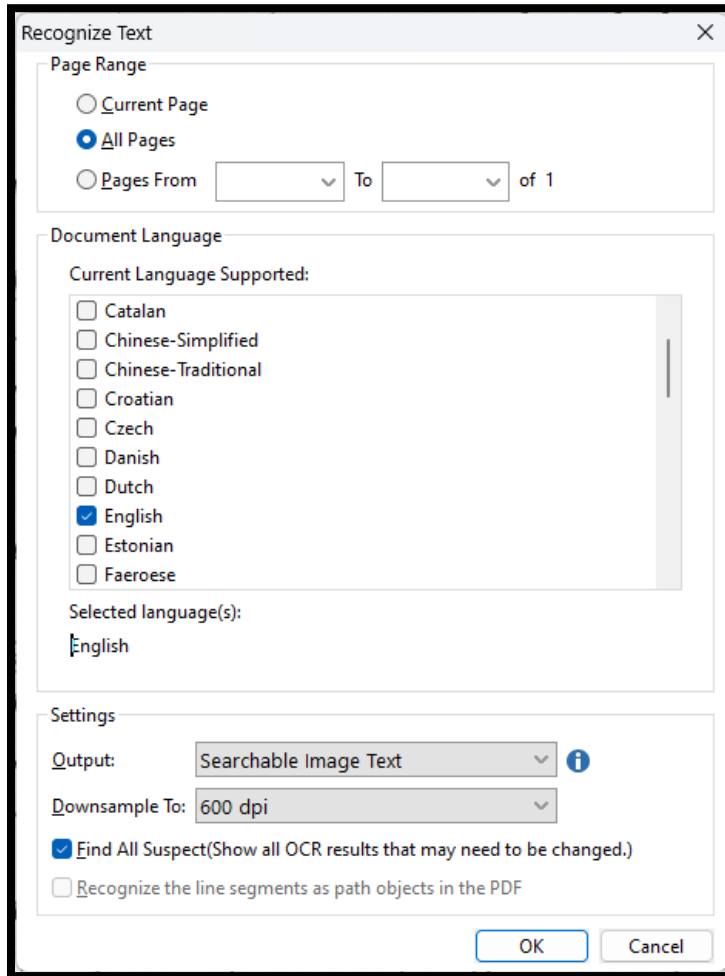
Note: During this process, the PDF is not tagged. This is why we can't trust the on-board OCR (Text Recognition tools). Once this PDF is tagged and reviewed with a screen reader, it is painfully obvious that there are many words with spaces between characters in words making the content unreadable.

Figure 108 Recognize Text options in the Convert Ribbon (Foxit PDF Editor).



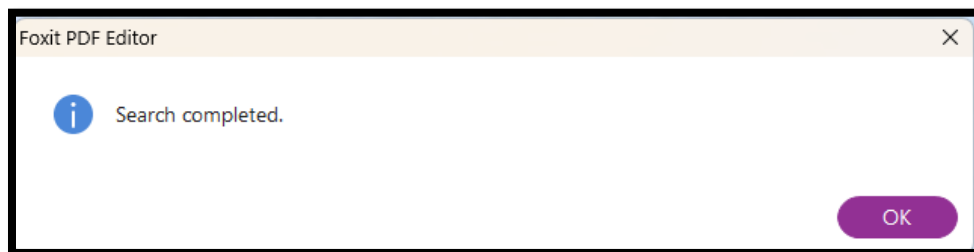
Once a choice is made, the Recognize Text dialog opens. Typically, the options won't change unless you are working with a document in a different language.

Figure 109 Recognize Text dialog (Foxit PDF Editor).



The same document was used for both Adobe Acrobat Pro DC and the Foxit PDF Editor for this PDF technique. The result was the same. Foxit PDF Editor notified me that the search was complete.

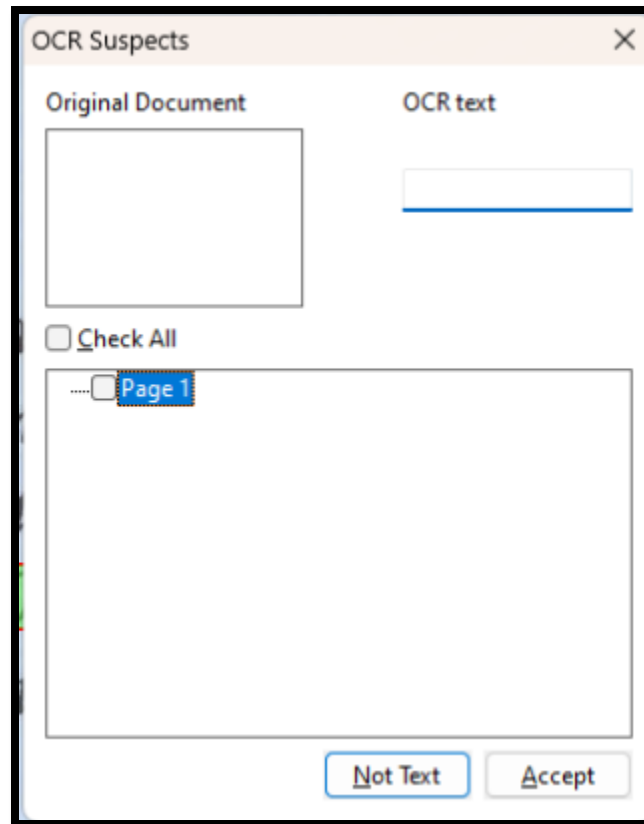
Figure 110 The Search Complete dialog (Foxit PDF Editor)



The Search Complete dialog appeared sometimes once the text recognition was complete and at other times it did not.

Here is where things get weird in Foxit PDF Editor. Feel free to skip this section and recognize you can't create a tagged PDF at the current time using Foxit PDF Editor on a scanned PDF.

Figure 111 OCR Suspects dialog (Foxit PDF Editor).



I will continue with the troubleshooting I used purely out of interest.

You must check the “Check All” check box in the OCR Suspects dialog to have the “Not Text” and “Accept” buttons active.

BUT...

I first tried to go through the suspects one by one and use the buttons to identify the suspect text individually. For example, choosing Not Text for the page number (vii) but unchecking the “1990” because that was correct.

The result was that when I tagged the PDF, the Tags were empty.

Figure 112 OCR Suspects dialog showing "Check All" checked and buttons active (Foxit PDF Editor).

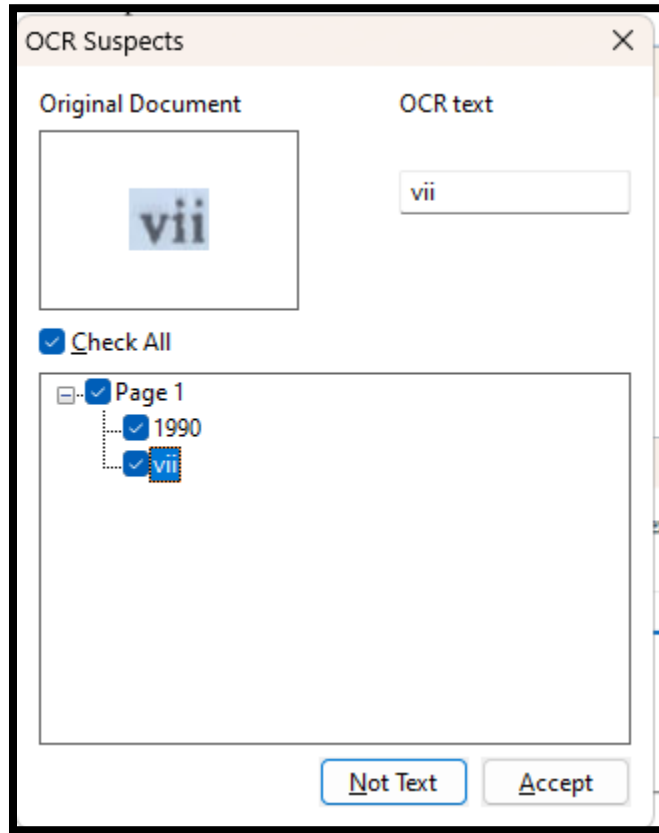
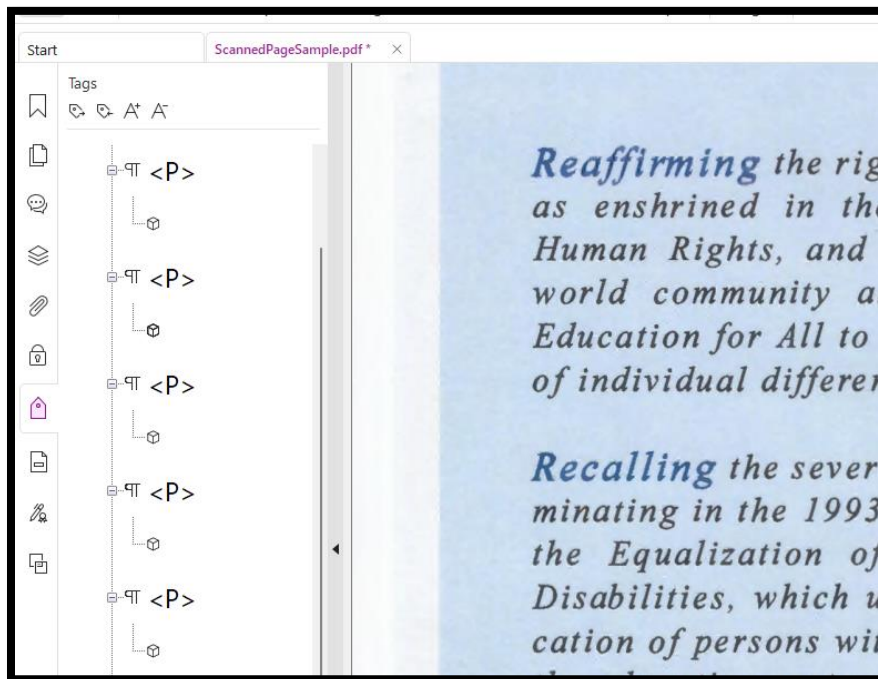
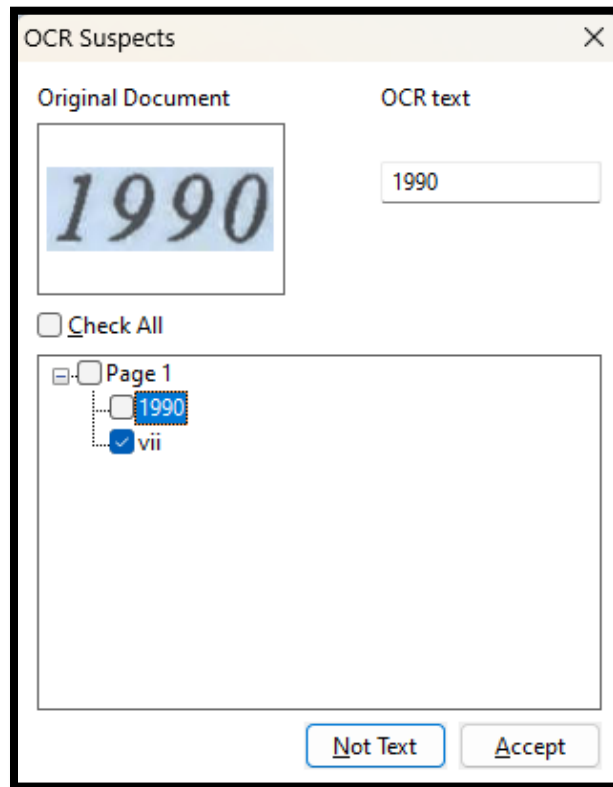


Figure 113 Tags Tree after Text Recognition (Foxit PDF Editor).



I then tried dealing with the suspects individually.

Figure 114 OCR Suspects dialog showing different options chosen (Foxit PDF Editor).



I tried every combination I could think of to get a tagged PDF with content in the Tags in the Tags Tree. I was not successful. I could not create a tagged PDF from a scanned PDF using the Foxit PDF Editor.

Stand-alone OCR Tools

I added this section as an example of a stand-alone OCR tool with a high accuracy rate. ABBYY FineReader and Kofax OmniPage Pro are examples of a stand-alone OCR tool.

One of the advantages of a stand-alone OCR tool is that if you don't have the original Word or PowerPoint content, you can save the PDF with more accuracy than the Adobe Acrobat Pro DC or Foxit PDF Editor tools to export content.

A scanned PDF can be opened in a stand-alone OCR tool and saved as a searchable PDF. The OCR is done seamlessly as the PDF is opened.

In ABBYY FineReader there are three ways to open a PDF whether it is a scanned PDF or not:

- Press Ctrl + letter O and choose the PDF to open. This opens the PDF without the OCR Editor. It is a tool for fast open and save functionality. The OCR is done seamlessly during the file opening process.
- Scan a PDF directly into the OCR Editor or open a PDF in the OCR Editor. This tool allows you to access the editor to review any OCR errors and resave the PDF without saving the OCR Editor work as an OCR Project. This tool can be used when you don't anticipate the work on a file to take hours or days. You can still check for no spaces between words and spaces between characters in words.
- Create an OCR Project and use a text editor to go through the OCR and suspect process in detail, ensuring that there are spaces between words and that there are no spaces between characters in word. This tool is used for files that might take hours or days where you want to save and reopen a project.

Open a Scanned PDF in ABBYY FineReader

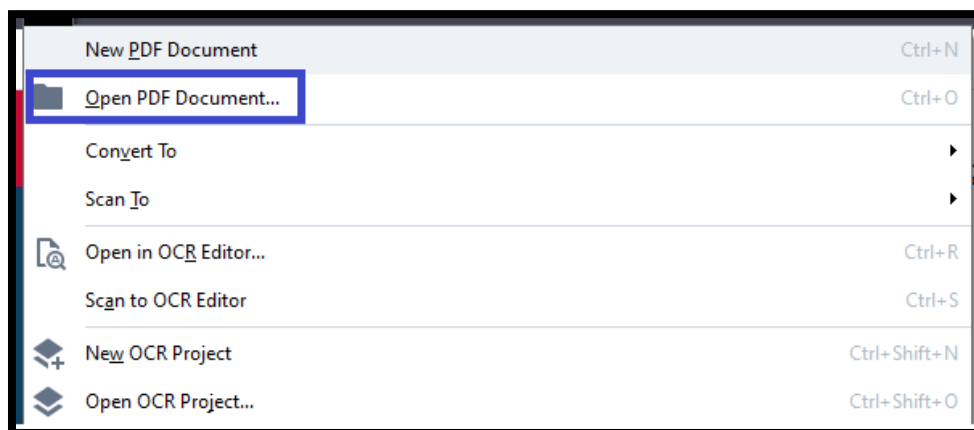
Since I have this software, I'll use ABBYY FineReader for this example. OmniPage Pro has similar capabilities.

There are options for working with PDFs once FineReader is launched. I'll focus on the File menu options.

The first option is to open a PDF. This opens a PDF without using the OCR Editor or creating a project. If you decide to create a project once a PDF is open, you can return to the File menu and save the PDF as a project.

To open a PDF, the keyboard command is Ctrl + the letter O, then choose the location and PDF.

Figure 115 ABBYY FineReader File menu options.



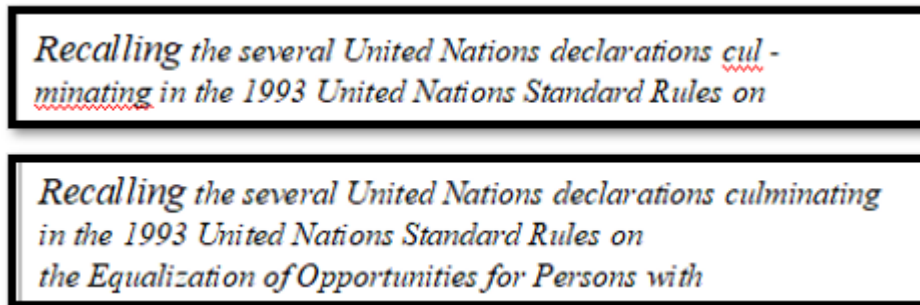
Once a PDF is open, the OCR is done seamlessly, and you can resave the PDF as a searchable PDF or other file format.

OCR Editor

The next options are to scan a PDF directly into the OCR Editor, or to open a PDF in the OCR Editor. Use this option if you think the document might have serious text recognition issues. This option should also be used if you have a document with Full Justification. Full Justification creates an accessibility barrier because words are divided at the end of lines. For example, the word “disability” is divided as “dis-ability” which is read as “dis hyphen ability”.

This accessibility barrier affects those using screen readers, Text-to-Speech tools and those who have learning, cognitive or print disabilities. The breakup of the word is one issue; and the reading of the hyphen is another when it comes to comprehension and understanding of the content. As I stated, the “optional hyphens” can be removed using the Find and Replace Optional Hyphens” tool in FineReader.

Figure 116 Sample of text with hyphen (top); remediated text (bottom) in ABBYY FineReader OCR Editor.



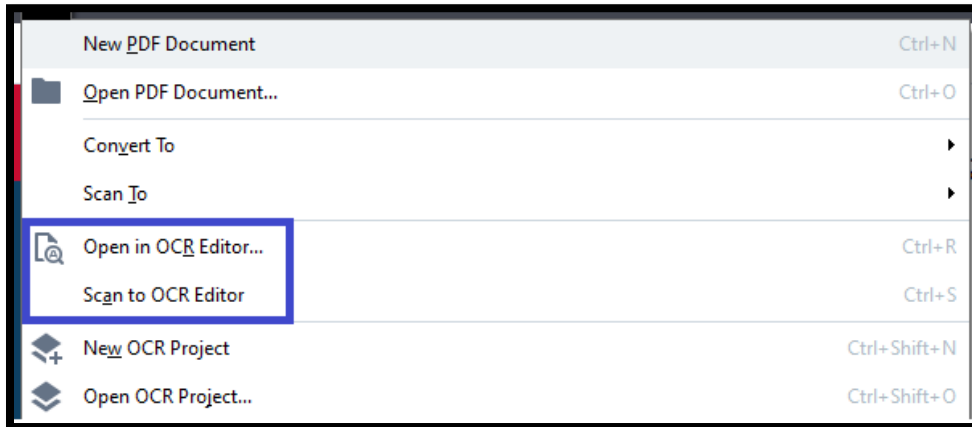
The visual representation and layout in the PDF is the same. The underlying text that will form the Tags is what you are editing. I know, it takes getting used to.

One of the things I tell people working in the field of PDF remediation is to let go of the visual and focus on the content and make it accessible.

The keyboard command to Open in OCR Editor is Ctrl + R.

The keyboard command to Scan to OCR Editor is Ctrl + S.

Figure 117 Open in OCR Editor and Scan to OCR Editor in ABBYY FineReader.

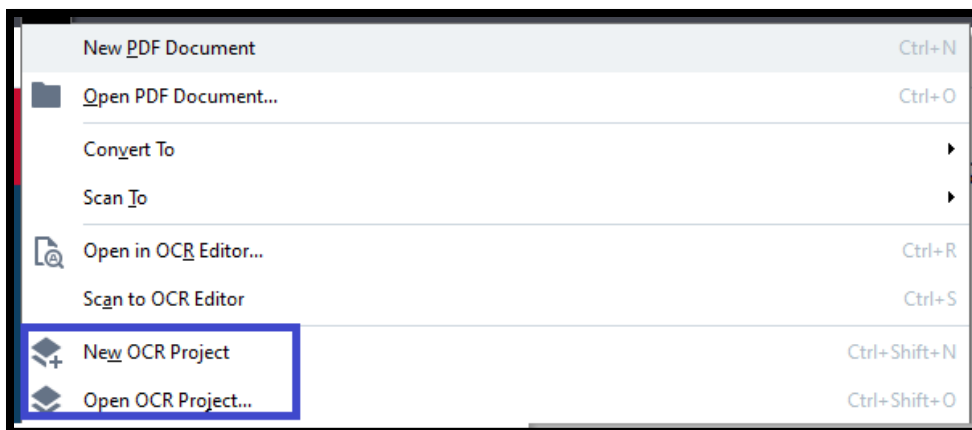


When a PDF is finished with a review and edit process, it can be resaved as a searchable PDF or other file format. If the work takes longer than expected, it can be saved as an OCR Project from the File menu.

OCR Project

The next option is to work with the PDF as an ongoing OCR project. This is used for documents that were poor scans or poor photocopies that were scanned; or for documents that had personal notes in the margins or highlight, underline, or any other notations. The OCR Project option is used for long documents that may take several hours or days to go through.

Figure 118 File menu, New OCR Project and Save OCR Project in ABBYY FineReader.

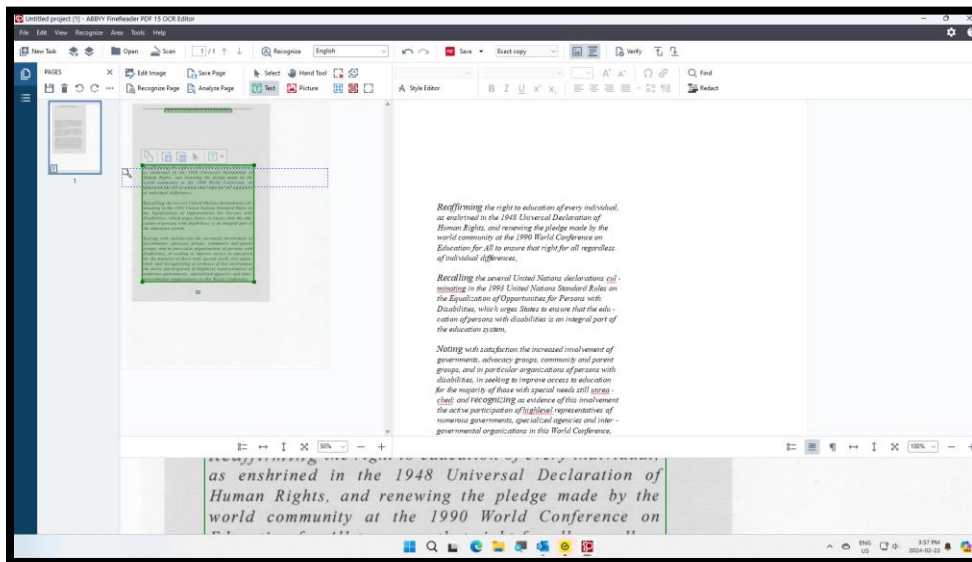


When the option to work with an OCR Project is chosen (or to work with the OCR Editor), there is a change in the user interface. Just under the Menu bar is a series of Toolbars. Just under the Toolbars, on the left is a Thumbnail Pane of all pages in the document. To the immediate left of the Thumbnail Pane is the current page being worked on.

- To create New OCR Project press Ctrl + Shift + N.
- To Open OCR Project press Ctrl + Shift + the letter O.
- If you've been working in the OCR Editor and want to save the document as an OCR Project, press Ctrl + Shift + S to save the OCR Editor work as an OCR Project.

To the immediate left of the current page view is the OCR Editor. This is where you can use a screen reader or Text-to-Speech tool to review and edit the text of the PDF.

Figure 119 OCR Project including OCR Editor in ABBYY FineReader.



As you work through the OCR Editor, a rectangle appears on the current page view showing where you are in the page.

Under the Current Page Pane and the OCR Editor is a zoomed in view of the content on the page.

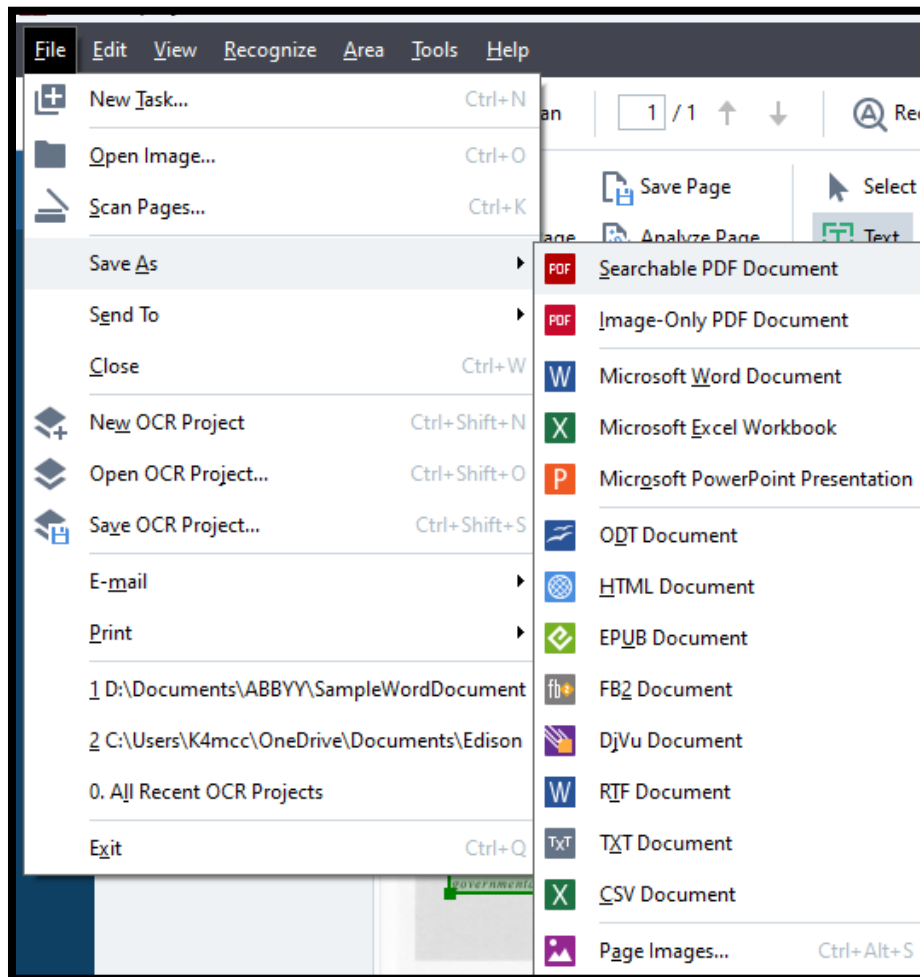
For those documents that are blurry and you're not sure what text you are seeing on the current page, there is an ability to Zoom In and Zoom Out of the views.

Saving the PDF in ABBYY FineReader

Once the PDF has been remediated, there are several options for saving the PDF. If you want Tags, choose File, Save As, Searchable PDF.

Other options include Microsoft Word, PowerPoint or Excel document, HTML and EPUB formats.

Figure 120 File menu, Save As options in ABBY FineReader.



PDF 8: Providing Definitions for Abbreviations via an “E” Entry for a Structure Element

The use of the technical term “E Entry” can be confusing. In plain language, this is Expansion Text in the Object Properties dialog, using the Content tab.

WCAG Success Criteria

[PDF8: Providing definitions for abbreviations via an E entry for a structure element](#)⁵⁹.

- Sufficient to meet [3.1.4: Abbreviations](#)⁶⁰ (WCAG 2.0 AAA) when used with [G102: Providing the expansion or explanation of an abbreviation](#)⁶¹.
 - [Understanding 3.1.4 Abbreviations](#)⁶².

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

Page 579.

The use of Acronyms and Abbreviations

The Canadian federal government guidelines/style guide indicates that if an acronym is used throughout a long document, the acronym or abbreviation should be defined every 5 pages. Other organizations and government entities may have other criteria.

⁵⁹ PDF 8 Providing Definitions for Abbreviations via the “E” entry for a structure element, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF6>

⁶⁰ Success Criteria 3.1.4 Abbreviations, W3C: <https://www.w3.org/TR/WCAG22/#abbreviations>

⁶¹ Guideline 102 Providing the expansion or explanation of an abbreviation, W3C: <https://www.w3.org/WAI/WCAG21/Techniques/general/G102>

⁶² Understanding 3.1.4 Abbreviations, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/abbreviations>

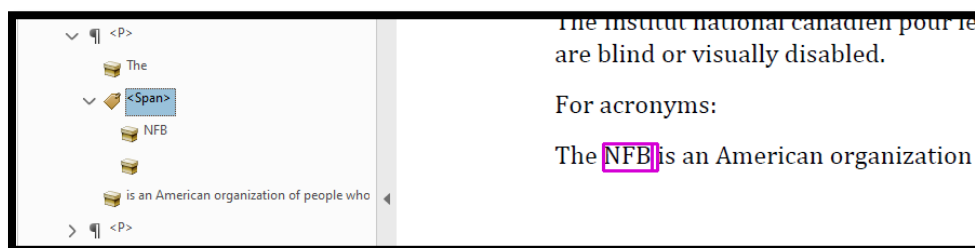
Note: Avoid using acronyms or abbreviations in the Alt Text or Actual Text attributes! Avoid using abbreviations or acronyms in Alt Text for mathematical or scientific formulae! This is another limitation of the Actual Text attribute; you can't add expansion text for acronyms.

Adobe Acrobat Pro DC

Add Expansion Text for Acronyms and Abbreviations

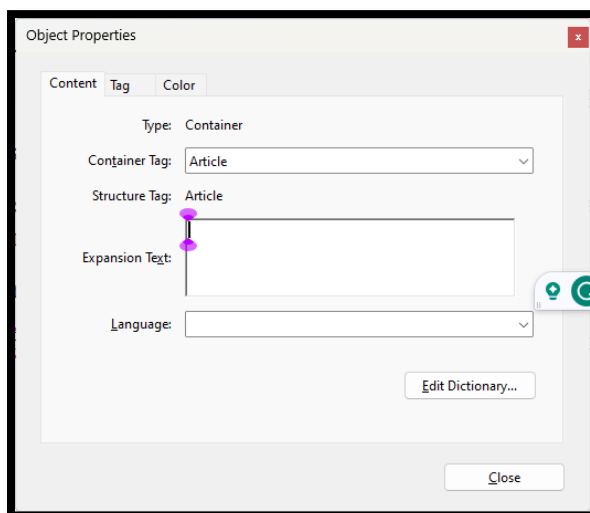
The first step in the process is to isolate the acronym or abbreviation using the tag.

Figure 121 The Tags Tree showing the Tag used to isolate an acronym (Adobe Acrobat Pro DC).



Once the acronym is isolated from the rest of the sentence text, select the Tag and choose Properties.

Figure 122 Object Properties dialog showing the Content tab, Expansion Text editor (Adobe Acrobat Pro DC).



When the Object Properties dialog opens, press Ctrl + shift + Tab to move to the Content tab. Press Alt + X to move to the Expansion Text editor.

Add the expansion text.

A best practice is to identify the acronym first, followed by a dash and then followed by the description of the acronym. In the example, the expansion text would be “NFB – National Federation of the Blind”.

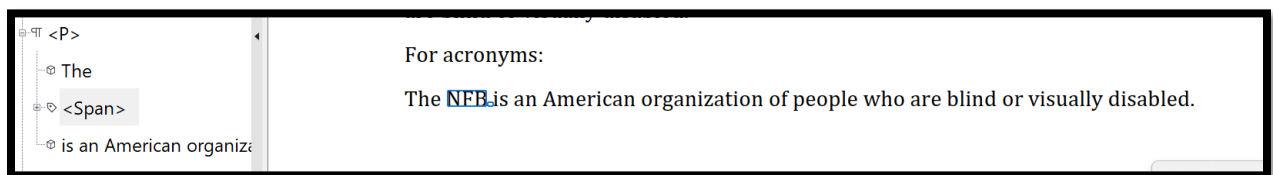
Move to and activate the OK button.

Foxit PDF Editor

Adding Expansion Text for Abbreviations and Acronyms

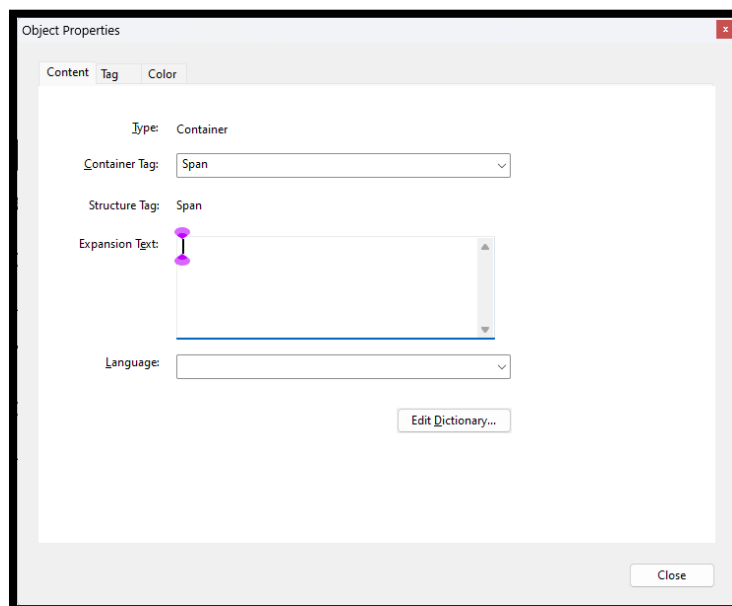
The first step in the process is to isolate the acronym or abbreviation using the tag.

Figure 123 Acronym isolated using the tag (Foxit PDF Editor).



Once the acronym is isolated from the rest of the sentence text, select the Tag and choose Properties.

Figure 124 Object Properties dialog Showing Content tab, Expansion Text editor (Foxit PDF Editor).



When the Object Properties Tag dialog opens, click on the Content tab. Click in the Expansion Text edit area.

Add the expansion text.

A best practice is to identify the acronym first, followed by a dash and then followed by the description of the acronym. In the example, the expansion text would be “NFB – National Federation of the Blind”.

Move to and activate the OK button.

Note: You cannot use Foxit PDF Editor to test whether screen readers will read the Expansion Text or not. The Foxit PDF Editor does not support attributes on Tags at this point in time. This is true for language changes for words or phrases using the Tag as well.

PDF 9: Providing Headings by Marking Content with Heading Tags in PDF Documents

The use of sequential Headings in content is essential for both visual navigation and navigation by those using adaptive technology such as screen readers.

WCAG Success Criteria

[PDF9: Providing Headings by marking content with Heading Tags in PDF documents](#)⁶³.

- Sufficient to meet [1.3.1 Info and Relationships](#)⁶⁴ (WCAG 2.0 A).
 - [Understanding 1.3.1 Info and Relationships](#)⁶⁵.
- Sufficient to meet [2.4.1 Bypass Blocks](#)⁶⁶ (WCAG 2.0 A).
 - [Understanding 2.4.1 Bypass Blocks](#)⁶⁷.
- Sufficient to meet [1.3.2 Meaningful Sequence](#)⁶⁸ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding Meaningful Sequence](#)⁶⁹.
- Sufficient to meet [1.3.6 Identify Purpose](#)⁷⁰ (WCAG 2.1, 2.2 AAA).
 - [Understanding 1.3.6 Identify Purpose](#)⁷¹.
- Sufficient to meet [2.4.8 Location](#)⁷² (WCAG 2.0, 2.1, 2.2 AAA).
 - [Understanding 2.4.8 Location](#)⁷³.

⁶³ PDF 9 Providing Headings by marking content with Heading Tags in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF9>

⁶⁴ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

⁶⁵ Understanding 1.3.1 Info and Relationships, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships>

⁶⁶ Success Criteria 2.4.1 Bypass Blocks, W3C: <https://www.w3.org/TR/WCAG22/#bypass-blocks>

⁶⁷ Understanding 2.4.1 Bypass Blocks, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/bypass-blocks>

⁶⁸ Success Criteria 1.3.2 Meaningful Sequence, W3C: <https://www.w3.org/TR/WCAG22/#meaningful-sequence>

⁶⁹ Understanding 1.3.2 Meaningful Sequence, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/meaningful-sequence.html>

⁷⁰ Success Criteria 1.3.6 Identify Purpose, W3C: <https://www.w3.org/TR/WCAG22/#identify-purpose>

⁷¹ Understanding 1.3.6 Identify Purpose, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/identify-purpose.html>

⁷² Success Criteria 2.4.8 Location, W3C: <https://www.w3.org/TR/WCAG22/#location>

⁷³ Understanding 2.4.8 Location, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/location.html>

- Sufficient to meet [2.4.10 Section Headers](#)⁷⁴ (WCAG 2.0, 2.1, 2.2 AAA)..
 - [Understanding 2.4.10 Section Headers](#)⁷⁵.
- Sufficient to meet [3.2.3 Consistent Navigation](#)⁷⁶ (WCAG 2.0, 2.1, 2.2 AA)..
 - [Understanding 3.2.3 Consistent Navigation](#)⁷⁷.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is currently no free version of the first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.4 Headings.

Why Sequential Headings Are Essential

The use of sequential Headings provides an outline of the document's contents. This hierarchical view assists in understanding the structure of the content. Even if a fragment of a PDF, such as a chapter or journal article, is tagged out of the book or volume, it is essential that the sequential Heading structure is retained for the publication. This may mean that a PDF starts with a <H2> or <H3> depending on how the book or column is organized.

Note: It is essential to note that in non-HTML content, you can have more than one Heading level 1 or H1. Documents and presentations are a continuous flow of content, not separate pages.

In word-processed and desktop-published documents, Headings can be used to generate a Table of Contents. In Microsoft Word, there is a Navigation Pane that shows Headings and their levels. This gives everyone an opportunity to locate the content they want and begin reading at that point.

However, if a document does not have a Table of Content, those using adaptive technology navigate the content by Heading. The Headings will also appear in the Navigation Pane to the left of the document in Word. This lets anyone find the content they want when they want it. Headings also convert to Bookmarks in tagged PDFs.

⁷⁴ Success Criteria 2.4.10 Section Headers, W3C: <https://www.w3.org/TR/WCAG22/#section-Headings>

⁷⁵ Understanding 2.4.10 Section Headers, W3C:
<https://www.w3.org/WAI/WCAG22/Understanding/section-Headings.html>

⁷⁶ Success Criteria 3.2.3 Consistent Navigation, W3C: <https://www.w3.org/TR/WCAG22/#consistent-navigation>

⁷⁷ Understanding 3.2.3 Consistent Navigation, W3C:
<https://www.w3.org/WAI/WCAG22/Understanding/consistent-navigation.html>

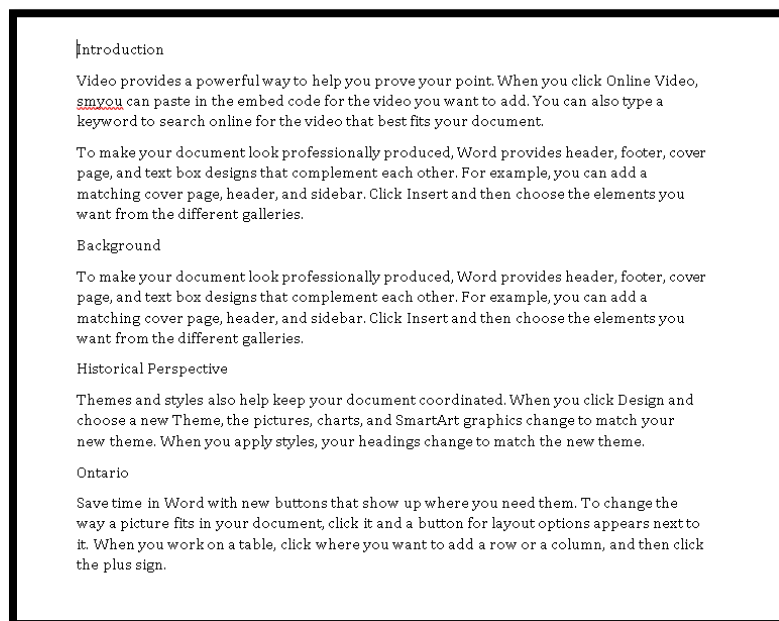
Headings created by “flinging” formatting at text (direct formatting) may be visually distinct but when screen readers or Text-to-Speech tools come across them, they are simply paragraphs with no more importance in terms of understanding content than any other paragraph in the document. This means any ability to navigate by Heading is lost to adaptive technology.

The method used to identify changes in topic or navigational points in documents is the use of Headings and ensuring that Headings are sequential. This means that a Heading 1 is followed by a Heading 2, not a Heading 3. Headings are not skipped.

Of course, this involves thinking about content before it is written and “designing” the structure of the content to allow for sequential Headings.

What if sequential Headings are not used?

Figure 125 Sample of text with no Headings, illustrating difficulty navigating content.



As those using screen readers read through a document or navigate using Headings, if a Heading level is skipped, we often think that we missed something, that our adaptive technology has stopped working, that an application has crashed...and we begin troubleshooting trying to find the “missing content”.

The use of styles, including Heading styles, is foundational to creating and remediating digital content to be accessible.

The following graphic illustrates how adaptive technology “sees” text with direct formatting (not using Heading Styles).

Heading Levels in PDFs

There are 6 levels of Headings in PDFs. This matches the 6 levels of Headings in HTML.

If a document has more than 6 levels of Headings (H7, H8 and so forth) these Heading levels should be mapped or converted to H6s in the PDF document. They are still navigational points.

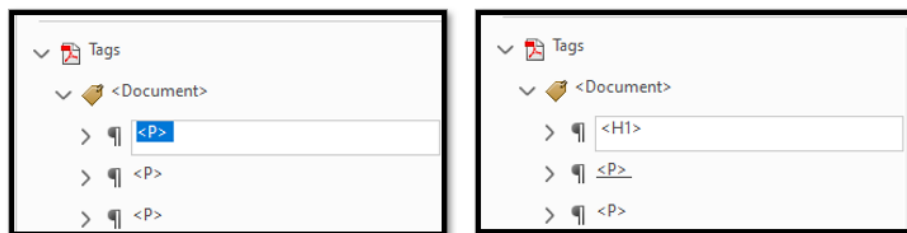
Knowing the limitations of Heading levels in PDFs, content authors should ensure that there are only 6 levels of Headings in the source document to avoid having to remediate the PDF.

Adobe Acrobat Pro DC

Editing a Tag

When a Heading is tagged incorrectly, it can be remediated in the Tags Tree by either pressing the F2 key to go into Edit mode or double-clicking the Tag to go into Edit mode.

Figure 126 A Tag in the Tags Tree before editing (Left) and after editing (Right) (Adobe Acrobat Pro DC).



In the Tags Tree, select the Tag that needs remediation.

Double-click the mouse to go into Edit mode.

If the Function keys work on your keyboard, you can press F2 to go into Edit mode.

Keep the < and > and replace any of the characters between them. For example, if the Tag is <P>, delete the P and replace it with H1, H2, H3, H4, H5 H6 for various Heading levels. This technique can be used to edit any Tag. Tags are case sensitive!

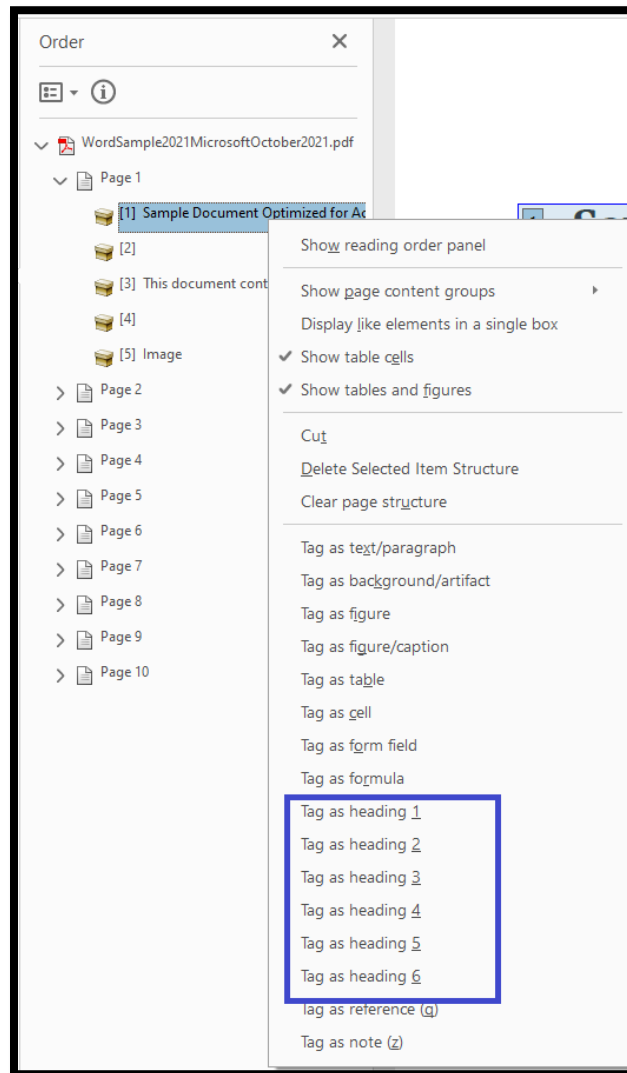
Once the edit is made, either press Enter or click off the Tag to confirm the change.

Using the Order Panel to Remediate a Tag

In the Order Panel select the element that should be a Heading.

Press the AppKey or right-click and choose one of the Heading levels in the context menu.

Figure 127 Order Panel context menu Tag as Heading options (Adobe Acrobat Pro DC).



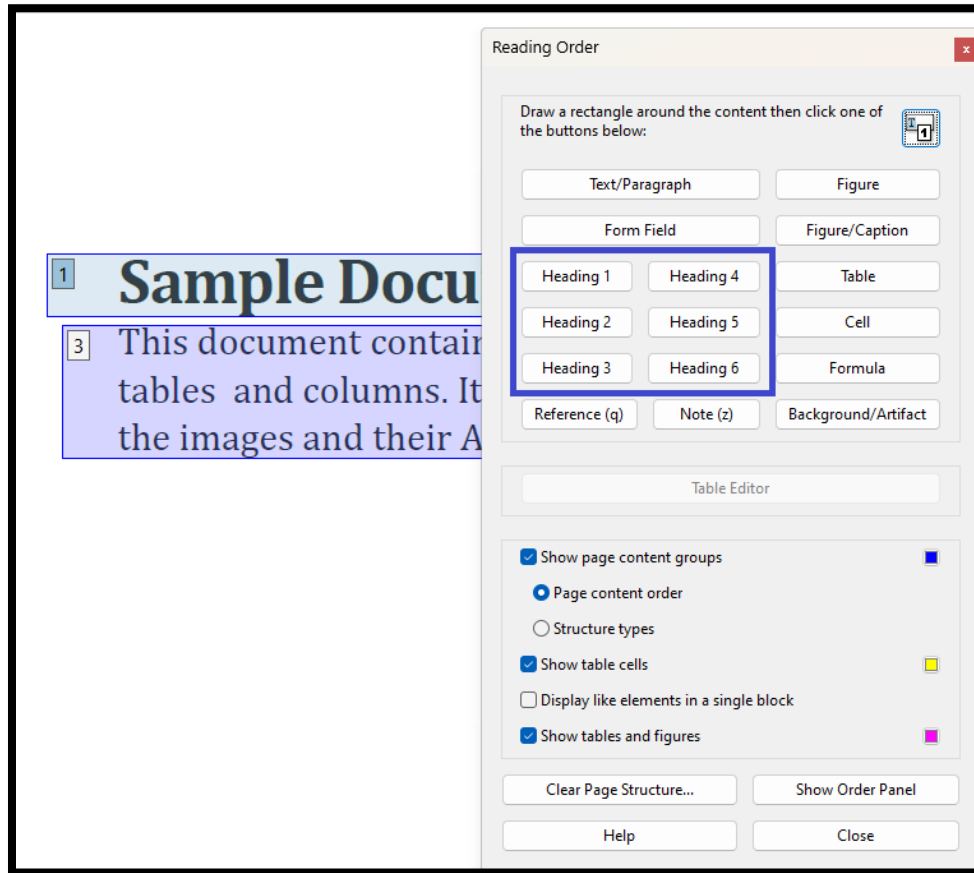
Using the Reading Order Tool to Remediate a Tag

Launch the Reading Order Panel from the Accessibility tools in the Tools Task Pane.

Select the text that should be a Heading (in this example) using the Hand tool.

Click one of the Heading levels in the Reading Order Panel.

Figure 128 Reading Order Panel showing Heading levels highlighted to text (Adobe Acrobat Pro DC).



Foxit PDF Editor

Editing a Tag

When a Heading is tagged incorrectly, it can be remediated in the Tags Tree by double-clicking the Tag to go into Edit mode.

In the Tags Tree, select the Tag that needs remediation.

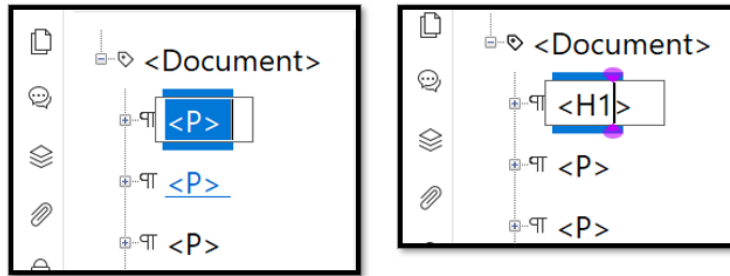
Double-click the mouse to go into Edit mode.

The F2 key does not work in Foxit PDF Editor to go into Edit mode.

Keep the < and > and replace any of the characters between them. For example, if the Tag is <P>, delete the P and replace it with H1, H2, H3, H4, H5 H6 for various Heading levels. This technique can be used to edit any Tag. PDF Tags are case sensitive!

Once the edit is made, either press Enter or click off the Tag to confirm the change.

Figure 129 A Tag in the Tags Tree before editing (Left) and after editing (Right) (Foxit PDF Editor).



Using the Order Panel to Remediate a Tag

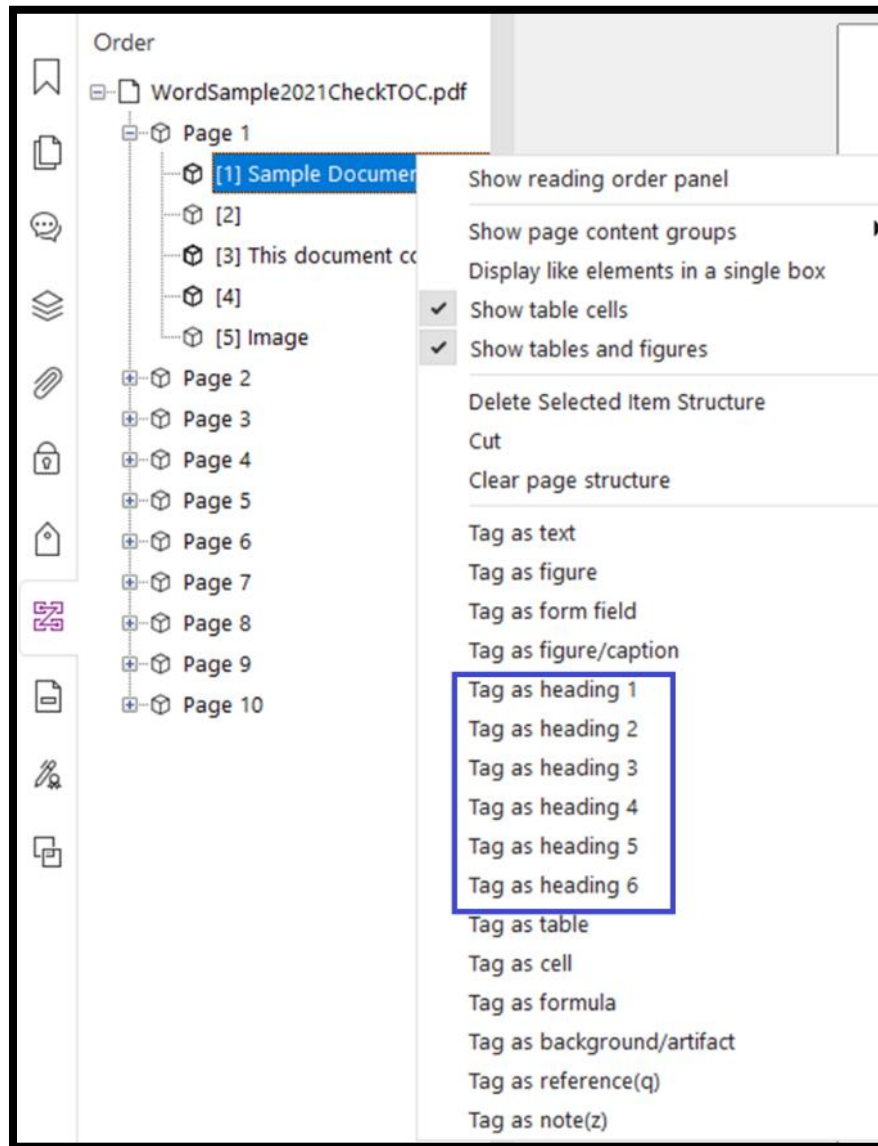
In Foxit PDF Editor, open the Navigation panel and select the Order Panel.

You may need to add it to the Navigation Panel again. Foxit doesn't allow you to keep the tools you need in the Navigation Pane.

Select the text that needs to be a Heading (In this example) and right-click to open the context menu.

Click one of the Heading levels in the Context menu.

Figure 130 Order Panel showing context menu for an element and the ability to Tag as Heading levels (Foxit PDF Editor).



Using the Reading Order Panel to Remediate a Tag

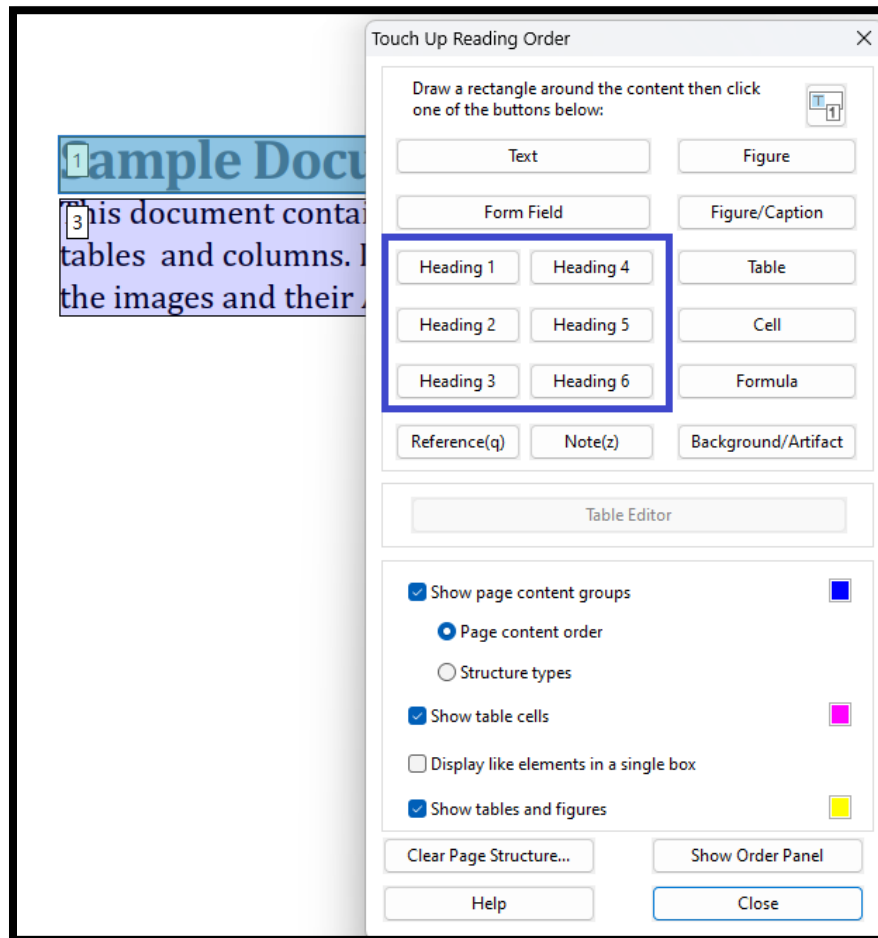
In the Foxit PDF Editor, go to the Accessibility Ribbon and click on the Reading Order button.

The Reading Order Panel opens and floats over the user interface.

Select the text that should be a Heading (in this example) using the Hand tool.

Click one of the Heading levels in the Reading Order Panel.

Figure 131 Reading Order Panel showing Heading levels highlighted to text (Foxit PDF Editor).



Microsoft Word 365

There are several ways to work with styles in Microsoft Word. This section outlines them. There is no “right” or “wrong” way to work with styles. At some point in time, you may use all of them.

My recommendation is to put the Apply Styles Pane on the Quick Access Toolbar, where it is easily accessed. I have a free tutorial on how to do this through my Teachable site (Microsoft Office Resources and Tutorials).

Figure 132 The Quick Access Toolbar with the Apply Styles Pane added and in focus (Microsoft Word 365).



The Quick Styles Gallery

The Quick Styles Gallery is in the Home Ribbon.

Figure 133 Quick Styles Gallery in the Home Ribbon showing Heading styles.



By default, the first three levels of Headings are in available. Headings 4, 5, 6 and so forth are hidden until they are used. They can be added to a Word template and can be shown by default, but this technique is not covered in this tutorial. There is a tutorial in the free online area of my Teachable course: [Microsoft Office Tutorials and Resource Documents](#)⁷⁸.

Applying Heading Styles using the Keyboard

Heading styles in Word documents can be applied using the keyboard. While there are only keyboard commands for the first three Heading levels, keyboard commands can be created for other Heading levels. There are instructions in a tutorial in the free [Microsoft Office Tutorials and Resources](#)⁷⁹ on my Teachable site.

For the first three levels of Headings in a Word document:

- Press Ctrl + Alt + number 1 for Heading 1.
- Press Ctrl + Alt + 2 for Heading 2.
- Press Ctrl + Alt + 3 for Heading 3.

In the Microsoft Office Resources and Tutorials free area of my Teachable site, I have a tutorial on how to create a custom shortcut for the other three Heading levels.

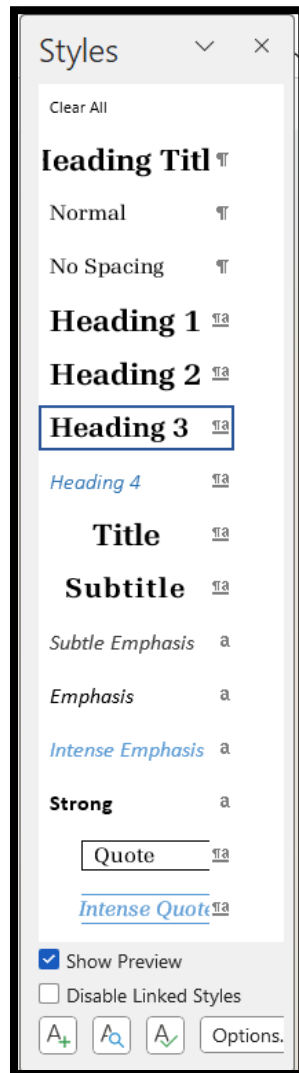
The Styles Pane

Styles, including Heading styles can be applied using the Styles Pane. The icon for the Styles Pane is in the lower right of the Styles Gallery. It is faster to use Alt + H, FY for the Home Ribbon, Styles Pane to open the Styles Pane.

⁷⁸ Microsoft Office Tutorials and Resources, Karen McCall Teachable: <https://karen-mccall.teachable.com/p/microsoft-office-tutorials-and-resource-documents>

⁷⁹ Microsoft Office Tutorials and Resources, , Kaen McCall Teachable: <https://karen-mccall.teachable.com/p/microsoft-office-tutorials-and-resource-documents>

Figure 134 Styles Pane in Word.



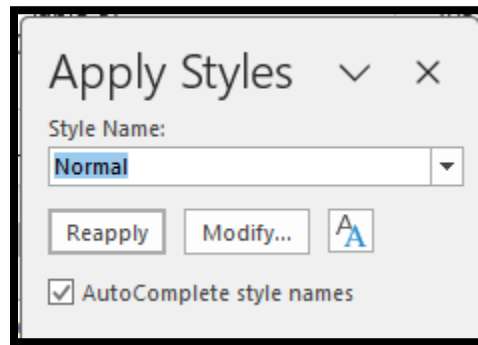
The Apply Styles Pane

The Apply Styles Pane is not on any Ribbon. It can be added to the Quick Access Toolbar. There are instructions on how to do this in the free [Microsoft Office Tutorials and Resources](https://karen-mccall.teachable.com/p/microsoft-office-tutorials-and-resource-documents)⁸⁰ on my Teachable site.

Press Ctrl + Shift + S to open the Apply Styles Pane.

⁸⁰ Microsoft Office Tutorials and Resources, Karen McCall Teachable: <https://karen-mccall.teachable.com/p/microsoft-office-tutorials-and-resource-documents>

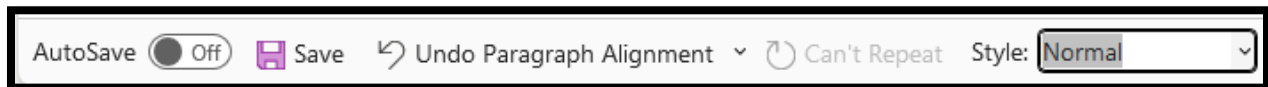
Figure 135 The Apply Styles Pane in Word.



The style in use at the cursor point is in the combo box. You can either type in the style you want to use, for example, Heading 1, or press Alt + Down Arrow to open the list of styles. Then select the one you want to use, and press Enter or click on it.

To close the Apply Styles Pane, press Ctrl + Spacebar while the focus is in the Apply Styles Pane, then press C for Close.

Figure 136 The Apply Styles Pane on my Quick Access Toolbar showing the Normal style in use.



When the Apply Styles Pane is on the Quick Access Toolbar, it is easier to use and view the style at the cursor point. It is also keyboard accessible. The other methods are, however, with the Quick Styles Gallery and the Styles Pane, you must repeatedly arrow around until you find what you are looking for. Having the Apply Styles Pane on the quick Access Toolbar saves time. For example, on my computer, the Apply Styles Pane is accessed by pressing Alt followed by 5 (not Alt + 2). I can then type the style I want. For example, Heading 1 and press Enter to apply it to selected text.

Modifying the Heading Style

Any style can be modified to give you the look and feel you want. For example, I've modified all Heading styles to be black text bold, Aptos Serif.

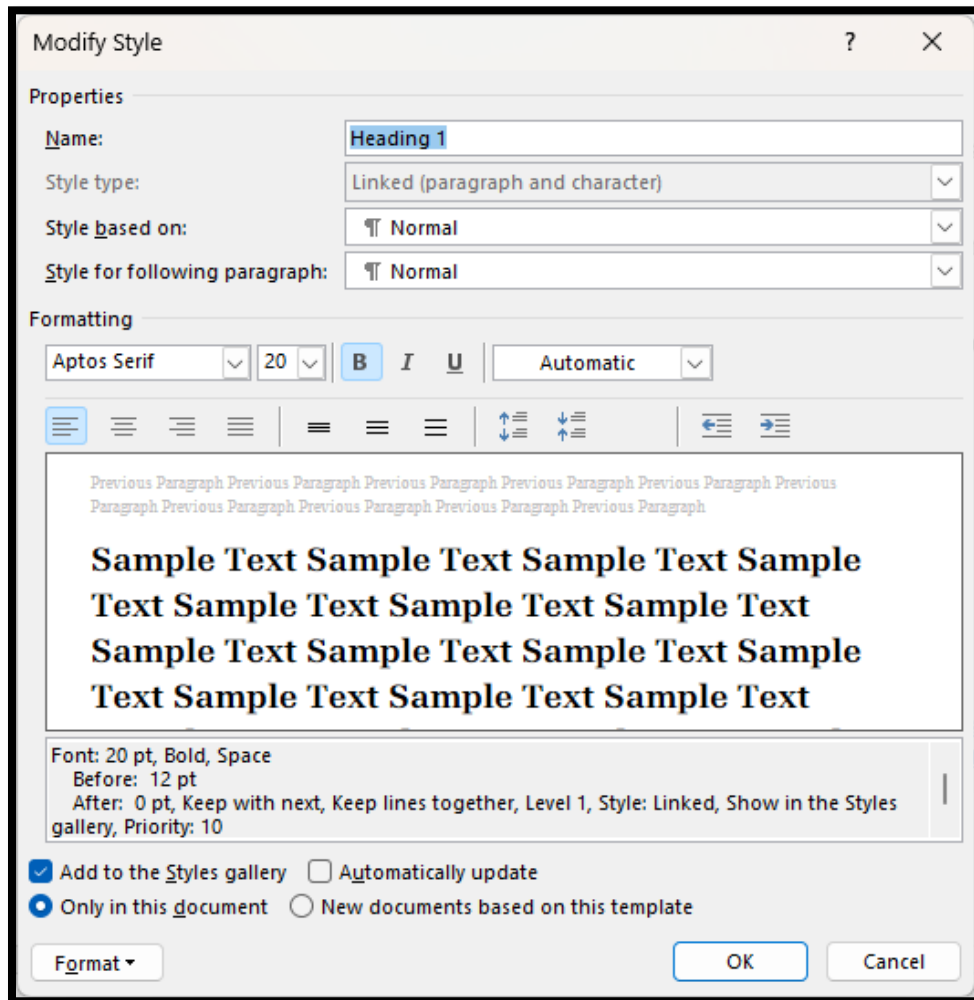
To modify a Heading style:

- In the Quick Styles Gallery, right-click on the Heading style you want to modify and choose Modify from the context menu.
- In the Styles Pane, right-click on the style you want to modify and choose Modify.

- In the Apply Styles Pane Tab to and activate the Modify button. If you use the keyboard, this is the fastest method.

The Modify Style dialog opens.

Figure 137 Modify Style dialog in Word for Heading 1.



To modify the font, paragraph, border, or other attributes, press alt + letter O to open the context menu for Format. Do not use direct formatting, selecting text and applying formatting to text. Direct formatting creates accessibility barriers.

Once you’ve modified the style, you have the choice to have the modifications “Only in this Document” which is the default, or “New Documents Based on this Template”. Make sure you choose the correct one!

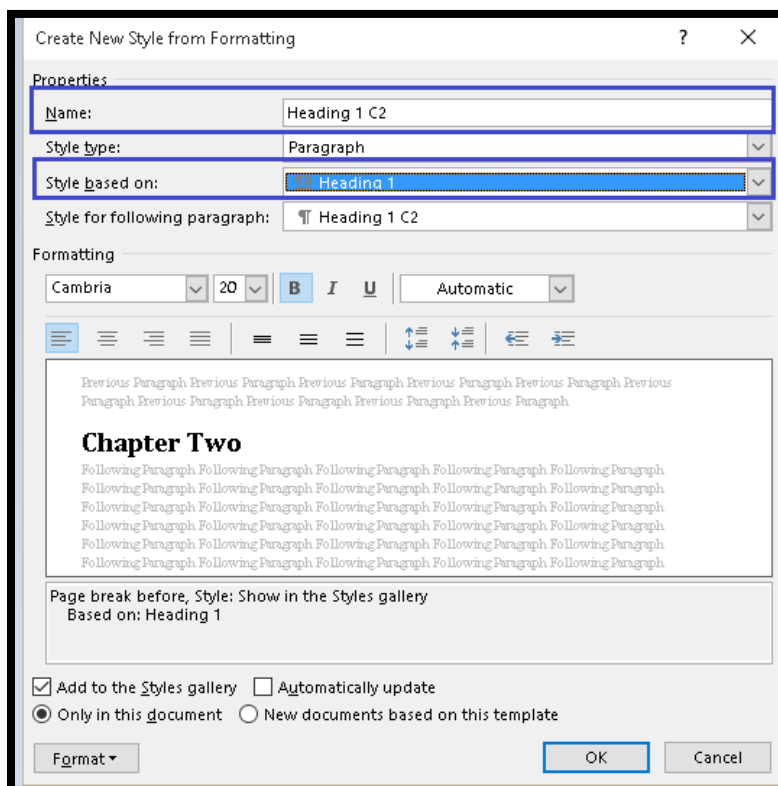
Note: It is not recommended that you make major modifications to the Normal document template, which you see when you press Ctrl + N or when you go to File, New, Blank Document. Over time, this can get messy, and you'll lose track of what styles are used for specific types of documents. Create templates for specific document types such as newsletters, memos, and reports.

Creating a New Heading Style

When you need a different look and feel for a Heading but still want to be able to use Heading 1 in Word documents, you can create a New Style based on an existing one.

If you are creating a new Heading style, make sure it is based on an existing Heading style. If it isn't, the role it will have in the document will be as a Plain paragraph. This means it will not be a navigational point, not be in a Table of Contents and not be converted to a Bookmark when the document is converted to tagged PDF.

Figure 138 Create New Style from Formatting dialog in Word.



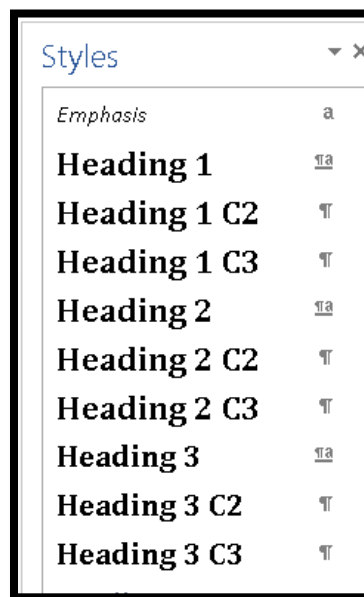
The button for New Style is located at the bottom left of the Styles Pane.

Figure 139 The New Style button at the bottom left of the Styles Pane in Word.



It is recommended that new styles contain names like the style they are based on. This lets you see them in alphabetical order in the Styles Pane.

Figure 140 New Style button at the bottom left of the Styles Pane in Word.



Microsoft PowerPoint 365

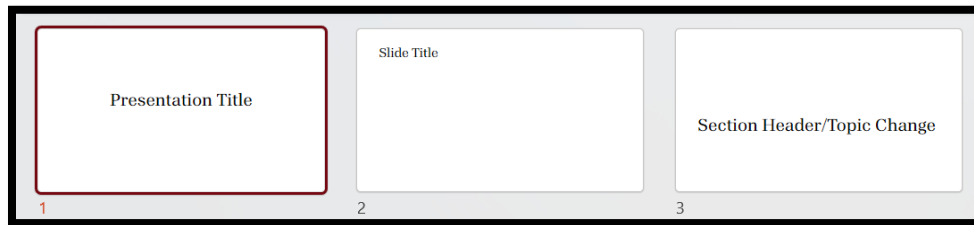
Title Slides, Slide Titles, and Section Header Slides

There are no styles in PowerPoint. Presentations are created based on Templates. Templates, in turn, can be saved as Themes that can be applied to new or existing presentations.

However, the slide title placeholders are used to create the document or presentation outline when the presentation is converted to tagged PDF.

It is essential that the default slide title placeholders be used for the Title Slide, Section Header slides and all slides in a presentation.

Figure 141 Three slides showing the Title slide, general slide and Section Header slide in a presentation (PowerPoint 365).



Avoid replacing the default Slide Title placeholders with Text boxes. The default Slide Title placeholders are “programmed to be Headings in a tagged PDF. They also provide the navigational structure in a PowerPoint presentation.

We often use the same slide repeatedly without realizing that there are other slide layouts that can create visual interest in our presentations.

Press Alt + H, letter I, to see the Slide Layout Gallery. These are the slide layouts available for any PowerPoint presentation. Layouts can be customized either as a “one-off” or using the Slide Master (when creating a template). I have a fee-based, self-paced online course, “[Accessible PowerPoint: A Primer](#)⁸¹”, on my Teachable site.

Two seldom used slide layouts I’d like to draw your attention to are the Picture with Caption and Content with Caption layouts. These slide layouts can be used when more than Alt Text is needed to describe graphics or tables.

Figure 142 An example of the "Picture with Caption" slide layout in PowerPoint 365.



⁸¹ Accessible PowerPoint: A Primer, Karen McCall Teachable: <https://karen-mccall.teachable.com/p/accessible-powerpoint-a-primer>

The preceding graphic is an example of the “Picture with Caption” slide layout. Not only does it provide an area for a longer description of the graphic, but it also provides a different visual layout for the audience.

The following example is of the “Content with Caption” slide layout. It also has an area for a longer description. However, any type of content can be added in the placeholder to the right of the “caption” placeholder area. I suggest using this slide layout for tables where you need more description on the slide instead of putting it in the Speaker Notes area or on a different slide.

Remember, Alt Text is an attribute, and although it requires punctuation, it is only available to those using adaptive technology such as screen readers or Text-to-Speech tools. The slide contains a small table; however, this is a great slide to use for complex data tables where you have space to provide specific details from the table.

Figure 143 An example of how the "Content with Caption" slide layout can be used to provide details about complex tables in PowerPoint 365.

The image shows a PowerPoint slide with a black border. On the left side, there is a text area with the following content:

Content with Caption
In this "Content with Caption" layout, I've added a table.
This is the area where the details you want to talk about would go.
For complex tables, what is the important data you want the audience to know?

On the right side of the slide, there is a table with the following data:

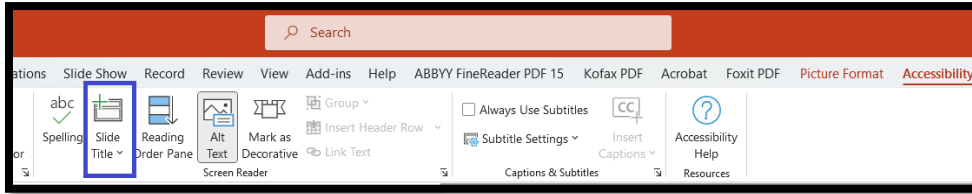
Salesperson	2021	2022
Barnaby	1775	2000
Olivia	1650	2250
Zoie	1500	2750
Hamish	16750	2900

When slide layouts are used keeping the Slide Title placeholders, the title of the presentation will be converted as a Heading 1 in a tagged PDF. Slide Title placeholders on general slides will be tagged as Heading 2. The change of topic text in the Section Header slides will also be tagged as a Heading 1.

Remediating Slide Title Placeholders in PowerPoint

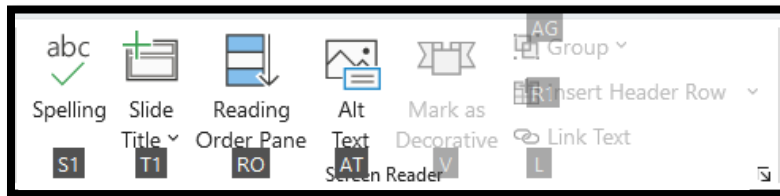
In PowerPoint, the Accessibility Ribbon is available when the Alt Text Pane or the Accessibility Pane is open.

Figure 144 Accessibility Ribbon in PowerPoint 365 showing the Slide Title button.



The Accessibility Pane appears just after the Picture Format Ribbon When the Alt Text Pane is open. Press Alt + Alt + J, B, T the number 1 to add a Slide Title placeholder to the slide.

Figure 145 Part of the Accessibility Ribbon in PowerPoint 365 showing the Slide Title option.



PDF 10: Providing Labels for Interactive Form Controls in PDF Documents

When creating interactive PDF forms, it is essential that Tooltips are added. ToolTips are a bit different than “labels” in HTML. An interactive form is one that allows people to download it and fill it out using their adaptive technology. While some PDF forms open automatically in a browser, it is recommended that the PDF form be downloaded and filled out to access all the accessibility tools available to the adaptive technology. This also allows the person filling out the form to save a copy of the form for their records and to fill it out at their own pace. An interactive form is not one that you print and fill out, then send by mail or scan back into the computer and send by e-mail.

WCAG Success Criteria

[PDF10: Providing labels for interactive form controls in PDF documents](#)⁸².

- Sufficient to meet [1.3.1 Info and Relationships](#)⁸³ (WCAG 2.0 A).
 - [Understanding 1.3.1 Info and Relationships](#)⁸⁴.
- Sufficient to meet [3.3.2: Labels or Instructions](#)⁸⁵ (WCAG 2.0 A).
 - [Understanding 3.3.2 Labels or Instructions](#)⁸⁶.
- Sufficient to meet [4.1.2: Name, Role, Value](#)⁸⁷ (WCAG 2.0 A) when used with [.G135: Using the accessibility API features of a technology to expose names and notification of changes](#)⁸⁸.
 - [Understanding 4.1.2 Name, Role, Value](#)⁸⁹.

⁸² PDF 10 Providing labels for interactive form controls in PDF documents, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF10>

⁸³ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

⁸⁴ Understanding 1.3.1 Info and Relationships, W3C:

<https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships>

⁸⁵ Success Criteria 3.3.2 Labels or Instructions, W3C: <https://www.w3.org/TR/WCAG22/#labels-or-instructions>

⁸⁶ Understanding 3.3.2 Labels or Instructions, W3C:

<https://www.w3.org/WAI/WCAG21/Understanding/labels-or-instructions>

⁸⁷ Success Criteria 4.1.2 Name, Role, Value, W3C: <https://www.w3.org/TR/WCAG22/#name-role-value>

⁸⁸ Guideline 135 Using the accessibility API features of a technology to expose names and notification of changes, W3C: <https://www.w3.org/WAI/WCAG21/Techniques/general/G135>

⁸⁹ Understanding 4.2.2 Name, Role, Value, W3C:

<https://www.w3.org/WAI/WCAG21/Understanding/name-role-value>

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.7.3.2 Field Names.

Ensuring Form Controls are Accessible

Typically, a question has two parts: the text asking the question and the form control where someone types in an answer.

The “label” is the question. This can be “What is your first and last name”? This label should be associated with the corresponding form control where someone writes in an answer.

The corresponding Form control must have a ToolTip so that someone knows what question the form control/field is associated with.

Those using screen readers or Text-to-Speech tools can Tab from form control to form control by passing the text next to form controls. If there is no ToolTip, all they will hear is “Edit” for a text form control, “check box not checked” for a check box form control, or “radio button not checked” for a radio button form control.

The content of the interactive form must be tagged correctly so that someone using adaptive technology can examine the text of the associated question. A Tooltip is like an attribute on form controls. It is not always possible to go through character by character, word by word, line by line or get information if a word is not understandable. For example, if I pause the cursor in front of a character, I hear “delta” instead of “d”. This feature is common to most adaptive technology but doesn’t work in attributes such as Alt Text, Actual Text, or ToolTips.

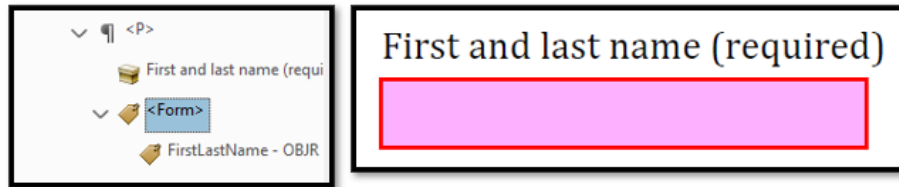
The creation of accessible forms in PDFs has two components:

- The text in the form with sections and questions is tagged and tagged correctly.
- The form controls are added to the Tags Tree once they have been added to the PDF form.
 - The <Form> Tags must be nested in a <P> Tag with the question.

Even if the form controls have Tooltips, if they are not correctly integrated into the Tags Tree, the form is not accessible. There is no clear link between the form controls and the Tags if the <Form> Tag and its annotation are not in the Tags Tree.

The following graphic shows the correct tagging for a question in a PDF form.

Figure 146 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text.



I had to separate the Tags Tree from the PDF because the Adobe user-interface uses such small fonts in the Tags Tree, it is often difficult to work with. We've asked for larger fonts in the Tags, Order and Content Panels since Acrobat 6!

Creating PDF forms is a mouse-dependent activity.

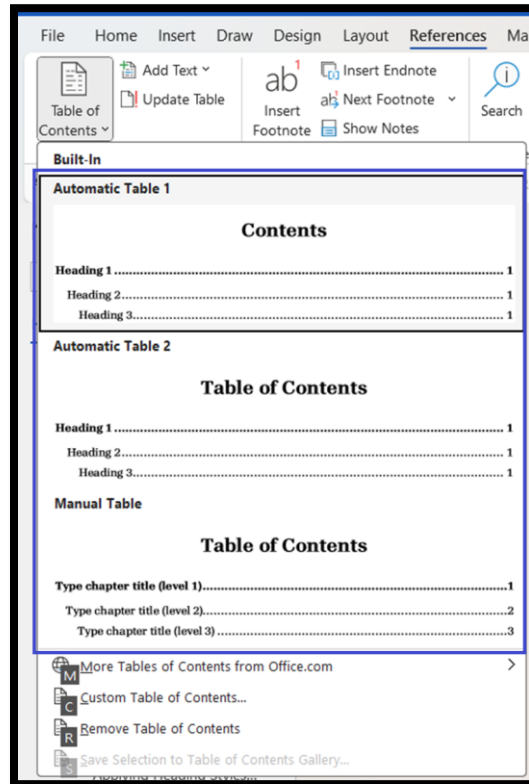
Microsoft Word 365 Forms

This chapter starts with information on Microsoft form controls instead of ending with it. It doesn't matter whether you use the newer Content Controls or the older ActiveX and Legacy form controls; even the Word forms are inaccessible.

Why?

The newer Content Controls, introduced in Office 2007, were never designed to be accessible. Even if you add ToolTips, the adaptive technology can't access them. Additionally, they are still keyboard traps.

Figure 147 Tables of Content Gallery showing Content Control based Tables of Content (Microsoft 365).



The preceding graphic shows Tables of Content that will be created using Content Controls in Microsoft Word.

While Microsoft states there have been improvements to content Controls, they are still not accessible, are still keyboard traps, and any improvements are not backward compatible to previous versions of Word.

The other problem with using Content Controls to create form templates for PDF forms is that they are designed to expand to fit the content entered.

Figure 148 Rich Text content control in a sample Word form.

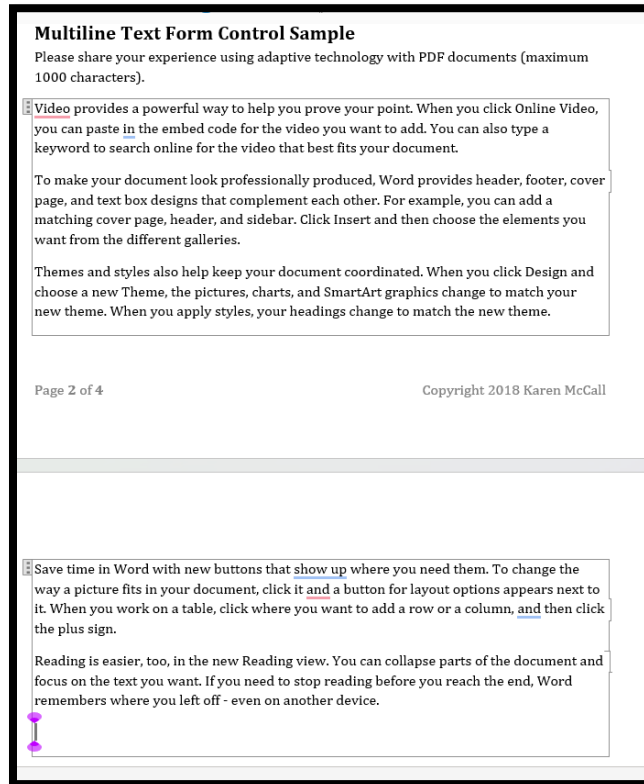
Multiline Text Form Control Sample

Please share your experience using adaptive technology with PDF documents (maximum 1000 characters).

Click or tap here to enter text.

In the Word document, as someone provides the requested information, the Content Control expands to fit the text.

Figure 149 Content control in a Word document with text spanning multiple pages (XFA form control).



In PDF land, these are the equivalent of XFA or Extensible Form Architecture. They are currently not covered by any standard, and there is no way to check the accessibility of a form created using the XFA tools.

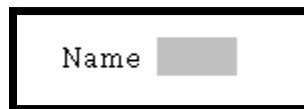
XFA tools include the old LiveCycle Designer, which is now Adobe Form Designer.

Although you can choose to save a form created in LiveCycle Designer or Form designer as a “static” PDF instead of a “dynamic/XFA” form, there is still no tools to perform an accessibility check on the resulting PDF form.

Additionally, if any remediations are needed, they must be done in the authoring tool (LiveCycle Designer or Form Designer).

This leaves the inaccessibility of the ActiveX and Legacy form controls in Word.

Figure 150 Sample ActiveX form control (Word 365).



When ActiveX or Legacy form controls are used, they also expand. However, to use these form controls using a screen reader or the keyboard in Word documents, the

rest of the form must be protected. This results in an accessibility barrier: the form's text is not accessible to adaptive technology.

In recent years, I've also found that these types of form controls in Word documents crash Word and/or adaptive technology, that the ToolTips are not always read and are difficult to navigate and fill out.

Considering the lack of accessibility of forms in Word, it is essential that these form controls are not used in Word when creating accessible forms and that there is no expectation that adding these form controls to a form template will convert to a PDF form complete with form controls.

It is also worth considering how much development and financial resources would need to go into developing a separate form design tool by Microsoft like LiveCycle Designer or Form Designer. This would need to be the approach taken by Microsoft to create both accessible Word forms and accessible PDF forms.

Accessible Form Templates in Word

Start by building an accessible form template in Word. This means not using underline, tables, and cute symbols to represent form controls.

The use of cute symbols results in two problems once the Word document is converted to tagged PDF:

- Many of the symbols will need to be made Artifacts.
- In adding the form controls in the PDF Editor, you will need to ensure that the cute symbols are not visible.
 - This in turn limits the position and size of the form controls in the PDF.

You can add an underline to the form control in the PDF Editor as you create the form controls.

Start with a Tagged PDF Form

Although the recommendation from Adobe Systems is to start with an untagged PDF, add the form controls, then Tag the PDF and ensure the form controls are in the Tags Tree correctly, I've found that this workflow for PDF forms generally takes too much time. The reason is that the tagging part of the process often results in more work than if you sorted the Tags before you added the form controls.

For the past 7 years, I've started with a tagged PDF from a Word document optimized for accessibility, added the form controls, and then added the form controls and their corresponding <Form> Tag to the Tags Tree. For me, this has saved about an hour a page on form-intensive pages.

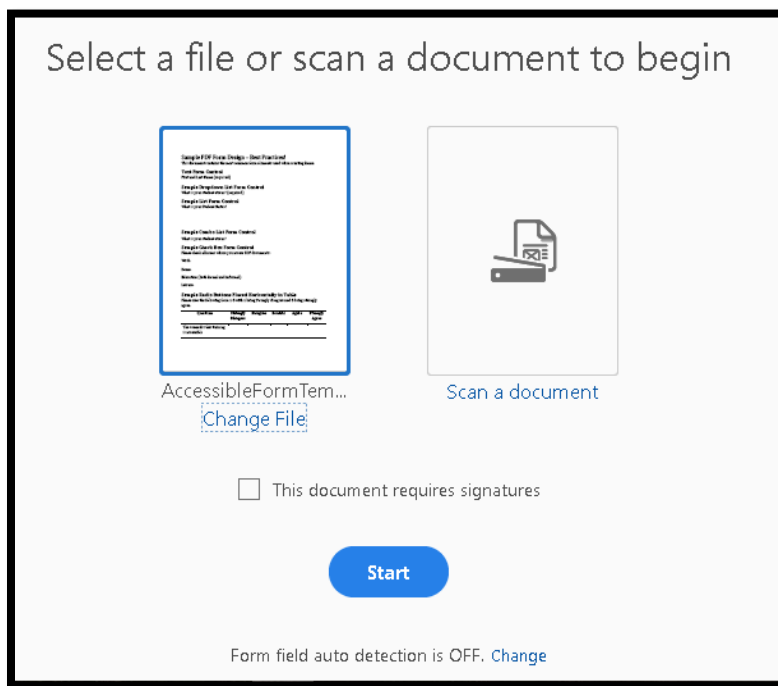
Adobe Acrobat Pro DC

The Form tools are found in the Prepare Form tools in the Tools Task pane.

You'll need to identify a form template when the Prepare Form tools are activated.

I recommend turning off the ability to automatically find form fields. This tool tends to create more work than it saves. Likewise, the Action Wizard, Make Accessible Tool zips through the process of creating an accessible PDF including identifying form controls, however, you must keep stopping the process to remediate as you go or wait until the process is finished and then try to remediate everything that went wrong.

Figure 151 Prepare Form screen in Adobe Acrobat Pro DC.



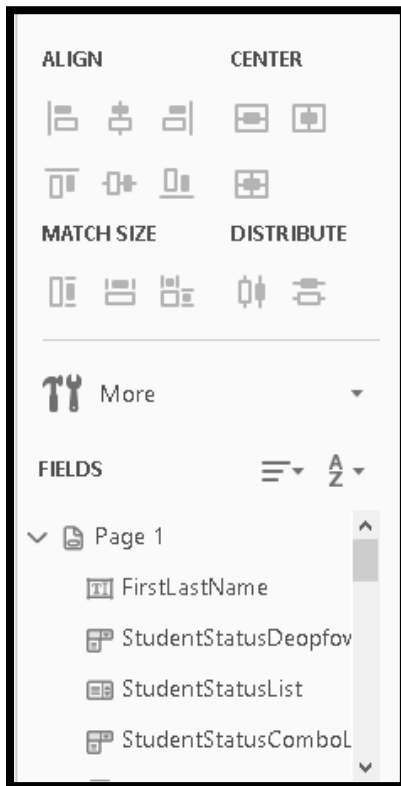
Two Prepare Form tool areas are open, one just above the PDF and one in the Tools Task pane.

Figure 152 Prepare Form Toolbar above a PDF document (Adobe Acrobat Pro DC).



The preceding graphic shows the Prepare Form Toolbar above the PDF. The following graphic shows the Prepare Form Tools Task pane.

Figure 153 Prepare Form tools in the Tools Task Pane (Adobe Acrobat Pro DC).



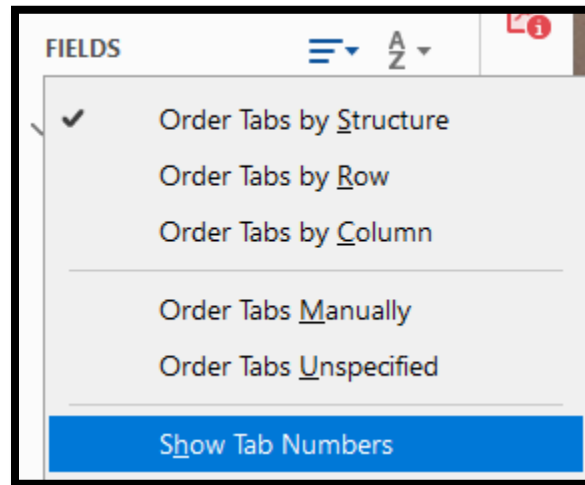
In the Prepare Form tools in the Tools Task Pane, I recommend going to the three lines to the left of the word “Fields” and choosing “Show Tab Numbers”.

A dialog will open stating that you’ll need to set the numbering manually, but I’ve never seen a difference between that option and the default. The result is that when you add a form control, you’ll see the order for the form controls in the upper left of the form control.

If a form control is out of order, it can be dragged to the correct place in the Tools Task Pane. Just under the Fields text is a list of pages and form controls in the form. They appear in a certain order, usually a logical reading order, but if they aren’t, they need to be moved to the correct place.

This does not mean that you won’t have to add them manually to the Tags Tree. It keeps you on track in terms of the order you add the form controls and acts as a guide for placing them in the Tags Tree.

Figure 154 Option to "Show Tab Number" in the Prepare Form Tools in the Tools Task Pane (Adobe Acrobat Pro DC).



Adding ToolTips to Form Controls

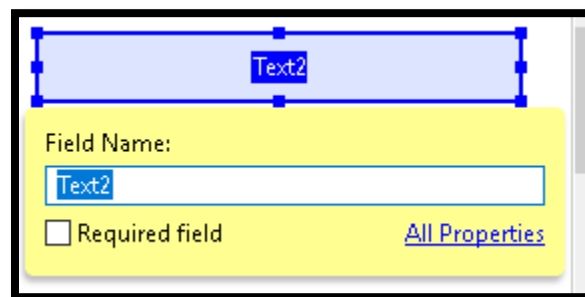
While in the Prepare Form tools, you can check the form control by switching to “Preview”, testing the form and returning to “Edit” the form. Make sure to go to the Tools in the Tools Task pane and Clear Form from the context menu.

Once a type of form control is chosen and added to the PDF form, you can click on the “All Properties” link in the yellow pop-up.

You can identify the form control as required here, but since you need to go into the Properties dialog, you can also wait and do everything at once.

This opens the Properties dialog.

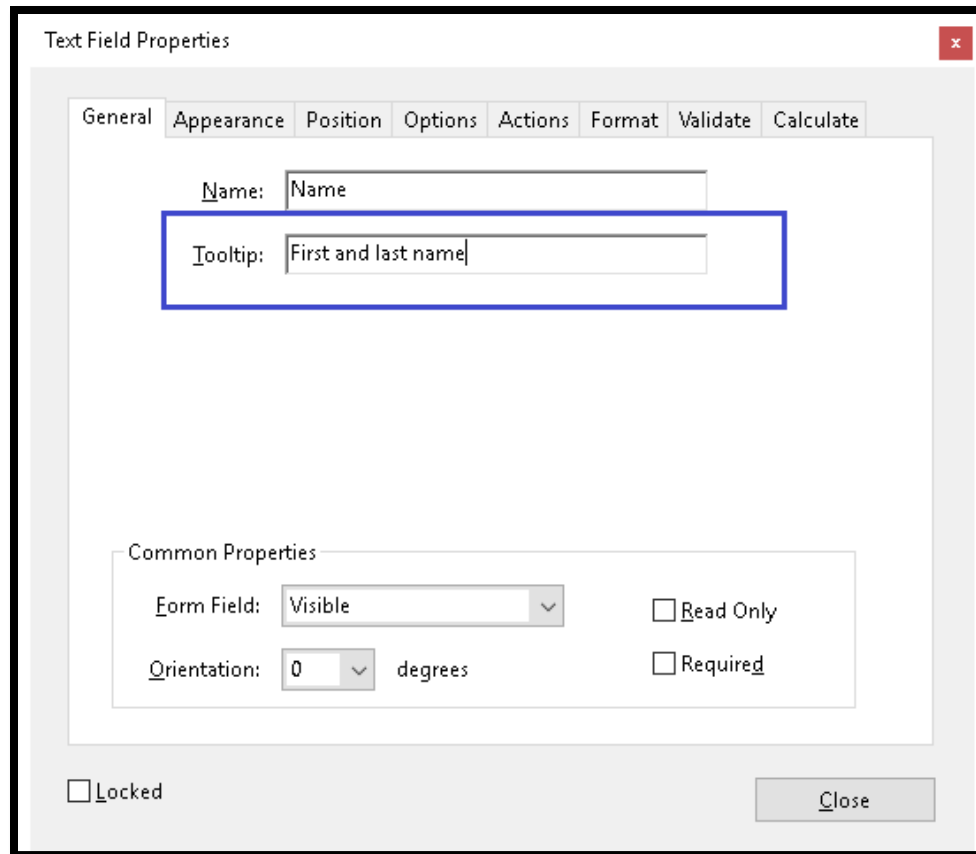
Figure 155 Text form control pop-up (Adobe Acrobat Pro DC).



I suggest you give the form control a meaningful name that matches the content of the question. Only a few keywords are necessary. This avoids having form control annotations such as “Text1, Text2, Text3 and so forth. There are no spaces in the names of form controls. I suggest using “CamelCase” to make the names of the form controls stand out.

If you are working with a Text form control and the question has a character or word limit, this must be included in the ToolTip just as a date format must appear in the ToolTip.

Figure 156 ToolTip area of the Properties dialog (Adobe Acrobat Pro DC).



The ToolTip is the question. If you have the corresponding Word form template open, you can copy and paste the question into the ToolTip.

Note: If the form control is required, make sure you check the “Required” check box in the Properties dialog. You must also add the word “required” to the ToolTip. For example, “First and Last Name – Required. Writing the full word avoids confusion. It is recommended that the full word be written even if an asterisk indicates required fields to optimize accessibility and usability.

A ToolTip must be provided for each form control or group of radio buttons.

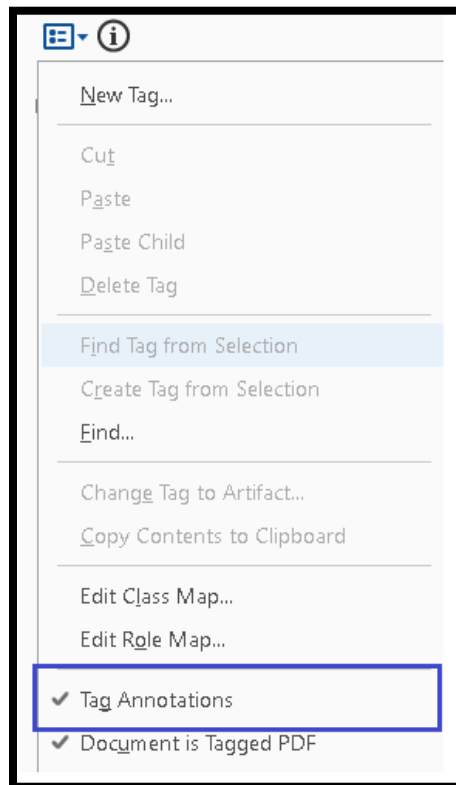
Move to and Activate the Close button.

Adding the Form Controls to the Tags Tree

Once the form controls are in place using the Prepare Form tools, close the Prepare Form tools and move to the Tags Tree. Locate the first question; in our example, it is First and Last Name.

Make sure Tag Annotations are turned on in the Tags Tree.

Figure 157 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).



1. Open the <P> tag.
2. With the <P> Tag open, select the text that is the question.
3. Right-click and choose New Tag.
4. Choose the Form Tag from the list or type Form with a capital F.
5. Activate the OK button. You don't need a Title.
6. The <Form> Tag is nested just below the text for the question.
7. Select the <Form> Tag, right-click and choose Find.

Figure 158 Find in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).

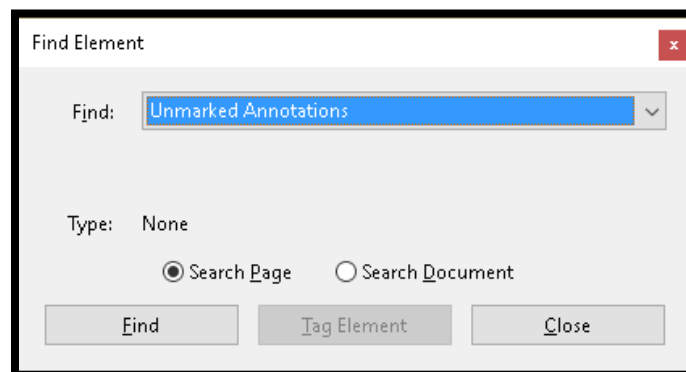


In the Find dialog, choose Unmarked Annotations.

Choose Find or Find Next.

As each form control is found, check it visually in the PDF form and then click Tag Element.

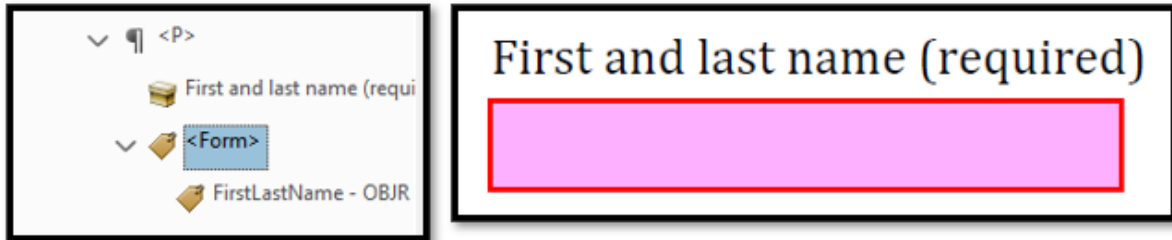
Figure 159 Find Element dialog in Tags Panel Adobe Acrobat Pro DC.



The form control annotation is nested under the <Form> Tag and is associated with the text that is the question.

As you learn this process, I suggest doing each question and form control separately. If you keep finding the next form control and tagging elements, they will all be nested under the same <Form> Tag and you'll have to sort them in the Tags Tree.

Figure 160 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text.



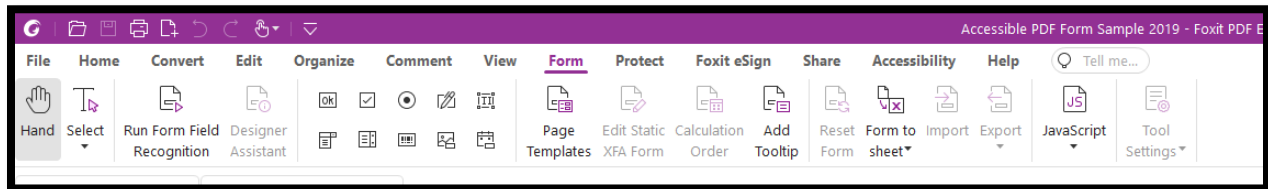
I had to separate the Tags Tree from the PDF because the Adobe user-interface uses such small fonts in the Tags Tree, it is often difficult to work with. We've asked for larger fonts in the Tags, Order and Content Panels since Acrobat 6!

Foxit PDF Editor

Adding ToolTips to Form Controls

The Form tools are found on the Forms Ribbon in the Foxit PDF Editor.

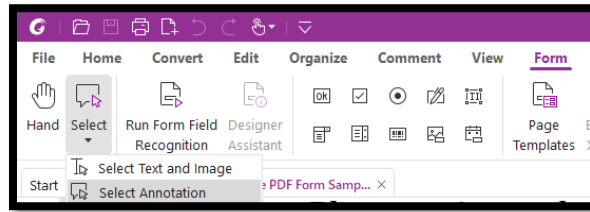
Figure 161 Form Ribbon (Foxit PDF Editor).



In the Form Ribbon, choose Select and then choose Select Annotations to edit a form control in Foxit. To test the form, go to the Form Ribbon and choose the Hand tool.

To return to "Edit" mode for form controls, go to the Form Ribbon and choose Select Tool, then Select Annotations.

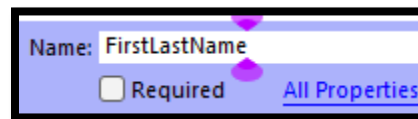
Figure 162 Form Ribbon, Select Tool, Select Annotation (Foxit PDF Editor).



Once you've chosen a form control and added it to the form template, there will be a pop-up.

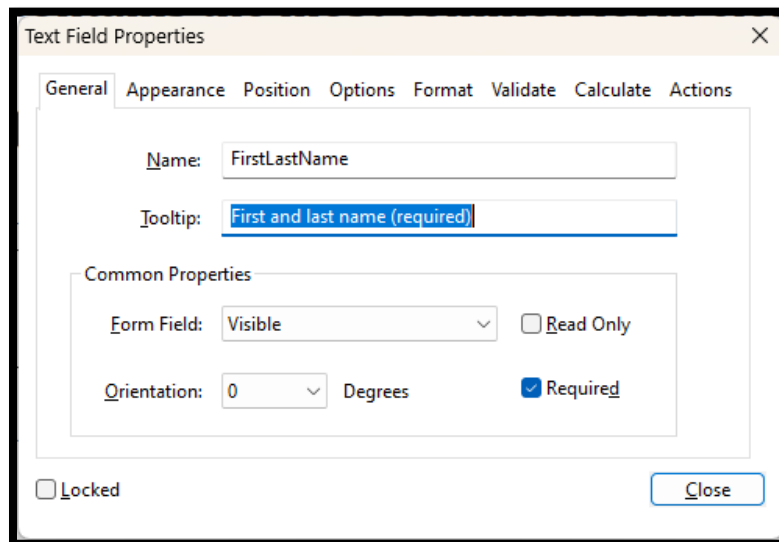
I suggest giving the form control a meaningful name that uses words from the question. For example, "FirstLastName" with no spaces. Using meaningful names for the form controls provides information when associating the form control with a question in the Tags Tree.

Figure 163 Pop-up for a form control (Foxit PDF Editor).



Click on All Properties. The Properties dialog is where you'll add the Tooltip.

Figure 164 Properties dialog showing Tooltip area highlighted (Foxit PDF Editor).



If the form control is required, this can be selected in the pop-up or the Properties dialog.

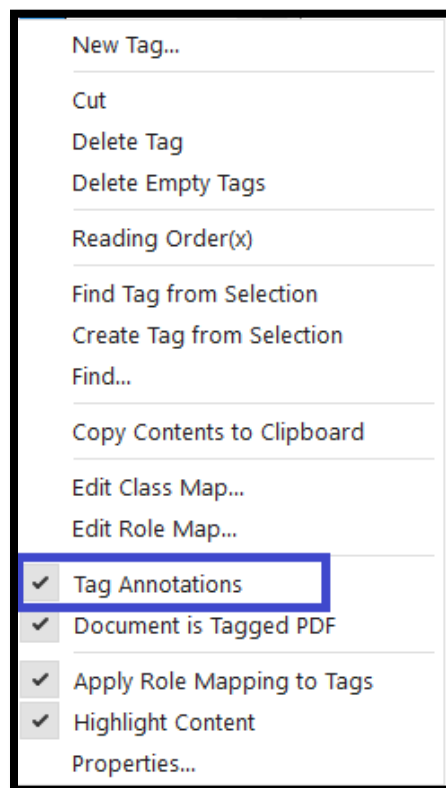
For form controls that are required, the full word required is suggested. For example: First and Last Name – Required. Using the full word instead of an abbreviation or asterisk is more supportive for those using adaptive technology. Avoiding the abbreviation is in line with WCAG 3.1.4. AA.

Adding the Form Controls to the Tags Tree

When all form controls have been added to the PDF form, switch to the Tags Tree. This step is essential to ensure the accessibility of the PDF form.

Right-click anywhere in the Tags Tree and make sure that Tag Annotations are checked.

Figure 165 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor).



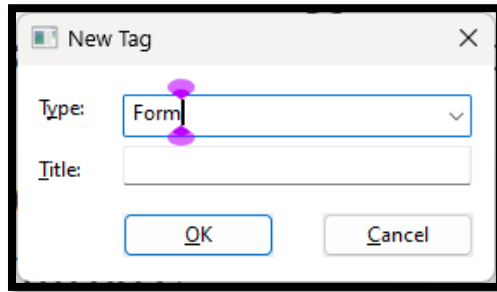
Select the text nested under the <P> Tag for the question. In this example, it is First and Last Name.

Right-click and choose New Tag.

Either type Form with a capital letter or open the list of Tags and choose Form.

You don't need a title.

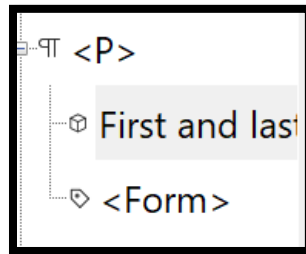
Figure 166 New Tag dialog (Foxit PDF Editor).



Activate the OK button.

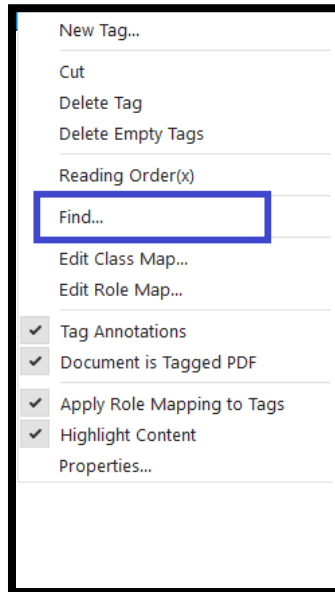
The <Form> Tag is nested under the <P> Tag and just below the text for the question.

Figure 167 New <Form> Tag in the correct position in the Tags Tree (Foxit PDF Editor).



Select the <Form> Tag, right-click and choose Find in the context menu in the Tags Tree.

Figure 168 Find option in the context menu in the Tags Tree (Foxit PDF Editor).



In the Find dialog, select Unmarked Annotations.

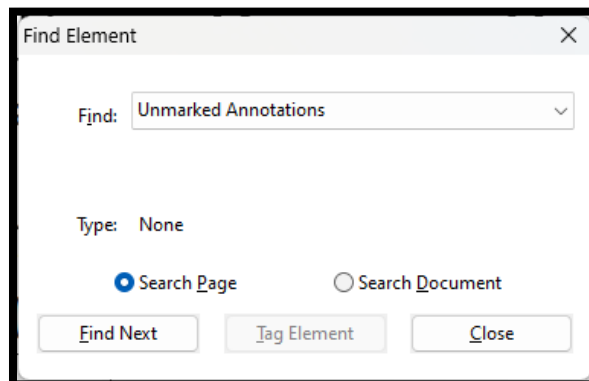
Select Find/Find Next. The choice will depend on how many form controls there are in the form/on a page and where you are in the process.

Select Tag Element.

The selection will move to the next form control. Until you are used to adding form controls to the Tags Tree, you should add the form controls one at a time.

Close the Find dialog.

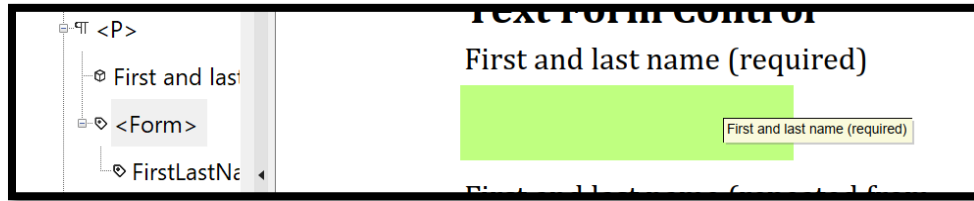
Figure 169 Find Unmarked Annotations in the Find dialog (Foxit PDF Editor).



Repeat the process of adding the <Form> Tag for the next question and then repeat the Find, Unmarked Annotation, Find Next, Tag Element.

The form control annotation is nested correctly under its corresponding <Form> Tag, which is nested correctly in its <P> tag.

Figure 170 Correct nesting of question, <Form> Tag and annotation in the Tags Tree (Foxit PDF Editor).



PDF 11: Providing links and link text using the Link annotation and the /Link structure element in PDF documents

The language of this PDF technique is confusing to anyone who hasn't worked with the ISO PDF standards. In plain language, this means that a link has two parts: the text or long web address and the "Link-OBJR" annotation.

WCAG Success Criteria

[PDF11: Providing links and link text using the Link annotation and the /Link structure element in PDF documents](#)⁹⁰.

- Sufficient to meet [1.3.1 Info and Relationships](#)⁹¹ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.1 Info and Relationships](#)⁹².
- Sufficient to meet [2.1.1 Keyboard](#)⁹³. (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 2.1.1 Keyboard](#)⁹⁴.
- Sufficient to meet [2.4.4 Link Purpose \(In Context\)](#)⁹⁵ (WCAG 2.0, 2.1, 2.2 A) when used with [G91: Providing link text that describes the purpose of a link](#).⁹⁶
 - [Understanding 2.4.4 Link Purpose \(In Context\)](#)⁹⁷.
- Sufficient to meet [2.4.9 Link Purpose \(Link Only\)](#)⁹⁸ (WCAG 2.0, 2.1, 2.2 AAA).
 - [Understanding 2.4.9 Link Purpose \(Link Only\)](#)⁹⁹.

⁹⁰ PDF 11 Providing links and link text using the Link annotation and the /Link structure element in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF11>

⁹¹ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

⁹² Understanding 1.3.1 Info and Relationships, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships>

⁹³ Success Criteria 2.1.1 Keyboard, W3C: <https://www.w3.org/TR/WCAG22/#keyboard>

⁹⁴ Understanding 2.1.1 Keyboard, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/keyboard>

⁹⁵ Success Criteria 2.4.4 Link Purpose (In Context), W3C: <https://www.w3.org/TR/WCAG22/#link-purpose-in-context>

⁹⁶ Guideline 91 Providing link text that describes the purpose of a link, W3C: <https://www.w3.org/WAI/WCAG21/Techniques/general/G91>

⁹⁷ Understanding 2.4.4 Link Purpose (In Context), W3C: <https://www.w3.org/WAI/WCAG21/Understanding/link-purpose-in-context>

⁹⁸ Success Criteria 2.4.9 Link Purpose (Link Only), W3C: <https://www.w3.org/TR/WCAG22/#link-purpose-link-only>

⁹⁹ Understanding 2.4.9 Link Purpose (Link Only), W3C: <https://www.w3.org/WAI/WCAG21/Understanding/link-purpose-link-only>

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is currently no free version of the first iteration of either ISO standard..

ISO 32000 – 1:2008.

12.3.2.2 Explicit Destinations.

ISO 14289 – 1:2014.

7.18.5 Links.

Accessible Links

What are accessible links?

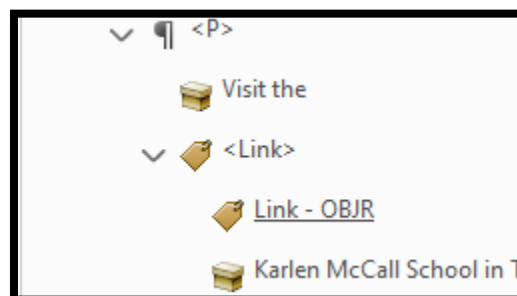
Links (and form controls) have “annotations. This is “Link-OBJR” for links. As shown in the previous PDF technique, for form controls, it is the name of the form control + OBJR. In the example used in the previous chapter, it was “FirstName-Objr”.

There are three components to an accessible link:

- The <Link> tag.
- The long web address or text in the content.
- The Link-Objr annotation

Links cannot be checked simply by hovering the mouse over the link and seeing the pointing finger or clicking the link using the mouse. If a link has not been created correctly, it will often be activated by the mouse and can appear in a list of links from a screen reader. However, when the link is attempted to be activated by the keyboard, it fails. Nothing happens. Inspection of the link Tag reveals that the Link-Objr is missing.

Figure 171 Correctly tagged link in a PDF.



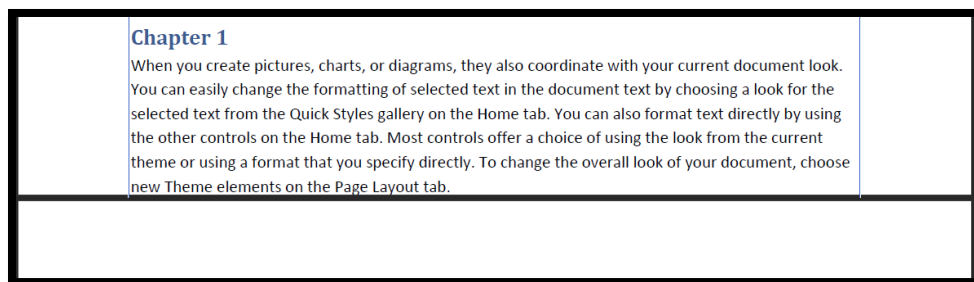
Using the Edit PDF Tools

It is recommended that the Edit PDF tools ONLY be used when adding or remediating links.

Using either Foxit PDF Editor or Adobe Acrobat Pro DC you can edit a PDF including text. This is problematic in a couple of ways:

1. If the document is tagged, the Tags are removed, requiring retagging.
 - a. Consider just changing a word. The Tag associated with that word cannot be revised; it will be removed because the original Tag for the content is now incorrect as it doesn't contain the same text/content.
2. Editing a PDF is unlike editing content in a word processor, desktop publishing software or presentation software. There is no recognition of expanding text that moves text to the next page. Once edits fill the page borders/to the margins, the text simply dribbles off the page and is inaccessible.

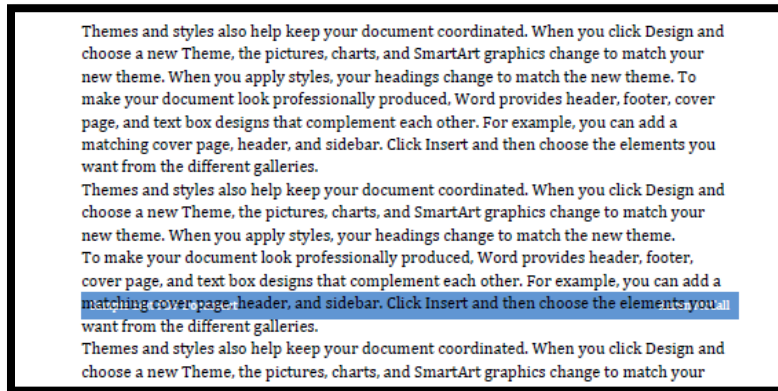
Figure 172 Additional text in a PDF document has reached the edge of the page/bottom.



What happens if you do have footer information at the bottom of the page and you use Edit PDF to add content to a page? Adobe Acrobat lets you add content up to the bottom edge of the page overwriting the footer information.

The footer in the following graphic is a dark blue band across the bottom of the page. When additional text was added to the page, it wrote over the footer information. I did not get a warning that there is a footer and that I can't write over a footer (remember, footers are Artifacts and part of the background), and apparently, I added just enough text not to warrant a warning that there was too much text for the page.

Figure 173 Edit PDF showing writing over a footer in a PDF document.



At this point it is worth reiterating that as PDF remediation professionals it is NOT our job to fix spelling mistakes, change content, or add content. These types of remediations need to go back to the content author. If you are the content author, make the remediations in the source document and resave the PDF.

Alt Text on Links

Not all links require Alt Text. Typically, links in a Table of Contents <TOCI> Tag do not require Alt Text. The “Alt Text” is part of the parent <TOCI>tag. Adding Alt Text to links in a Table of Contents breaks the Table of Contents for adaptive technology. Additionally, manually adding Alt Text for all links in a Table of Contents that is even one page long is time-consuming and cost ineffective.

Likewise, links in Footnotes, Endnotes and a Bibliography do not require Alt Text. Their purpose is to provide reference and citation information which requires the long web addresses to remain as is.

Avoid using Actual Text on links.

Avoid adding both Alt Text and Actual Text on links. The adaptive technology looks for Alt Text, if it doesn't find it, it looks for Actual Text. It doesn't read both.

Adobe Acrobat Pro DC

Add a Link

Use this technique when a link has not been tagged.

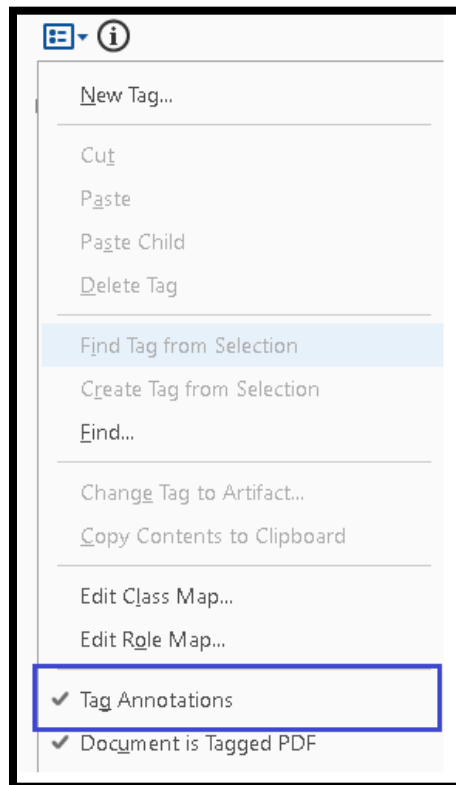
I suggest turning off the “Create URLs from web addresses” in the Preferences dialog (Ctrl + K). This feature can sometimes interfere with the creation of “real” links. Links created using this tool don't always show up when you try to remediate broken links.

Turn on the Tag Annotations in the Tags Tree context menu.

If the long web address is in the PDF, use the Select Text tool to select it, right-click and choose Copy. This saves you from typing the web address.

If the web address is something like “karlencommunications.com”, you’ll need to get the long web address for the link to work. It is the long web address you’ll need to use to create the link.

Figure 174 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).



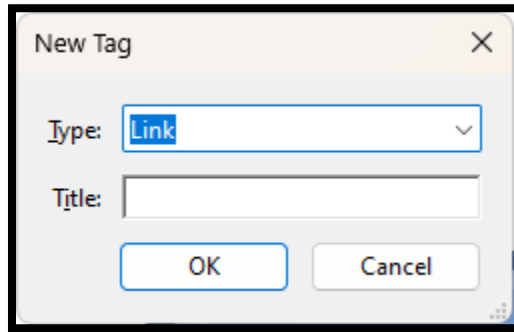
In the Tags Tree, add the <Link> Tag nested under the corresponding <P> tag.

To do this, select the text nested under the <P> Tag (not the <P> Tag itself), right-click and choose New Tag.

In the New Tag dialog, choose Link by either typing the word Link with a capital L or by accessing the dropdown list and selecting it.

Click OK.

Figure 175 New Tag dialog showing Link Tag (Adobe Acrobat Pro DC).



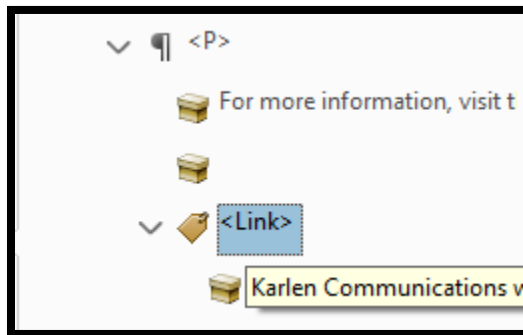
Select the <Link> Tag in the Tags Tree.

In the PDF, use the Select Text Tool to select the text or long web address you want to represent the link.

In the Tags Tree, right-click and choose Create Tag from Selection.

The text in the paragraph is isolated under the <Link> tag.

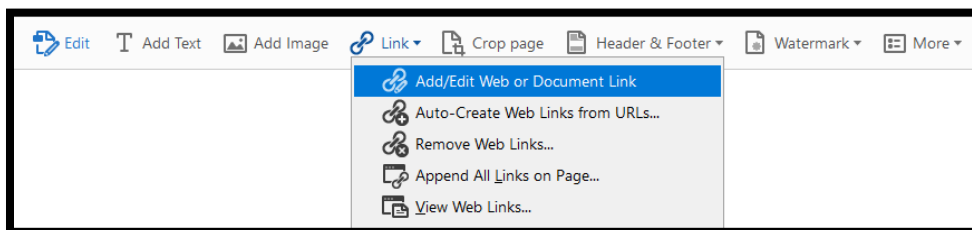
Figure 176 <Link> Tag with text to be used for the link (Adobe Acrobat Pro DC)



Activate the Edit PDF tools.

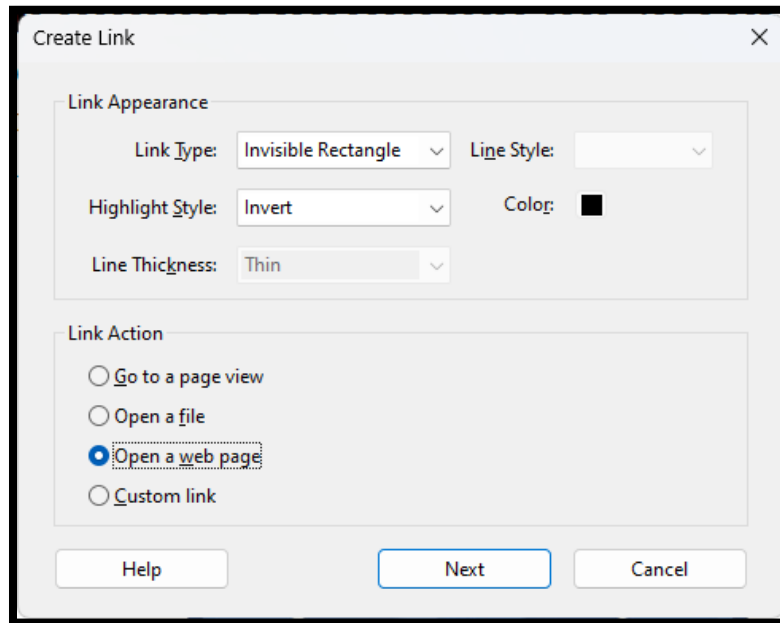
In the Toolbar above the PDF, click on Links.

Figure 177 Link options in the Edit PDF Toolbar (Adobe Acrobat Pro DC).



Click Add or Edit Web or Document Link.

Figure 178 Create Link dialog showing Link Type as Invisible Rectangle and Link Action as Open a web page (Adobe Acrobat Pro DC.)



When the mouse is hovered over the text, it becomes a crosshair.

Select the text or long web address that you want to be a link.

Once the mouse button is released, a dialog appears.

Choose Invisible Rectangle as the Link Type.

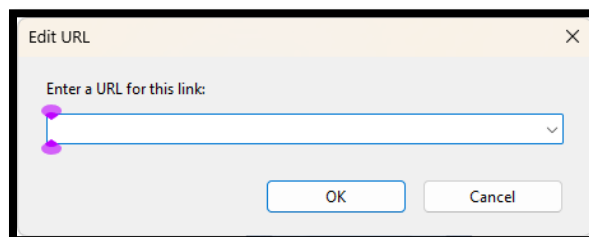
Click Open a web page (even if it is an e-mail address).

Click Next.

Type or paste the long web address, including the https (this is important!).

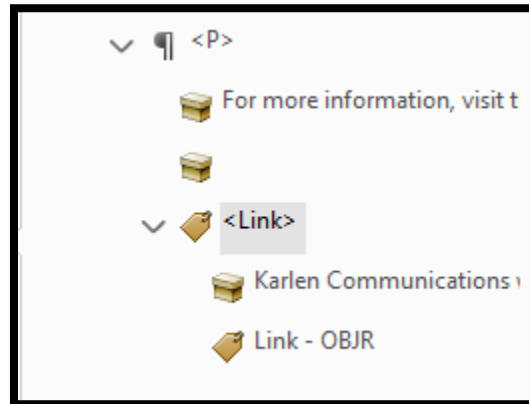
Click OK.

Figure 179 Edit URLs dialog where the link is typed or pasted into the edit area (Adobe Acrobat Pro DC).



The link is added to the PDF with both the text or web address selected and the Link-ObjR annotation nested under the <Link> Tag.

Figure 180 Complete accessible link in the Tags Tree (Adobe Acrobat Pro DC)



Remediate a Broken Link

Sometimes you need to remediate a link. The process is the same as adding a link, however, you will need to delete the old link first. This is where the “Create Links from URLs” can interfere with the process.

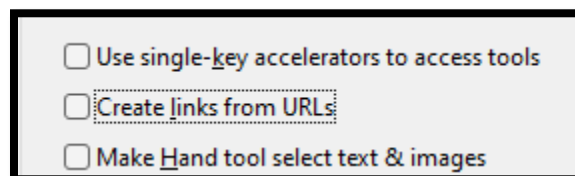
Before you start the remediation, if the long web address is in the PDF, use the Select Text tool to select it, right-click and choose Copy. This saves you from typing the web address.

If the web address is something like “karlencommunications.com”, you’ll need to get the long web address for the link to work. It is the long web address you’ll need to use to create the link.

If you cannot see the link outline once you’re in Edit PDF, go to the Preferences dialog (Ctrl + K), General category and uncheck the check box to Create Links from URLs.

I find that sometimes having this setting active prevents the remediation of links in PDFs. You may need to exit Acrobat, launch it, and reopen the PDF to see the change.

Figure 181 Preferences dialog, General category, Create Links from URLs unchecked (Adobe Acrobat Pro DC).



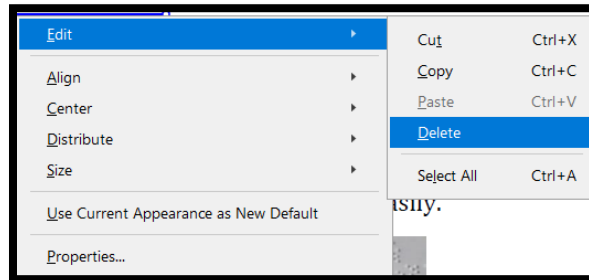
Select the link by clicking on the border using the mouse. When the Add or Edit Web or Document Links tool is active, the links have a border around them. Click on the border or on one of the handles along the border.

Right-click and select Edit from the context menu.

Select Delete from the sub-menu.

Pressing the Delete key on its own doesn't work.

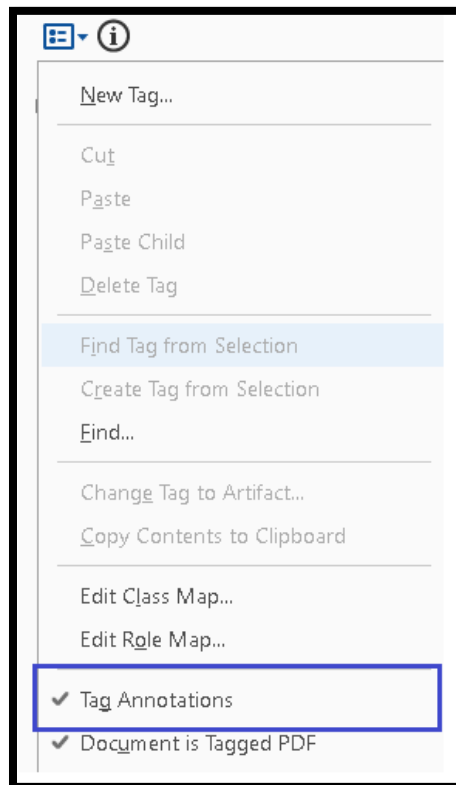
Figure 182 Context menu for a link in Edit PDF mode showing sub-menu Delete options (Adobe Acrobat Pro DC).



Close the Edit PDF tools for now.

Tag Annotations should still be turned on in the Tags Tree.

Figure 183 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).



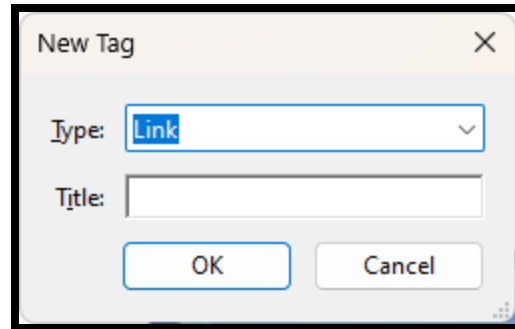
In the Tags Tree, add the <Link> Tag nested under the corresponding <P> tag.

To do this, select the text nested under the <P> Tag, right-click and choose New Tag. Do not select the <P> Tag itself; it is the text nested under the <P> Tag you select.

In the New Tag dialog, choose Link. This can be done by typing the word Link with a capital L or by accessing the dropdown list and clicking on it.

Click OK.

Figure 184 New Tag dialog showing Link Tag (Adobe Acrobat Pro DC).



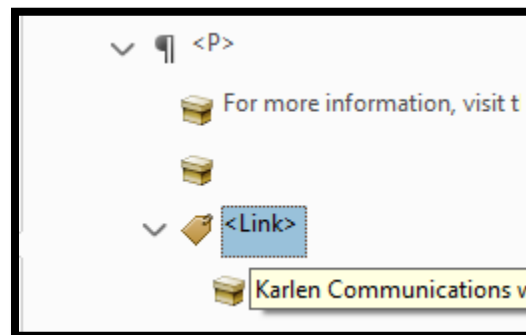
Select the <Link> Tag in the Tags Tree.

In the PDF, use the Select Text Tool to select the text or long web address you want to represent the link.

In the Tags Tree, right-click and choose Create Tag from Selection.

The text in the paragraph is isolated under the <Link> Tag.

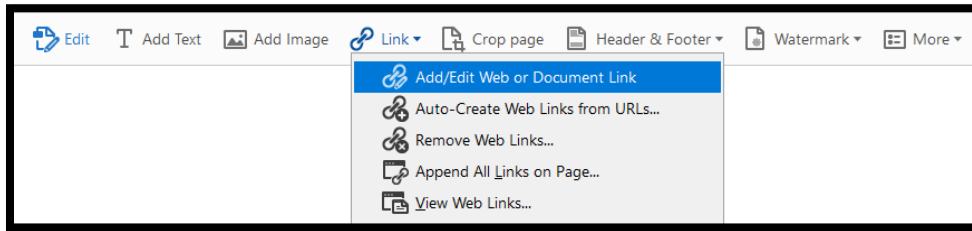
Figure 185 <Link> Tag with text to be used for the link (Adobe Acrobat Pro DC)



Activate the Edit PDF tools.

In the Toolbar above the PDF, click on Links.

Figure 186 Link options in the Edit PDF Toolbar (Adobe Acrobat Pro DC).



Click Add or Edit Web or Document Link.

When the mouse is hovered over the text, it becomes a crosshair.

Select the text or long web address that you want to be a link.

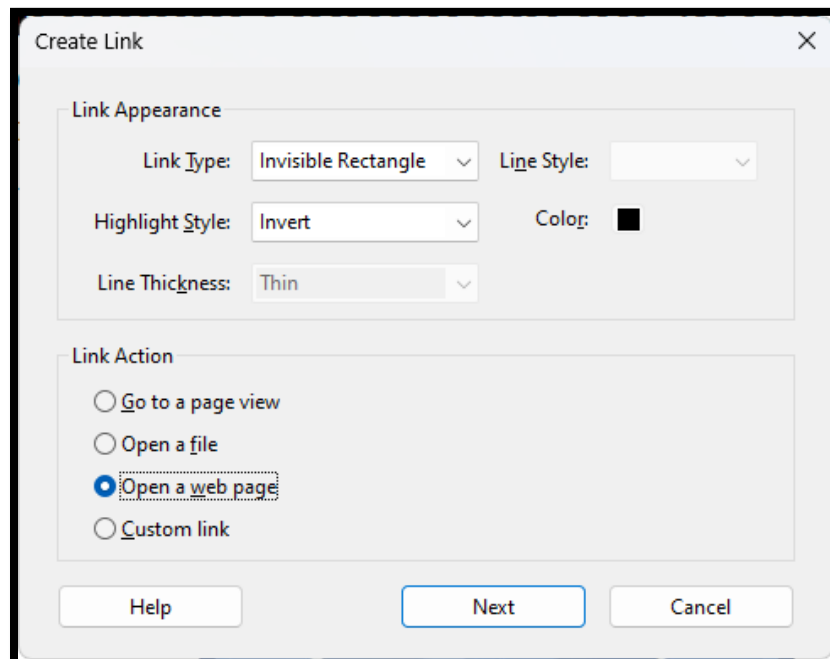
Once the mouse button is released, a dialog appears.

Choose Invisible Rectangle as the Link Type.

Click Open a web page (even if it is an e-mail address).

Click Next.

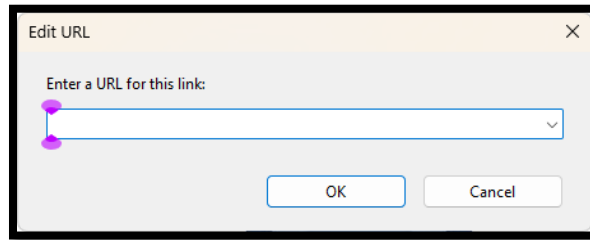
Figure 187 Create Link dialog showing Link Type as Invisible Rectangle and Link Action as Open a web page (Adobe Acrobat Pro DC.)



Type or paste the long web address, including the https in the Edit URL dialog... (this is important!). While text such as “karlencommunication.com” can be selected as the link in the PDF document, to create the link, you need the full (long) web address.

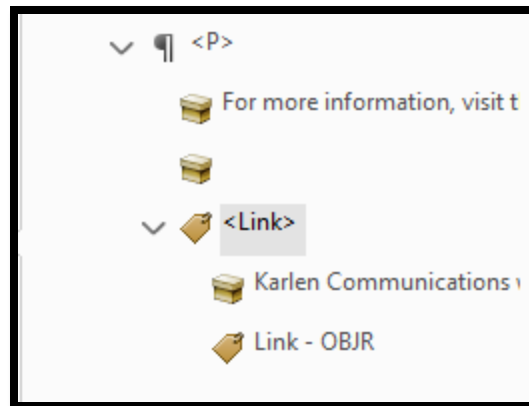
Click OK.

Figure 188 Edit URLs dialog where the link is typed or pasted into the edit area (Adobe Acrobat Pro DC).



The link is added to the PDF with both the text or web address selected and the Link-ObjR annotation nested under the <Link> tag.

Figure 189 Complete accessible link in the Tags Tree (Adobe Acrobat Pro DC)



Foxit PDF Editor

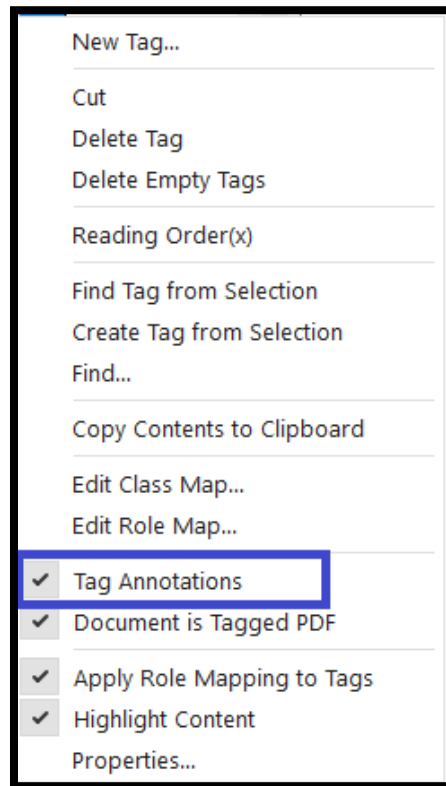
Add a Link

If a link is missing, add it using Foxit PDF Editor.

In the Tags Tree, make sure the Tags panel is visible.

In the Tags Tree, right-click and make sure that Tag Annotations are turned on.

Figure 190 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor)



Before you start, if the long web address is in the PDF, use the Select Text tool to select it, right-click and choose Copy. This saves you from typing the web address.

If the web address is something like “karlencommunications.com”, you’ll need to get the long web address for the link to work. It is the long web address you’ll need to use to create the link.

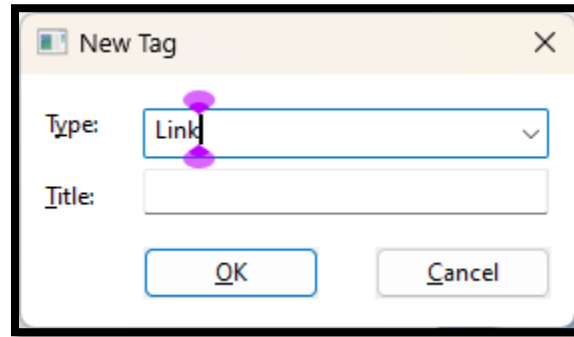
In the Tags Tree, select the content nested under the <P> Tag for the link.

Right-click and choose New Tag.

In the New Tag dialog, either type Link with a capital L or access the dropdown list and select it.

Click OK.

Figure 191 New Tag dialog showing Link as the selected Tag (Foxit PDF Editor)



The <Link> Tag is now nested under the corresponding <P> Tag with the link text or long web address.

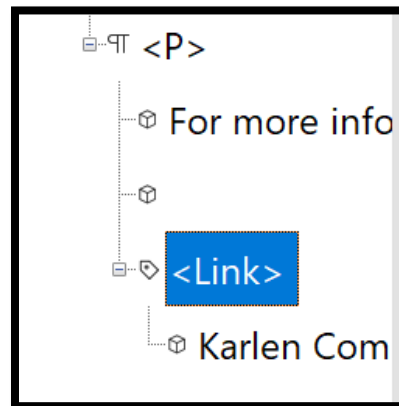
Select the <Link> Tag in the Tags Tree.

Using the Select Text tool, select the text or the web address you want to be the link.

Move to the Tags Tree, right-click and choose Create Tag from Selection.

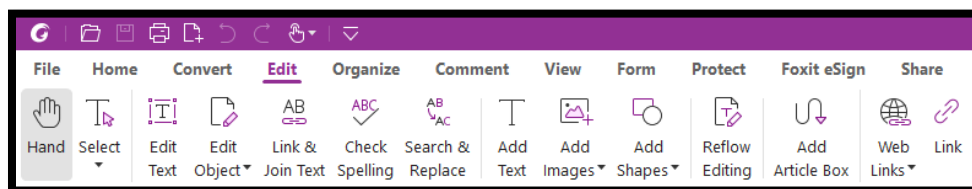
The text or web address for the link is nested under the <Link> Tag.

Figure 192 <Link> Tag with text or a long web address nested under it. (Foxit PDF Editor).>



With the <Link> Tag selected, go to the Edit Ribbon, and click Links (Not Web Links).

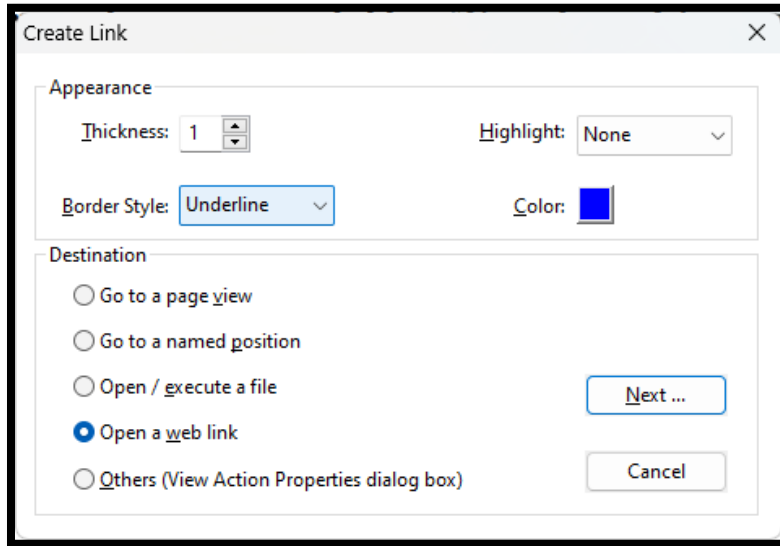
Figure 193 Edit Ribbon showing the Links button on the right (Foxit PDF Editor)



The mouse becomes a crosshair.

In the PDF, drag the mouse over the text or long web address you want to be the link. When the mouse button is released, a dialog opens.

Figure 194 Create Link dialog showing underline properties and Open a web page option (Foxit PDF Editor).

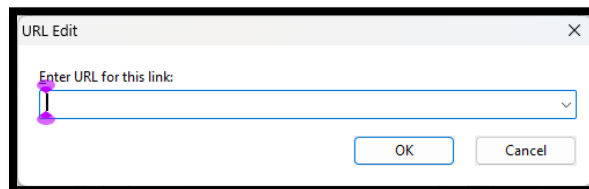


If you are creating a link from text in the PDF that is not already a link, you can add an underline in the default blue colour. If the link is already blue and underlined in blue, choose the number 0 for the thickness. This prevents double underlining of the link in the PDF.

Choose Open a web page even if you are creating a link for an e-mail address.

Click Next.

Figure 195 The URL Edit dialog (Foxit PDF Editor).

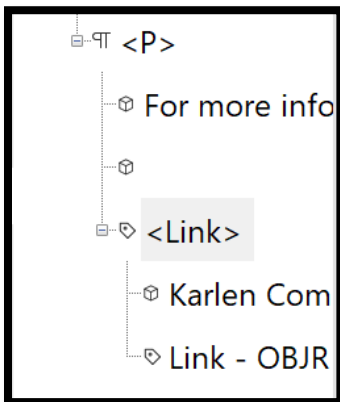


The URL Edit dialog opens.

Type or paste the long web address, including the https in the Edit URL dialog... (this is important!). While text such as “karlencommunication.com” can be selected as the link in the PDF document, to create the link, you need the full (long) web address.

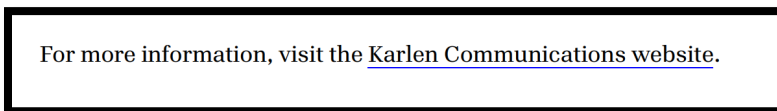
Click OK.

Figure 196 Completed accessible link in the Tags Tree (Foxit PDF Editor).



The following graphic shows text in a PDF that was not originally a link, showing the blue underline visually representing that it is now a link. Adaptive technology will identify the link through the correct Tags in the Tags Tree. Having the blue underline lets those visually accessing the PDF know that this text is a link. If the underline wasn't there, they would not know the text was a link. Only those using adaptive technology would know because of the underlying Tags.

Figure 197 An example of an accessible link in a PDF that was not originally a link (Foxit PDF Editor)



Remediate a Broken Link

When remediating a link in Foxit PDF Editor, the process is similar.

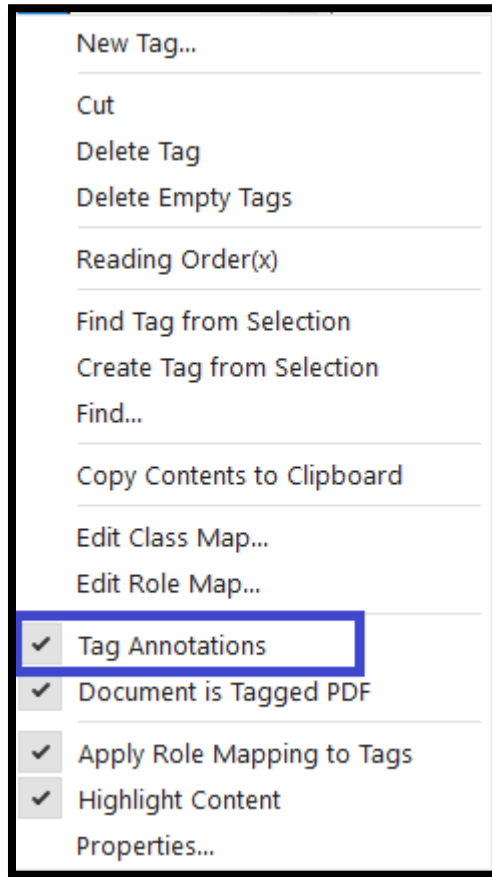
Before you start the remediation, if the long web address is in the PDF, use the Select Text tool to select it, right-click and choose Copy. This saves you from typing the web address.

If the web address is something like "karlencommunications.com", you'll need to get the long web address for the link to work. It is the long web address you'll need to use to create the link.

The first step is to remove the broken link.

Right-click in the Tags Tree and turn on Tag Annotations.

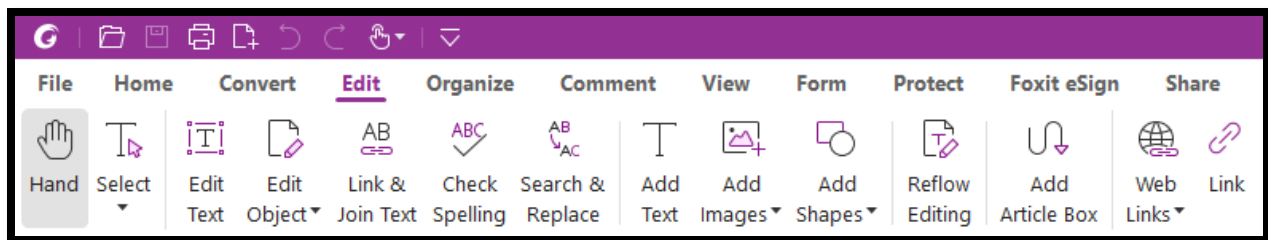
Figure 198 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor)



Select the <Link> Tag in the Tags Tree that needs remediation. This will highlight it in the PDF.

On the Edit Ribbon, click Links (not Web Links).

Figure 199 Edit Ribbon showing the Links button on the right (Foxit PDF Editor)



With the mouse pointer on the border of the link or on one of the handles of the link, in the PDF, right-click and choose Delete.

The <Link> Tag remains as does the text or long web address that can be used to create the accessible link. Only the “Link-OBJR” has been removed.

Figure 200 <Link> Tag with text or long web address nested under it. (Foxit PDF Editor).>



With the <Link> Tag selected, go to the Edit Ribbon and click Links (Not Web Links).

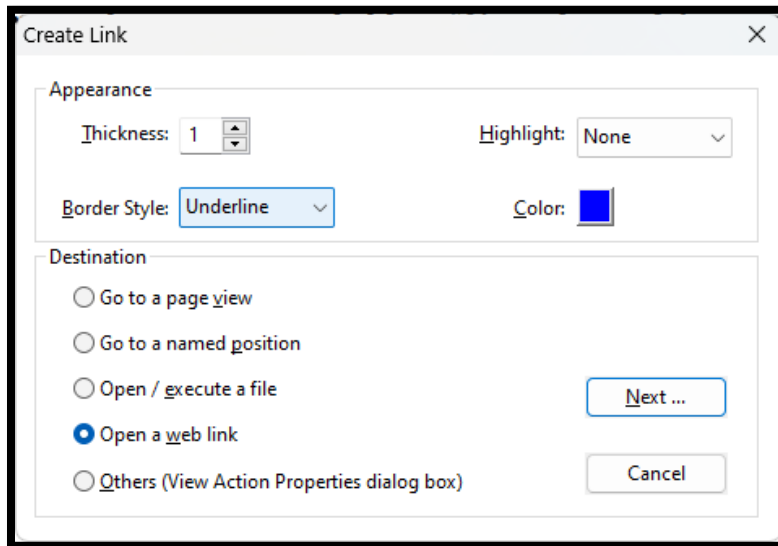
The mouse becomes a crosshair.

Drag the mouse over the text or long web address you want to be the link.

When the mouse button is released, a dialog opens.

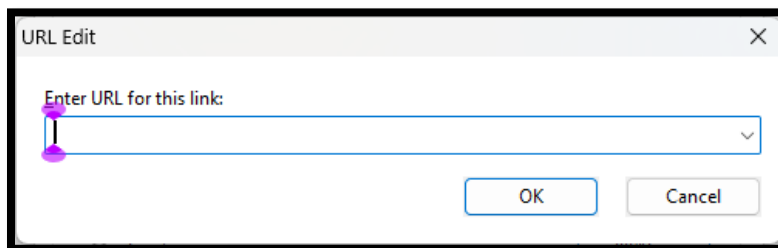
If you are creating a link from text in the PDF that is not already a link, you can add an underline in the default blue colour. If the link is already blue and underlined in blue, choose the number 0 for the thickness. This prevents double underlining of the link in the PDF.

Figure 201 Create Link dialog showing underline properties and Open a web page option (Foxit PDF Editor).



Choose Open a web page even if you create a link for an e-mail address.
Click Next.

Figure 202 The URL Edit dialog (Foxit PDF Editor).

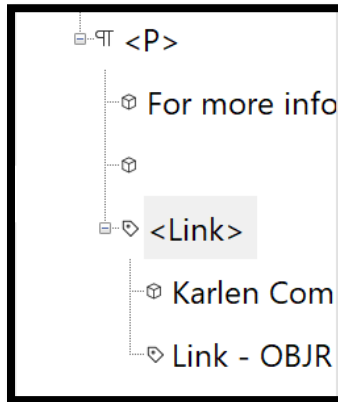


The URL Edit dialog opens.

Type or paste the long web address. For example, avoid using karlencommunications.com. When creating accessible links, you need to have the full long web address.

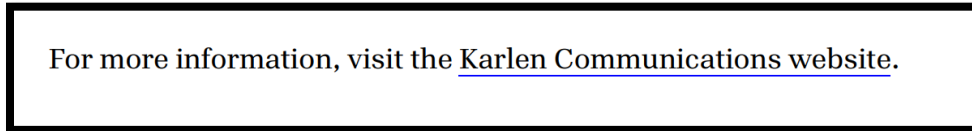
Click OK.

Figure 203 Completed accessible link in the Tags Tree (Foxit PDF Editor).



The following graphic shows text in a PDF that was not originally a link, showing the blue underline visually representing that it is now a link. Adaptive technology will identify the link through the correct Tags in the Tags Tree.

Figure 204 An example of an accessible link in a PDF that was not originally a link (Foxit PDF Editor)



PDF 12: Providing name, role, and value information for form fields in PDF documents

Form controls in PDFs can provide information about the type of form control (text, check box, radio button and so forth). Information about the default value can also be available to the end-user (checked or not checked, edit mode and so forth).

WCAG Success Criteria

[PDF12: Providing name, role, value information for form fields in PDF documents](#)¹⁰⁰.

- Sufficient to meet [1.3.1 Info and Relationships](#)¹⁰¹ (WCAG 2.0 A).
 - [Understanding 1.3.1 Info and Relationships](#)¹⁰².
- Sufficient to meet [4.1.2 Name, Role, Value](#)¹⁰³ (WCAG 2.0 A) when used with [G135: Using the accessibility API features of a technology to expose names and notification of changes](#)¹⁰⁴.
 - [Understanding 4.1.2 Name, Role, Value](#)¹⁰⁵.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.7.3.2 Field Names.

Accessible Form Controls

Tooltips provide information on the question associated with the specific form control. For example, “First and Last Name – Required”. The ToolTip must also contain any formatting information such as date or birthdate, number of words or character limits, format and so forth.

¹⁰⁰ PDF 12 Providing name, role, and value information for form fields in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF12>

¹⁰¹ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

¹⁰² Understanding 1.3.1 Info and Relationships, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships>

¹⁰³ Success Criteria 4.1.2 Name, Role, Value, W3C: <https://www.w3.org/TR/WCAG22/#name-role-value>

¹⁰⁴ Guideline 135 Using the accessibility API features of a technology to expose names and notifications of changes: <https://www.w3.org/WAI/WCAG21/Techniques/general/G135>

¹⁰⁵ Understanding 4.1.2 Name, Role, Value, W3C: <https://www.w3.org/WAI/WCAG21/Understanding/name-role-value>

There are attributes for form controls such as required or read-only (typically used in calculated forms). While adding the word “required” to the ToolTip provides valuable information that might otherwise only be available visually, the identification of a form control as read-only is typically part of the overall attributes of a calculated form control or a form control that repeats information on each page.

As stated in a previous topic related to PDF forms, avoid using Microsoft 365 form controls even for Word based forms. They are not accessible in Word and do not transfer to PDF forms. Create a clean template in Word that avoids using symbols and lines to indicate data entry. These elements are added in the PDF form without requiring remediation or awkward sizing of form controls to cover them up.

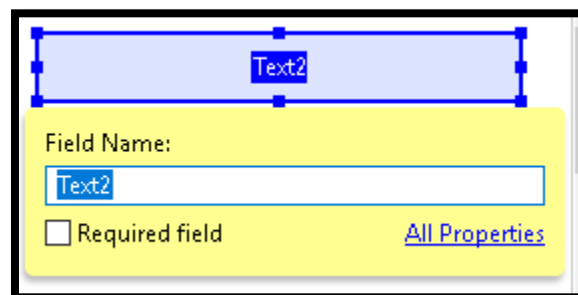
Adobe Acrobat Pro DC

Adding a ToolTip

Once a type of form control is chosen and added to the PDF form, you can click on the “All Properties” link in the yellow pop-up.

This opens the Properties dialog.

Figure 205 Text form control pop-up (Adobe Acrobat Pro DC).

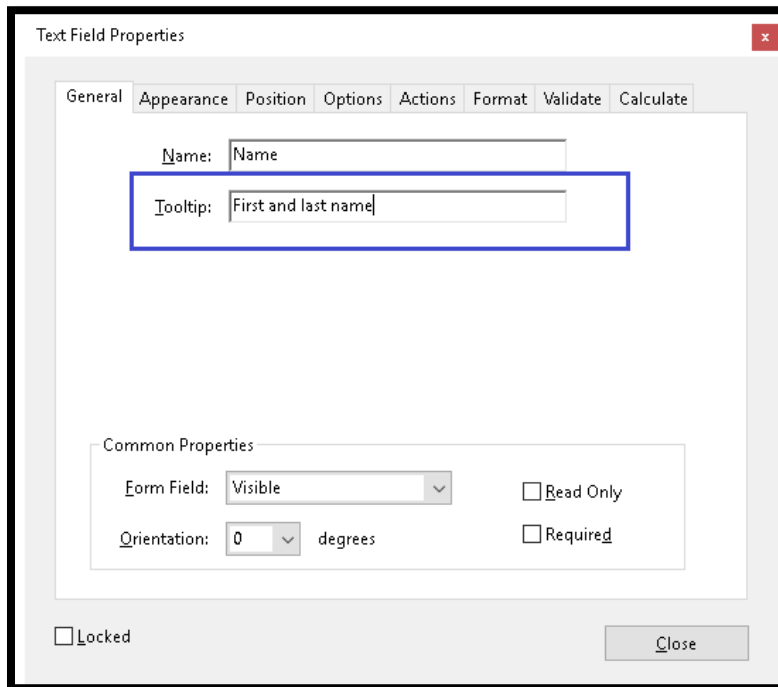


It is recommended that you give the form control a meaningful name that matches the content of the question. Only a few key words are necessary. This avoids having form control annotations such as “Text1, Text2, Text3 and so forth. There are no spaces in the names of form controls.

Click on All Properties in the yellow pop-up.

You can make the form control required in the Properties dialog.

Figure 206 ToolTip area of the Properties dialog (Adobe Acrobat Pro DC).



The ToolTip is the question. If you have the corresponding Word form template open, you can copy and paste the question into the ToolTip.

For long questions, it is acceptable to summarize the question. This avoids those using screen readers listening to long reams of text for each form control that might be related to a single question. For example, check boxes or radio button. Text form controls asking for an abstract can also be summarized, however, it is essential that a specific format, word or character limit is included in a ToolTip and the full text of the question is tagged correctly in the Tags Tree.

Note: If the form control is required, make sure you check the “Required” check box in the Properties dialog. You will also need to add the word “required” to the ToolTip. For example, “First and Last Name – Required. Writing the full word avoids confusing. It is recommended that the full word be written even if an asterisk is used to indicate required fields to optimize accessibility and usability.

A ToolTip must be provided for each form control or group of radio buttons.

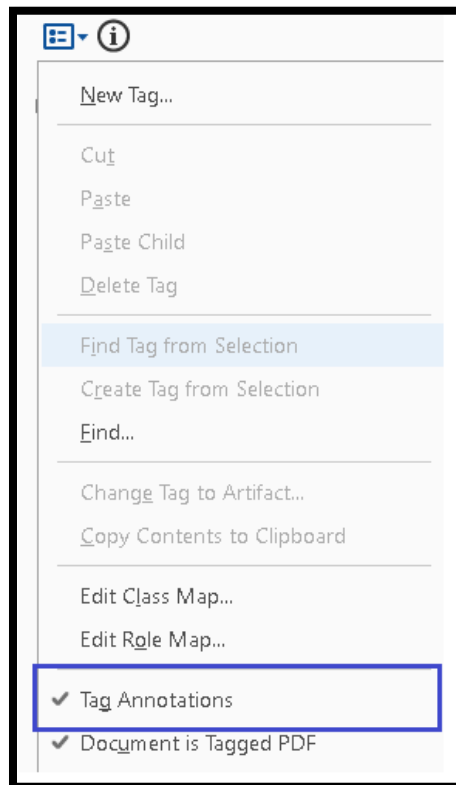
Move to and Activate the Close button.

Adding the Form Controls to the Tags Tree

Once the form controls are in place using the Prepare Form tools, close the Prepare Form tools and move to the Tags Tree. Locate the first question, in our example, it is First and Last Name.

Make sure Tag Annotations are turned on in the Tags Tree.

Figure 207 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).



1. Open the <> Tag.
2. With the <P> Tag open, select the text that is the question.
3. Right-click and choose New Tag.
4. Choose the Form Tag from the list or type Form with a capital F.
5. Activate the OK button. You don't need a Title.
6. The <Form> Tag is nested just below the text for the question.
7. Select the <Form> Tag, right-click and choose Find.

Figure 208 Find in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).

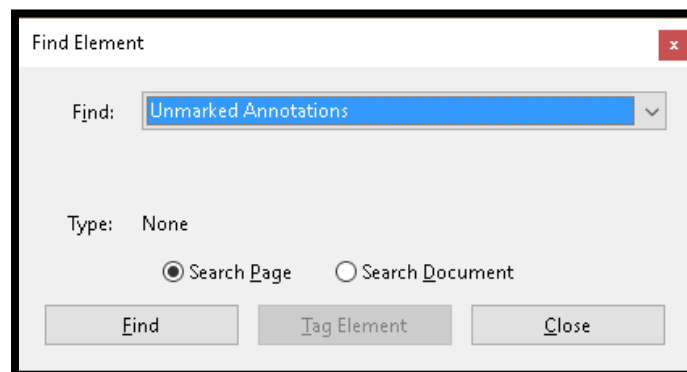


In the Find dialog, choose Unmarked Annotations.

Choose Find or Find Next.

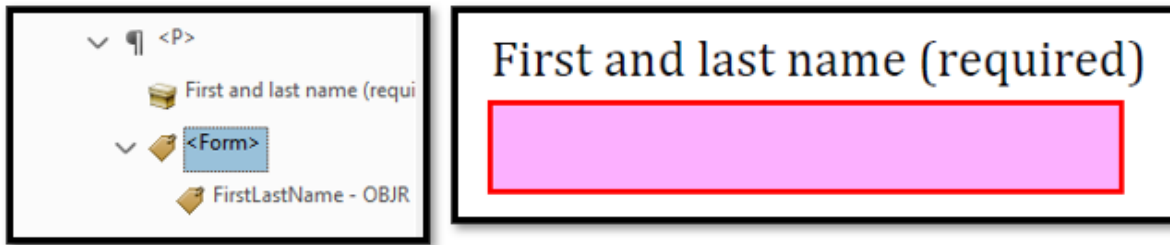
As each form control is found, check it visually in the PDF form and then click Tag Element.

Figure 209 Find Element dialog in Tags Panel Adobe Acrobat Pro DC.



The form control annotation is nested under the <Form> Tag and is associated with the text that is the question.

Figure 210 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text (Adobe Acrobat Pro DC).



I had to separate the Tags Tree from the PDF because the Adobe user-interface uses such small fonts in the Tags Tree, it is often difficult to work with. We've asked for larger fonts in the Tags, Order and Content Panels since Acrobat 6!

Determining a Value for Form Controls

There are a couple of form controls that you may need to add values for. These are date and birthdate form controls, dropdown lists, or combo list form controls and calculated fields.

For date and birthdate form controls, ensure that the format you want is part of the written question in the text as well as in the ToolTip. For example, Date (yy-mm-dd).

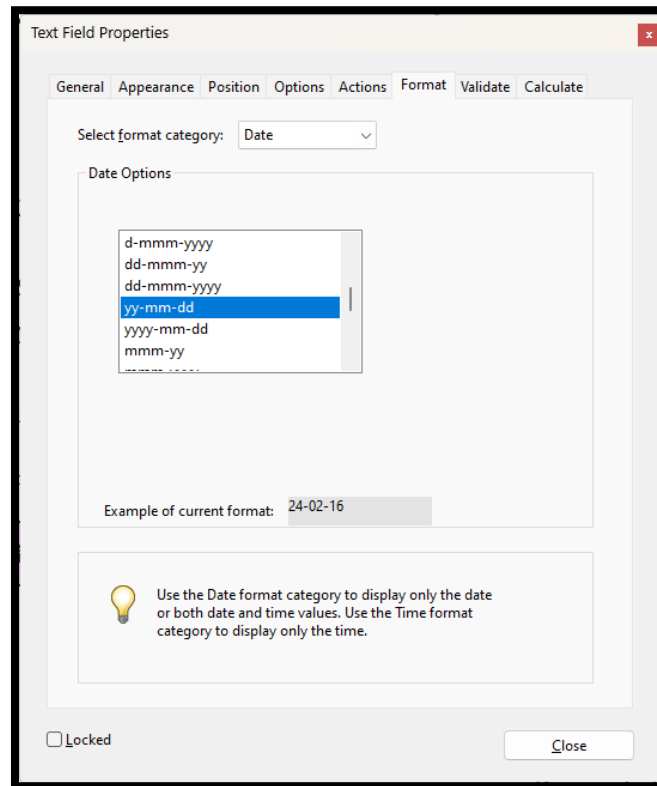
Once you have typed in the ToolTip (including whether this is a required form control or not), Press Ctrl + Tab to move to the Format tab in the Properties dialog.

Choose the format, in this example "Date".

Choose the Date format you want. A visual example appears in the lower left of the Properties dialog.

You can also use the Date button in the Prepare Form Toolbar to add a Date form control. The date format is a default. It will need to be checked and adjusted to match the date format identified in the question.

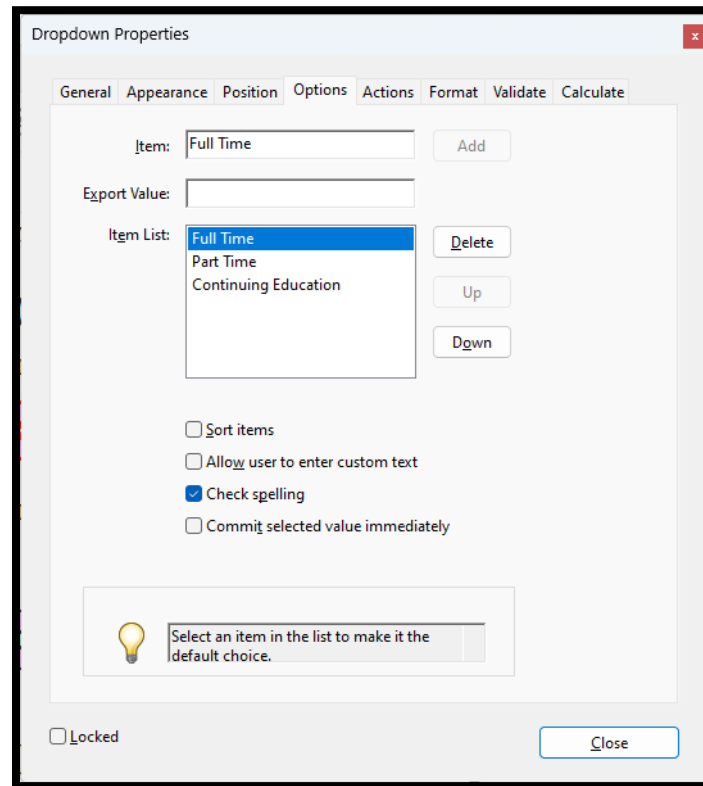
Figure 211 Format tab in the Text Field Properties dialog showing date settings (Adobe Acrobat Pro DC).



For dropdown lists, while the Properties dialog is open, press Ctrl + Tab to move to the Options tab.

Add each of the options for the question. As each one is added, press Alt + A to add them to the list of possible choices.

Figure 212 Dropdown Properties dialog showing entries for a dropdown list (Adobe Acrobat Pro DC).



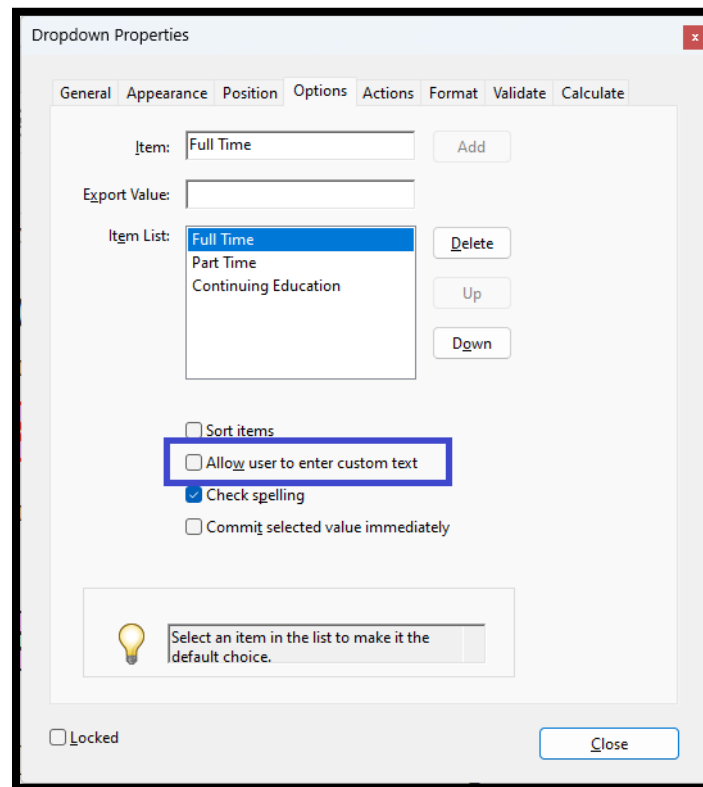
Once an entry has been added, the text remains in the Item edit area. Type the next entry over that text and press Alt + A to add it to the list of choices.

The default value can be chosen by pressing Tab to move to the list of possible answers and selecting the one that you want to be the default. For example, if you know that most students filling out a question on student status will be Full-Time students, making it the default will speed up filling out the form by end-users.

Press Alt + C to close the Dropdown Properties dialog.

When people are filling out the form, if you want them to be able to add a custom answer, Tab to the “Allow user to enter custom text”. (Alt + W) and check the check box to allow custom answers.

Figure 213 Dropdown Properties dialog showing a list of choices and the "Allow user to enter custom text" option (Adobe Acrobat pro DC).



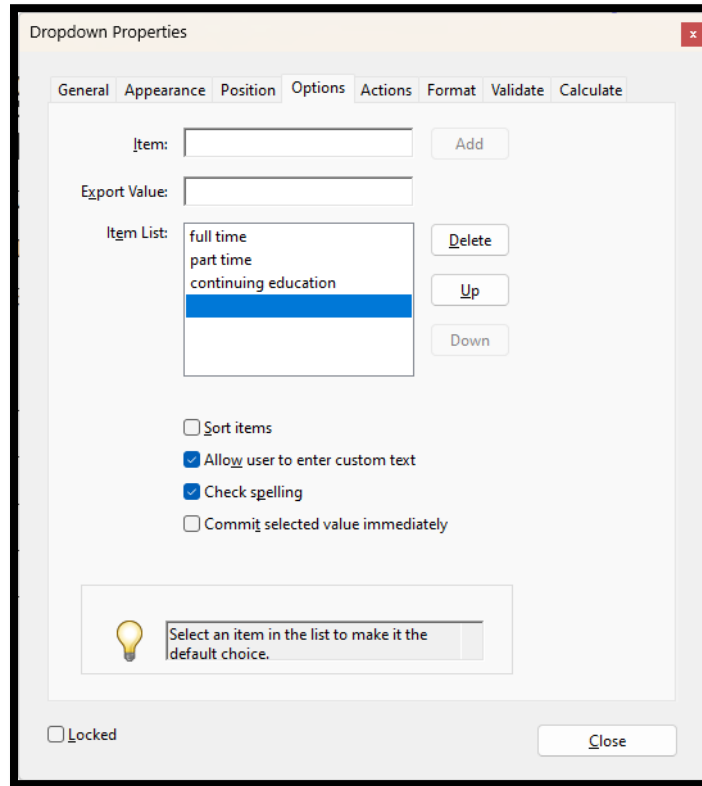
When a Combo List is added to a PDF form, the default can be blank to allow the end-user to fill in something. However, think about this strategy before implementing it.

Although you want to give people the option to fill in their own answers, the intent is that you haven't thought of all possibilities. Taking the example of student status, if the default is blank, you will have people filling out the form, adding the elements you added to save time.

For example, if you think most of the students filling out the form will be Full-Time students, making Full Time the default lets them skip to the next question. Some people filling out the form may start typing Full Time without looking at the list of other options.

If you want the default to be blank, the technique is to put a space in the Items area of the Options dialog and add it to the list, then select it as the default.

Figure 214 Object Properties dialog showing a blank option for a Combo List (Adobe Acrobat Pro DC).



In the PDF form, once we either Preview the form or Close the Prepare Form tools, the form control looks like a Text form control. This can be confusing to those who see the dropdown indicator on the right but don't see any choices. Those using screen readers will be told this is a Combo list and will press Alt + Down Arrow to open the list.

Figure 215 Combo list in a PDF document with no default choice (Adobe Acrobat Pro DC).



When someone Tabs to the form control, they will see the space if they aren't using a screen reader but are a keyboard user. This might be visually confusing.

Figure 216 Combo list in a PDF form in edit mode showing the space used to create the default blank entry (Adobe Acrobat Pro DC).



Use Combo lists wisely and anticipate that even if someone types in “Full Time” there are several ways of typing those two words. You’ll need to sort through them as the form comes in. This takes even more work if just the data is sent to you.

A caveat about using the custom text option is that people filling in the form can add any text to the dropdown list.

Checkbox form controls have a value of checked or unchecked. This information is available to those using adaptive technology. You don’t need to do anything to identify the state/value of a checkbox. You do need to ensure that each checkbox has a ToolTip.

When calculated form controls are added, there are three tabs to consider:

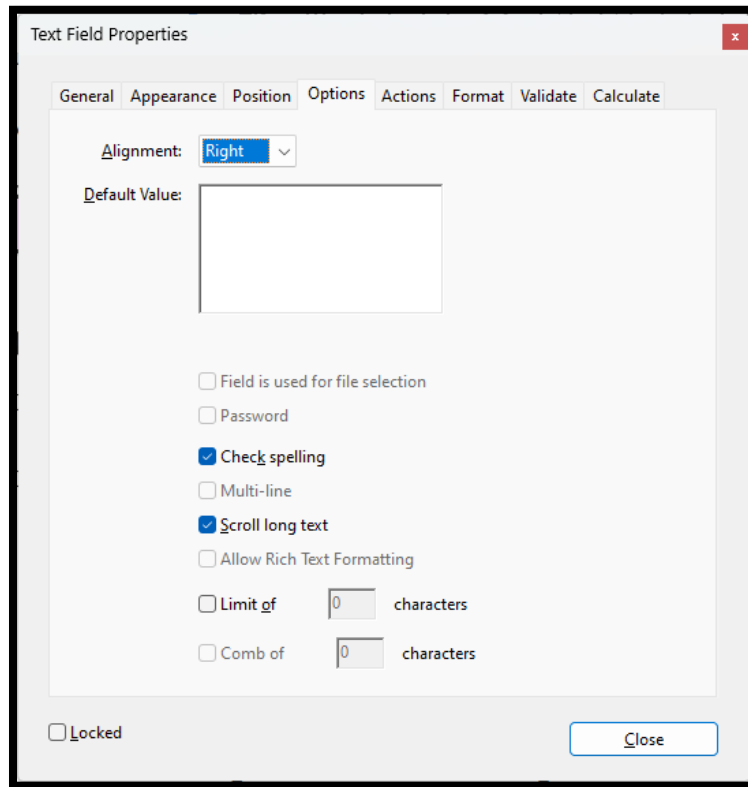
- The Options tab to determine alignment.
- The Format tab to determine currency or number.
- The Calculate tab to create the calculation.

If you have a calculated form control based on user input information, you can designate the form control as Read Only. This avoids end-users inputting information in those form controls.

For Text form controls, the alignment can be changed from Left to Centre or Right in the Options tab of the Text Field Properties dialog.

When a calculated form control is added, the number entries are typically placed to the right in the form control. Once on the Options tab, press Alt + A to move to the Alignment list and choose the one you want.

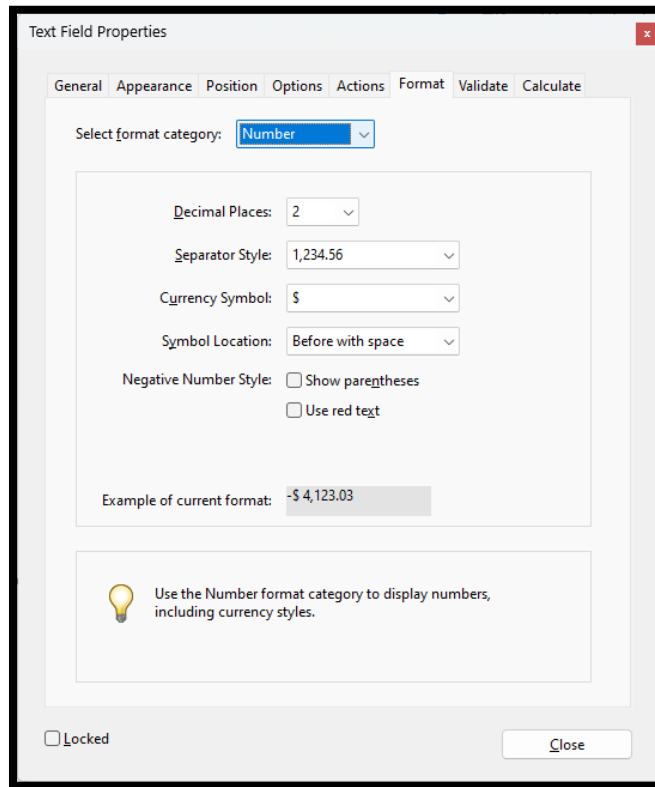
Figure 217 Options tab in the Text Field Properties dialog showing the Alignment options (Adobe Acrobat Pro DC).



Note: For long text entries, avoid using Full Justification! This creates an accessibility barrier. The default should be Left aligned.

When working with calculated form controls, it is essential to determine the format of the numbering. This includes any currency information.

Figure 218 Format tab in the Text Field Properties dialog showing the Select Format Category item (Adobe Acrobat Pro DC).



While in the Text Field Properties dialog, press Ctrl + Tab to move to the Format tab.

Press Alt + F to move to the Select Format Category dropdown list.

Choose Number.

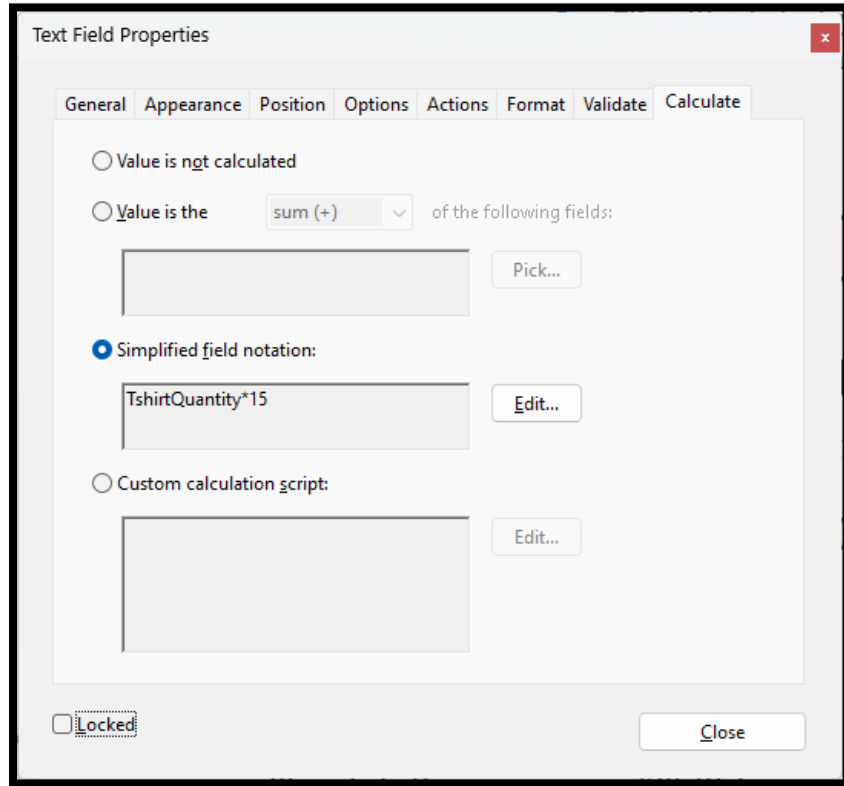
If the number is a currency, press Alt + C for Currency Symbol. This is a dropdown list.

Other options in the Format tab are:

- Alt + D for Decimal Place.
- Alt + Y for Separator Style.
- Alt + S for Symbol Location.
- Alt + G for Negative Number Style. There are two check boxes associated with this option:
 - Alt + N for Show Parentheses.
 - Alt + S for Use Red Text.

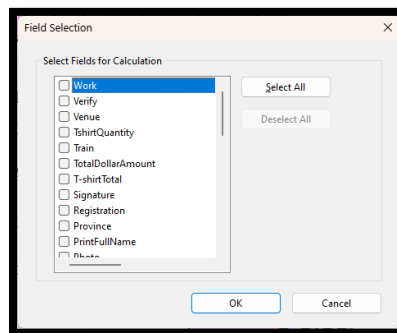
If you are working on a calculated form control, the next step is to press Ctrl + Tab to move to the Calculate tab.

Figure 219 Calculate tab in the Text Field Properties dialog showing a Simplified field notation (Adobe Acrobat Pro DC).



The best reason for giving form controls a meaningful name is when calculated form controls are in a form. The meaningful names allow you to pick the ones you want for calculations.

Figure 220 Field Selection dialog in Calculate tab of Text Field Properties dialog (Adobe Acrobat Pro DC).



Once all the attributes for the Text form control have been added, press Alt + C to Close the Text Field Properties dialog.

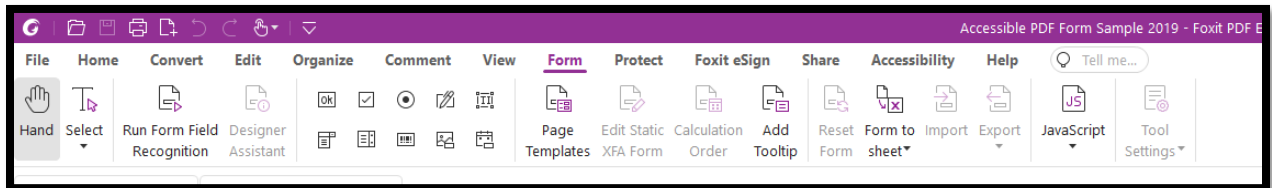
Remember to test the calculated form controls before you publish the form!

Foxit PDF Editor

Adding a ToolTip

The Form tools are found on the Forms Ribbon in the Foxit PDF Editor.

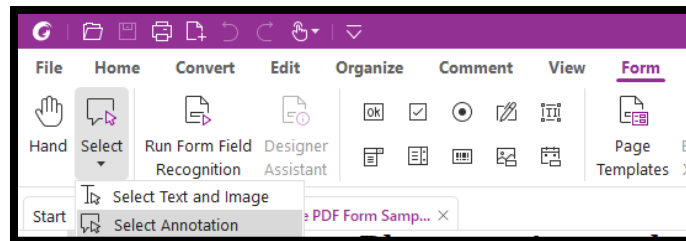
Figure 221 Form Ribbon (Foxit PDF Editor).



Once you’ve been working on a form and want to test the form controls, go to the Form Ribbon, and choose the Hand Tool. Pressing the Escape key while in Edit mode will also exit Edit mode.

To return to “Edit” mode for form controls, go to the Form Ribbon and choose Select Tool, then Select Annotations.

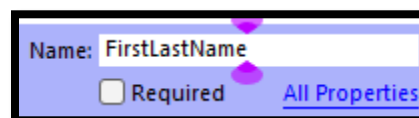
Figure 222 Form Ribbon, Select Tool, Select Annotation (Foxit PDF Editor).



Once you’ve chosen a form control and added it to the form template, there will be a pop-up.

I recommend giving the form control a meaningful name that uses words from the question. For example, FirstLastName with no spaces. Using meaningful names for the form controls provides information when you associate the form control with a question in the Tags Tree.

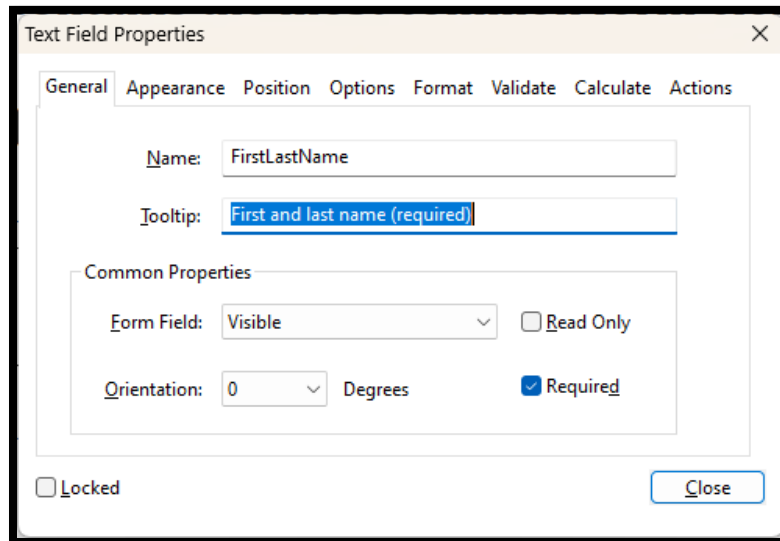
Figure 223 Pop-up for a form control (Foxit PDF Editor).



Click on All Properties. The Properties dialog is where you’ll add the ToolTip.

If the form control is required, this can be selected in the pop-up or the Properties dialog.

Figure 224 Properties dialog showing ToolTip area highlighted (Foxit PDF Editor).



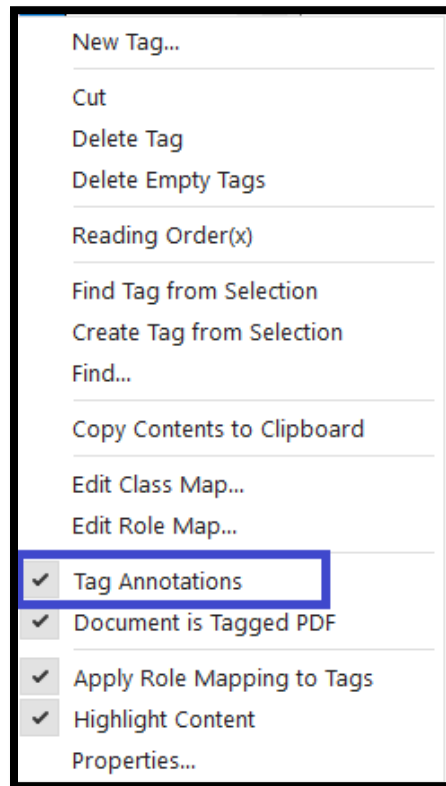
For form controls that are required, the full word required is recommended. For example: First and Last Name – Required. Using the full word instead of an abbreviation or asterisk is more supportive for those using adaptive technology. Avoiding the abbreviation is in line with WCAG 3.1.4. AA (PDF 8).

Adding the Form Controls to the Tags Tree

When all the form controls have been added to the PDF form, switch to the Tags Tree.

Right-click anywhere in the Tags Tree and make sure that Tag Annotations is checked in the context menu.

Figure 225 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor).



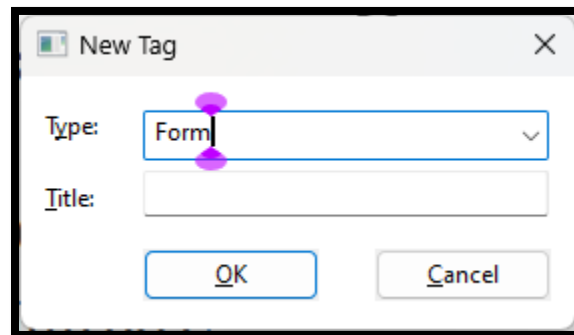
Select the text nested under the <P> Tag for the question. In this example, it is First and Last Name.

Right-click and choose New Tag.

Either type Form with a capital letter or open the list of Tags and choose Form.

You don't need a title.

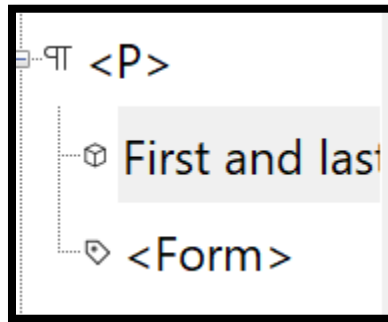
Figure 226 New Tag dialog (Foxit PDF Editor).



Activate the OK button.

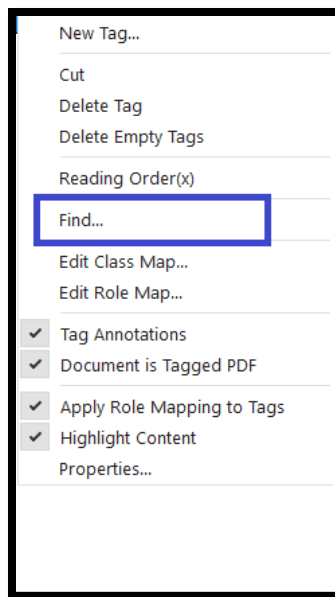
The <Form> Tag is nested under the <P> Tag and just below the text for the question.

Figure 227 New <Form> Tag in the correct position in the Tags Tree (Foxit PDF Editor).



Select the <Form> Tag, right-click and choose Find in the context menu in the Tags Tree.

Figure 228 Find option in the context menu in the Tags Tree (Foxit PDF Editor).



In the Find dialog, select Unmarked Annotations.

Select Find/Find Next. The choice will depend on how many form controls there are in the form/on a page.

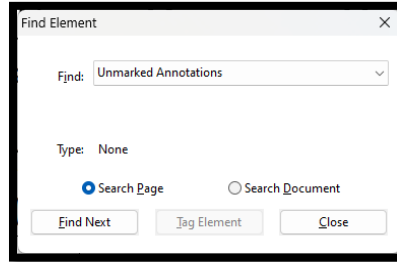
Select Tag Element.

The selection will move to the next form control. Until you are used to adding form controls to the Tags Tree, you should add the form controls one at a time.

Close the Find dialog.

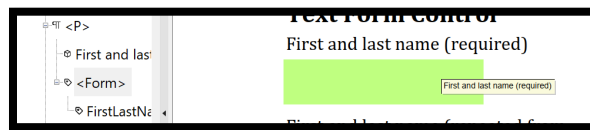
Repeat the process of adding the <Form> Tag for the next question and then repeat the Find, Unmarked Annotation, Find Next, Tag Element.

Figure 229 Find Unmarked Annotations in the Find dialog (Foxit PDF Editor).



The form control annotation is nested correctly under its corresponding <Form> Tag, which is nested correctly in its <P> Tag.

Figure 230 Correct nesting of the question, <Form> Tag and annotation in the Tags Tree (Foxit PDF Editor).

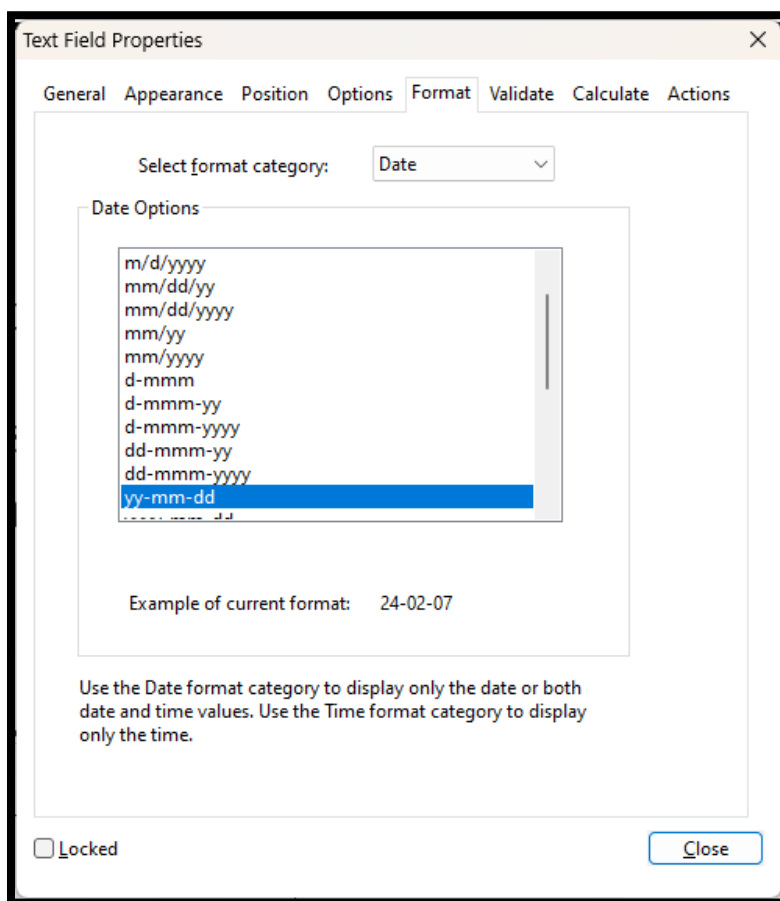


Determining a Value for Form Controls

There are a couple of form controls that you may need to add values for. These are date and birthdate form controls, dropdown lists, or combo list form controls and calculated fields.

For date and birthdate form controls, ensure that the format you want is identified both in the written text of the document and in the ToolTip. For example, Date (yy-mm-dd).

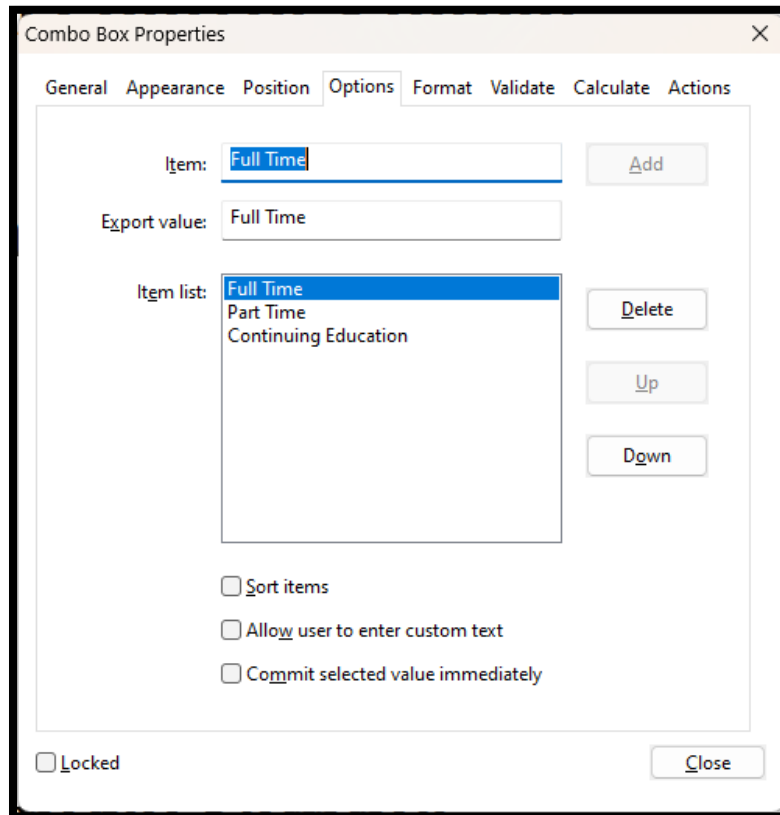
Figure 231 Text Field Properties dialog showing Format tab and date format selected (Foxit PDF Editor).



For dropdown lists, while the Properties dialog is open, press Ctrl + Tab to move to the Options tab.

Add each of the options for the question. As each one is added, press Alt + A to add them to the list of possible choices.

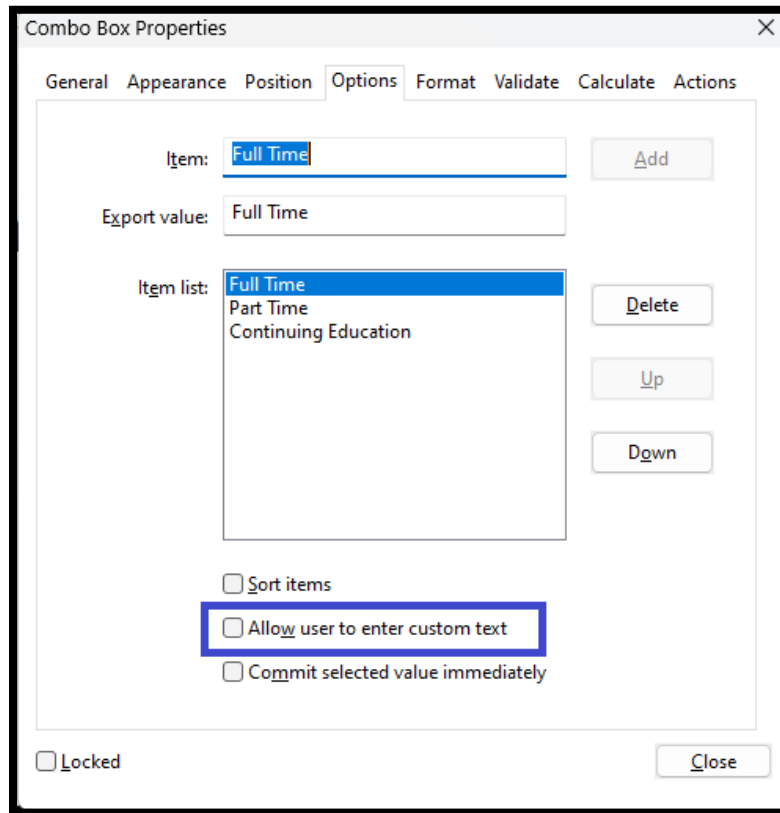
Figure 232 Text Field Properties dialog, Options tab with dropdown list entries showing a default entry (Foxit PDF Editor).



If you want people to be able to add their own value, check the check box to allow customized entries.

A caveat to letting people add custom text to a Combo List is that they can add anything to the list, whether it makes sense or not.

Figure 233 Text Field Properties dialog with entries set showing check box for allowing custom text entry (Foxit PDF Editor).



The default value can be chosen by pressing Tab to move to the list of possible answers and selecting the one that you want to be the default. For example, if you know that most students filling out questions on student status will be Full-Time students, making it the default will speed up filling out the form by end-users.

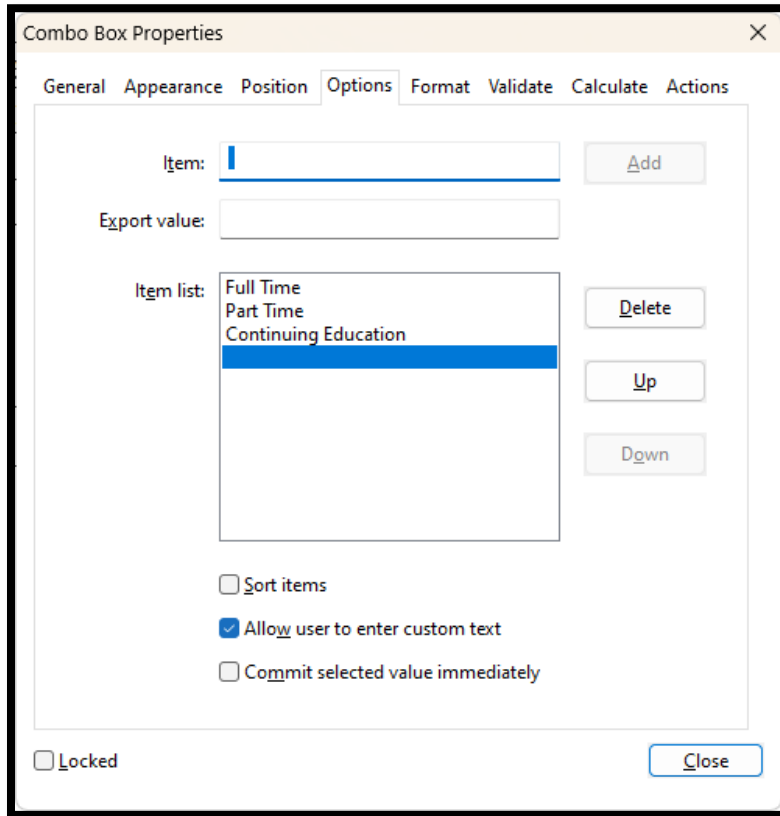
When a Combo List is added to a PDF form, the default can be blank to allow the end-user to fill in something. However, think about this strategy before implementing it.

Although you want to give people the option to fill in their own answers, the intent is that you haven't thought of all possibilities. Taking the example of student status, if the default is blank, you will have people filling out the form, adding the elements you added to save time.

For example, if you think most of the students filling out the form will be Full-Time students, making Full Time the default lets them skip to the next question. Some people filling out the form may start typing Full Time without looking at the list of other options.

If you want the default to be blank, the technique is to put a space in the Items area of the Options dialog and add it to the list, then select it as the default.

Figure 234 Object Properties dialog showing a blank option for a Combo List (Foxit PDF Editor).



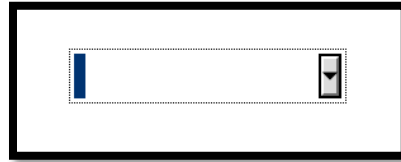
In the PDF form, once we either test the form or Close the Prepare Form tools, the form control looks like a Text form control. This can be confusing to those who see the dropdown indicator on the right but don't see any choices. Those using screen readers will be told this is a Combo list and will press Alt + Down Arrow to open the list.

Figure 235 Combo list in a PDF document with no default choice (Foxit PDF Editor).



When someone Tabs to the form control, they will see the space if they aren't using a screen reader but are a keyboard user. This might be visually confusing.

Figure 236 Combo list in a PDF form in edit mode showing the space used to create the default blank entry (Foxit PDF Editor).



Use Combo lists wisely and anticipate that even if someone types in “Full Time” there are several ways of typing those two words. You’ll need to sort through them as the form comes in. This takes even more work if just the data is sent to you.

Checkboxes have a value of either checked or unchecked. This information is available to those using adaptive technology. You don’t have to do anything to identify the state/value of checkboxes. You do have to add a ToolTip for each question for checkboxes.

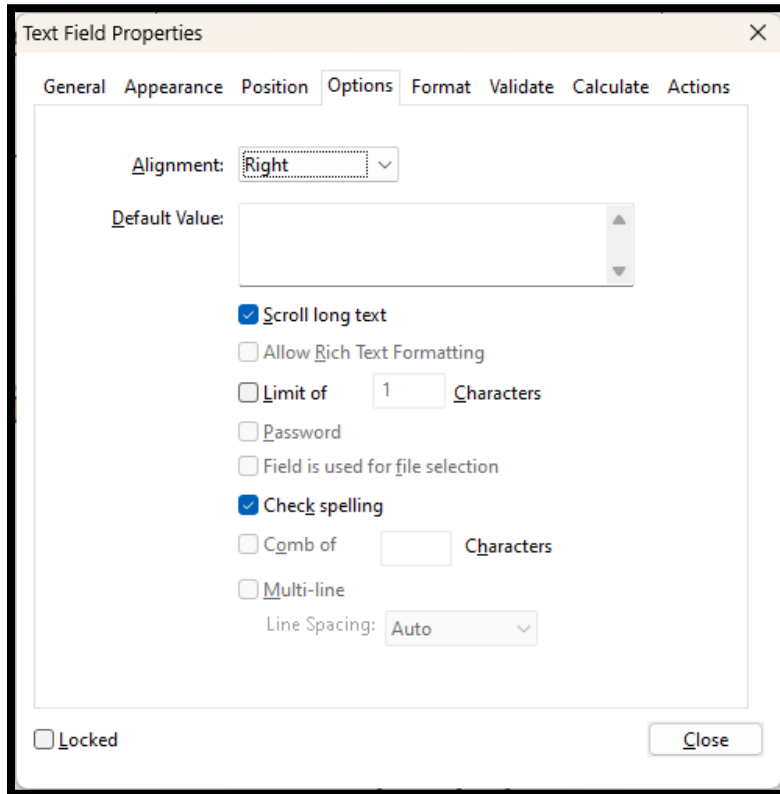
For long questions, it is OK to summarize the question. This avoids those using screen readers listening to long reams of text for each form control that might be related to a single question. For example, check boxes or radio button. Text form controls asking for an abstract can also be summarized, however, it is essential that a specific format, word, or character limit is included in a ToolTip and the full text of the question is tagged correctly in the Tags Tree.

When calculated form controls are added, there are three tabs to consider:

- The Options tab to determine alignment.
- The Format tab to determine currency or number.
- The Calculate tab to create the calculation.

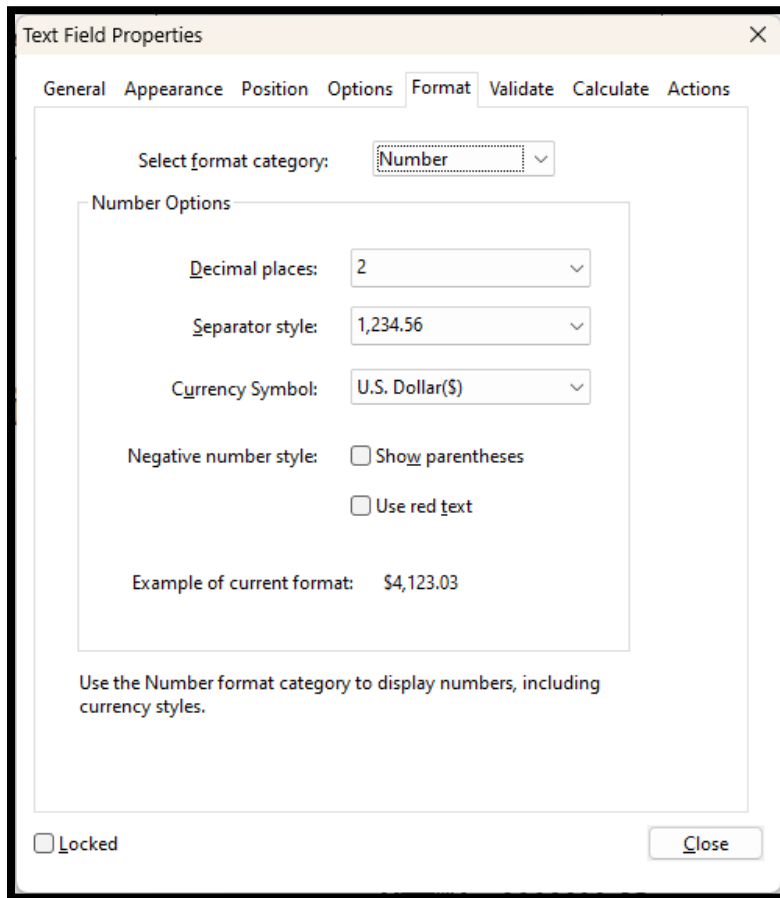
After adding the Tooltip and identifying whether the form control is read-only or not, move to the Options tab and choose an alignment. Typically, numbers are Right aligned while the text is Left aligned. Do not use Full Justification on text! It creates an accessibility barrier.

Figure 237 Text Field Properties dialog, Options tab showing Alignment (Foxit PDF Editor).



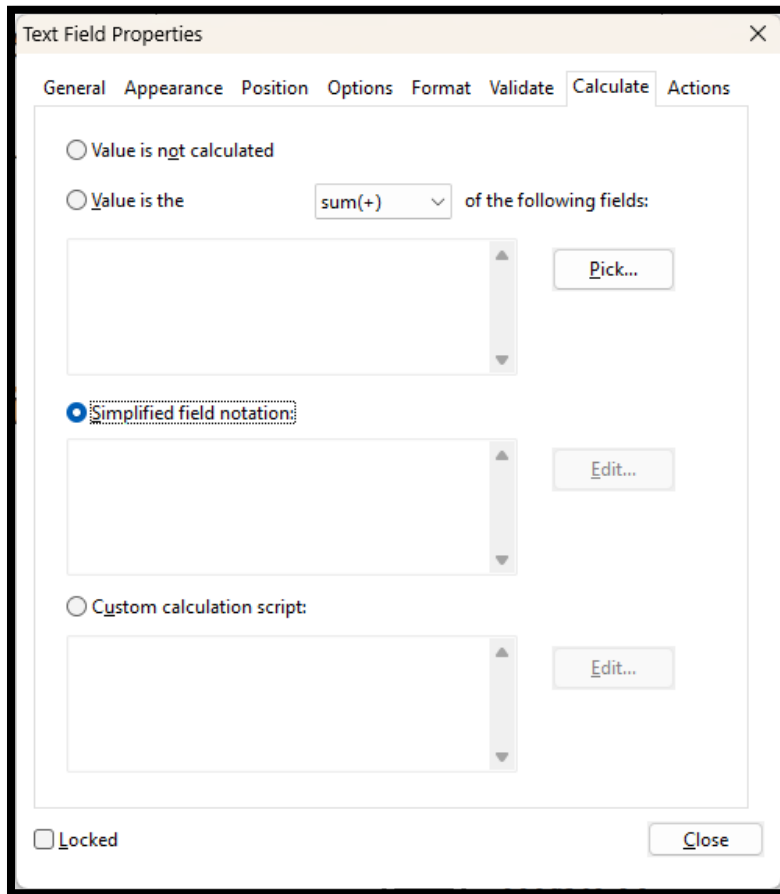
The next step is to move to the Format tab and choose a number format and currency as needed.

Figure 238 Text Field Properties dialog, Format tab, Number and Currency format (Foxit PDF Editor).



The last step is to move to the Calculate tab and create the calculation.

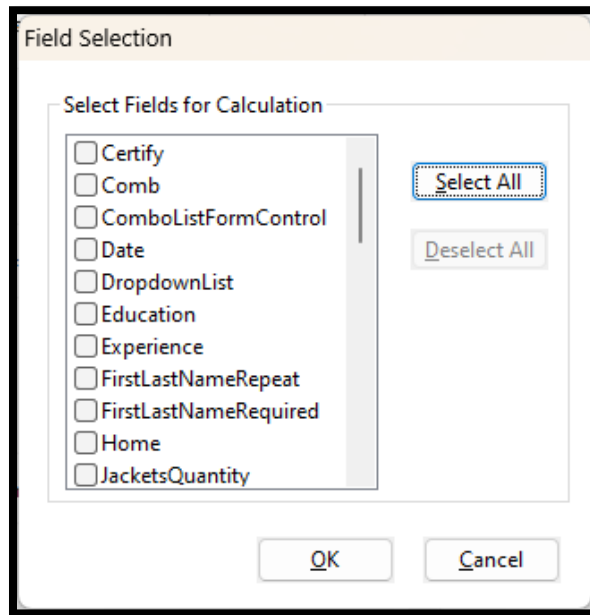
Figure 239 Text Field Properties dialog, Calculate tab showing Simplified Notation selected (Foxit PDF Editor)



If you choose to make minor calculations such as simple addition, subtraction, multiplication or division, the option for “Value is the...” is the choice to make. This lets you choose the amounts to be calculated by name.

The best reason for giving form controls a meaningful name is when calculated form controls are in a form. The meaningful names provide a means to pick the ones you want for calculations.

Figure 240 Field Selection dialog showing a list of named form controls (Foxit PDF Editor).



For some calculated form control, you won't want the end-user to be able to modify amounts. For these form controls, check the check box to make them Read-Only (General tab).

When all the attributes for a form control are assigned, Click on the Close button.

PDF 13: Providing replacement text using the /Alt entry for links in PDF documents

Not all links need Alt Text. For example, if a link is text, it doesn't require Alt Text on the <Link> Tag. Consider a Table of Contents where the text is in the <TOCI> Tag alongside the <Link> Tag. The "link" is already accessible, and the Heading text has been used to create the <>TOCI Tag.

Another example of when a link doesn't require Alt Text is for Footnotes, Endnotes, and a Bibliography. The purpose of those links is to provide long web addresses as citations and references.

WCAG Success Criteria

[PDF13: Providing replacement text using the /Alt entry for links in PDF documents¹⁰⁶](#).

- Sufficient to meet [2.4.4 Link Purpose \(In Context\)](#)¹⁰⁷ (WCAG 2.0 A) when used with [G91: Providing link text that describes the purpose of a link](#)¹⁰⁸.
 - [Understanding 2.4.4 Link Purpose \(In Context\)](#)¹⁰⁹.
- Sufficient to meet [2.4.9 Link Purpose \(Link Only\)](#)¹¹⁰ (WCAG 2.0 AAA).
 - [Understanding 2.4.9 Link Purpose \(In Only\)](#)¹¹¹.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

14.9 Accessibility Support.

14.9.1 General.

¹⁰⁶ PDF 13 Providing replacement text using the /Alt entry for links in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF13>

¹⁰⁷ Success Criteria 2.4.4 Link Purpose (In Context), W3C: <https://www.w3.org/TR/WCAG22/#link-purpose-in-context>

¹⁰⁸ Guideline 91: Providing link text that describes the purpose of a link, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/general/G91>

¹⁰⁹ Understanding 2.4.4 Link Purpose (In context), W3C: <https://www.w3.org/WAI/WCAG22/Understanding/link-purpose-in-context.html>

¹¹⁰ Success Criteria 2.4.9 Link Purpose (Link Only), W3C: <https://www.w3.org/TR/WCAG22/#link-purpose-link-only>

¹¹¹ Understanding 2.4.9 Link Purpose (Link Only), W3C: <https://www.w3.org/WAI/WCAG22/Understanding/link-purpose-link-only.html>

Accessible Links in PDFs (and Other Digital Content Types)

Links in documents and presentations have different purposes than links on webpages or in HTML. Typically, links in the body of a document or presentation have Alt Text, while reference links do not. However, when looking at presentations, the purpose of the link during the presentation can differ from the purpose of the link in a handout. Consider whether the audience is supposed to follow a link during a presentation. Which will convey the purpose or “intent” of the link? The long web address means that the audience can go to the link quickly during a presentation, whereas only having the Alt Text available can lead audience members to different websites as they struggle to find the right one. Then, when the presentation is being prepared for a handout, Alternate Text can provide the context or purpose of a link in a handout. This lets those reading the handout quickly locate and activate the link they want.

In documents and presentations, the context has many grey areas. Content authors and PDF remediators must think about the context of a link and the end format of the content. For example, if a document is going to be Brailled, the long web address provides the link in context as the “Text to Display”, or Alt Text may not allow the link to be identified as a link and, in Braille, it is essential to have the long web address, even in the body of the document or presentation. This may be a remediation needed if there is a request for Braille.

Not all links require Alt Text. For example, reference links in Footnotes, Endnotes and Bibliography. Another example of links that do not require Alt Text are links in the <TOCI> Tag in a Table of Contents. Links in the <TOCI> Tag are part of a structure element containing text. Adding Alt Text to links in a <TOC> breaks the accessibility of the Table of Contents.

Adobe Acrobat Pro DC

Add Alt Text to a <Link> Tag

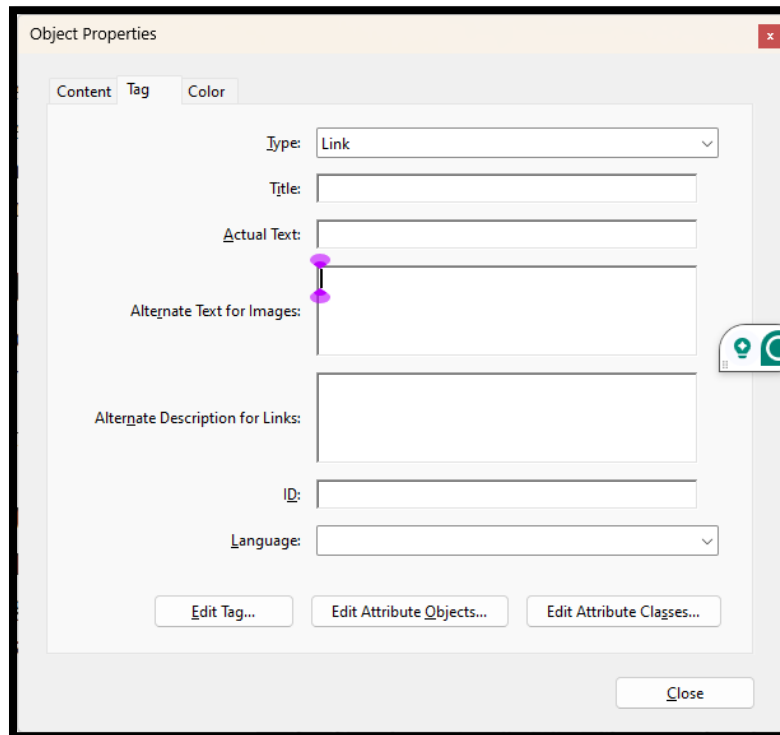
Alt Text is added to the <Link> Tag in the Tags Tree.

Press the AppKey or right-click on the <Link> Tag and choose Properties.

In the Properties dialog, add the Alt Text. Avoid adding both Alt Text and Actual Text.

Avoid using preface text such as “Select this link to go to...” or “Go to...”. This type of preface text prevents us from using first character navigation to quickly find a link by its purpose. For example, Contact Karen can be accessed by getting a list of links and pressing the letter C for Contact. If more than one link starts with C, the character is repeatedly pressed until Contact Karen is found. This saves time as we look for specific links in documents.

Figure 241 Object Properties dialog showing Alternative Text area (Adobe Acrobat Pro DC).



Foxit PDF Editor

Add Alt Text to a <Link> Tag

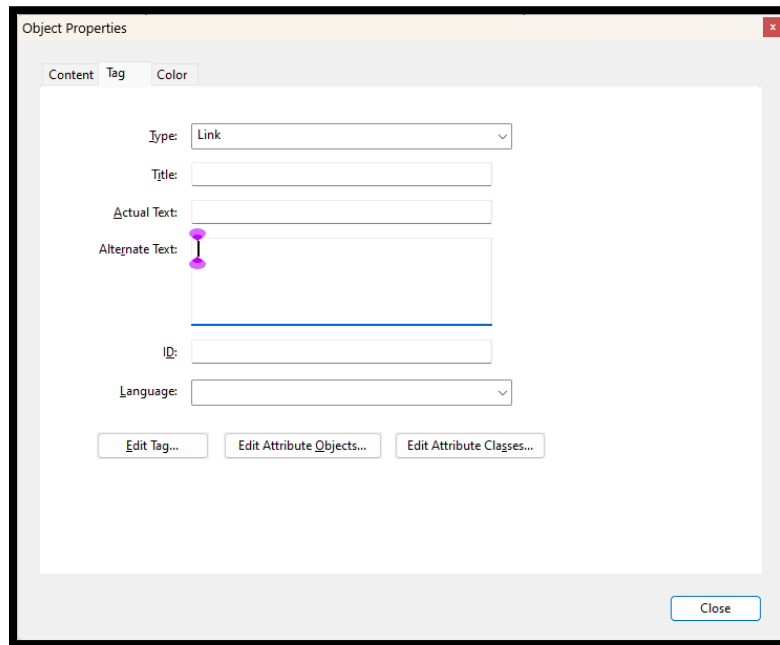
Alt Text is added to the <Link> Tag in the Tags Tree.

Right-click on the <Link> Tag and choose Properties.

In the Properties dialog, add the Alt Text. Avoid adding both Alt Text and Actual Text.

Avoid using preface text such as “Select this link to go to...” or “Go to...”. This type of preface text prevents us from using first character navigation to quickly find a link by its purpose. For example, Contact Karen can be accessed by getting a list of links and pressing the letter C for Contact. If more than one link starts with C, the character is repeatedly pressed until Contact Karen is found. This saves time as we look for specific links in documents.

Figure 242 The Object Properties dialog shows the Alternative Text area (Foxit PDF Editor).



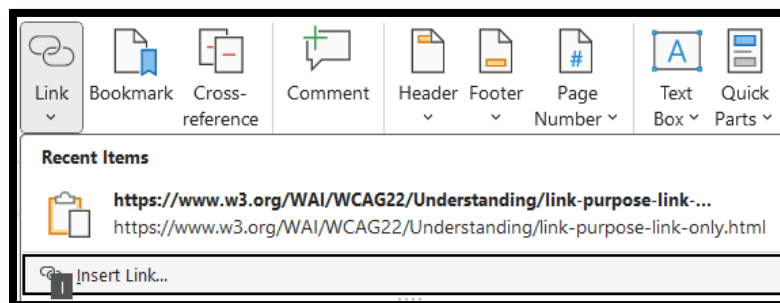
Word (Microsoft 365)

Add Alt Text to Links

In Word, the Alt Text for links is “Text to Display” and can be accessed in the Insert Hyperlink dialog by pressing Alt + T. Press Alt + E to return to the Address edit area.

Press Ctrl + K to open the Insert Hyperlink dialog. If you want to use the Ribbon, go to the Insert Ribbon, Link, Insert Link (Alt + N, letter I, letter I).

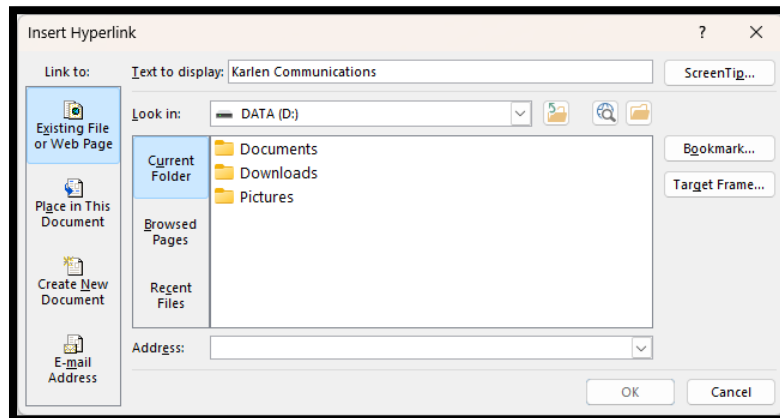
Figure 243 Insert Ribbon, Link, Insert Link option (Microsoft Word 365).



When the Insert Hyperlink dialog opens, the focus is in the edit area where you can paste or type in the long web address.

Avoid adding shortcuts to links such as “karlencommunications.com”. Most PDF Editor conversion tools require long web addresses to create the accessible link.

Figure 244 Insert Hyperlink dialog (Microsoft Word 365).



Once the text to display/Alt Text and the long web address is entered, press Enter while the focus is in either area of the Insert Hyperlink dialog.

Avoid using preface text such as “Select this link to go to...” or “Go to...”. This type of preface text prevents us from using first character navigation to quickly find a link by its purpose. For example, Contact Karen can be accessed by getting a list of links and pressing the letter C for Contact. If more than one link starts with C, the character is repeatedly pressed until Contact Karen is found. This saves time as we look for specific links in documents.

PowerPoint (Microsoft 365)

Add Alt Text to Links

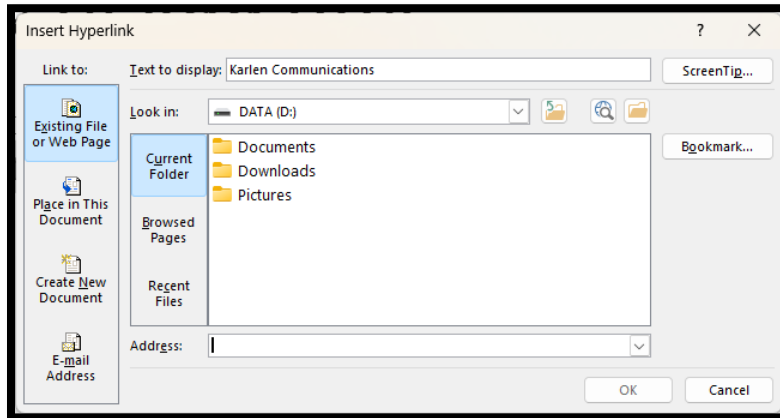
On PowerPoint slides, the Alt Text for links is called “Text to Display” in the Insert Hyperlink dialog.

Press Ctrl + K to open the Insert Hyperlink dialog. You can also press Alt + N, letter I, letter I for the Insert Ribbon, Link, Insert Link.

Avoid adding shortcuts to links such as “karlencommunications.com”. Most PDF Editor conversion tools require long web addresses to create the accessible link.

When all the information is entered, Tab to and activate the OK button. If the focus is in either the Text to Display or Address edit areas, press Enter to close the Insert Hyperlink dialog.

Figure 245 Insert Hyperlink dialog with Text to Display and Address areas (Microsoft PowerPoint 365).



Avoid using preface text such as “Select this link to go to...” or “Go to...”. This type of preface text prevents us from using first character navigation to quickly find a link by its purpose. For example, Contact Karen can be accessed by getting a list of links and pressing the letter C for Contact. If more than one link starts with C, the character is repeatedly pressed until Contact Karen is found. This saves time as we look for specific links in documents.

PDF 14: Providing running headers and footers in PDF documents

Not all PDF documents require page Headers or Page Footers. This is not a requirement for the ISO PDF standards. The presence of Page Headers and Page Footers depends on the type of document. Some source documents don't have page numbers. For example, one-page memos, short documents less than 5 pages, and some slide presentations. The addition of page numbers is up to the content author.

WCAG Success Criteria

[PDF14: Providing running headers and footers in PDF documents](#)¹¹².

- Advisory for [2.4.8 Location](#)¹¹³ (WCAG 2.0, 2.1, 2.2 AAA)..
 - [Understanding 2.4.8 Location](#)¹¹⁴.
- Advisory for [3.2.3 Consistent Navigation](#)¹¹⁵ (WCAG 2.0, 2.1, 2.2 AA).
 - [Understanding 3.2.3 Consistent Navigation](#)¹¹⁶.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.8 Page headers and footers.

ISO 32000 – 1:2008.

Page Labels.

In PDFs, Page Headers, Page Footers, and Page Numbers are Artifacts

Page Headers and Page Footers are unavailable in the same sense that “running headers” are in HTML web pages. Typically, Page Headers and Page Footers, as well as page numbers, are not read as part of the overall body text of a document. In

¹¹² PDF 14 Providing running headers and footers in PDF documents, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF14>

¹¹³ Success Criteria 2.4.8 Location, W3C: <https://www.w3.org/TR/WCAG22/#location>

¹¹⁴ Understanding 2.4.8 Location, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/location.html>

¹¹⁵ Success Criteria 3.2.3 Consistent Navigation, W3C: <https://www.w3.org/TR/WCAG22/#consistent-navigation>

¹¹⁶ Understanding 3.2.3 Consistent Navigation, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/consistent-navigation.html>

presentations, they are in accessible placeholders that can be accessed by adaptive technology, if the default Header/Footer and Slide Number placeholders are used. In word-processed and desktop publishing documents, they are “non-printing elements” or Artifacts once the content is converted to tagged PDF. In Word, there is a keyboard command to go into the Page Header or Page Footer and add content such as the document name, page numbering or an organizational logo.

Complicating the use of Page Headers and Page Footers is that in word-processed and desktop-published documents, there can be different information on odd and even pages and different Page Header and Page Footer content for each section. There can be preface pages in Roman Numerals with no page number assignment for the cover page or back page of a document.

While in Microsoft Word or PowerPoint, someone using a screen reader can use a keyboard command to determine that page or slide number they are on, in PDFs this is available using Page Labels.

Avoid tagging page numbers!

Why not Tag Page Numbers in PDFs?

Page Labels are used instead of tagging page numbers in PDFs. If page numbers were tagged, there would be additional accessibility barriers created.

For example, if a paragraph spans two pages, adding the page number in the middle of the paragraph interrupts the ability to understand the content of the paragraph.

The dilemma then becomes how to add the page number if it is tagged: before the paragraph or after the paragraph.

This dilemma is made worse when the PDF has a table that spans several pages. For example, if a table spans 4 pages, do all page numbers get inserted into the Tags Tree before or after the table? How can someone verify the page number they are on when citing information in a table that spans 4 pages if all the page numbers are tagged before or after the table?

Page Labels let everyone, including those using adaptive technology, quickly go to a specific page in a document. For example, pressing Ctrl + Shift + N in Adobe Reader or Adobe Acrobat Pro DC and typing in a page number takes you to that page. This is true even if the page number is a Roman Numeral. Without using Page Labels in PDFs, if the PDF has preface pages in Roman Numerals, someone can ask to go to page “iii” they will be told there is no such page. It is only by using Page Labels to identify the preface pages and page numbering in other sections of the PDF that accurate page number information can be accessed by everyone.

Additionally, both the JAWS (Job Access With Speech) and NVDA (Non-Visual Desktop Access) screen readers have keyboard commands to read the Page labels.

Adobe Acrobat Pro DC

Implementing Page Labels

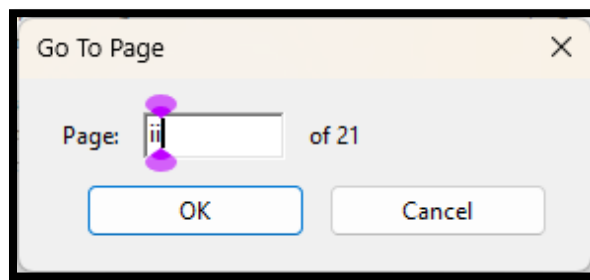
Go to the Pages Panel in the Navigation Pane in Adobe Acrobat Pro DC.

In this example, the PDF is a report with a cover page, two preface pages using Roman Numerals as page numbers and the remainder of the PDF uses numbers starting at 1.

The first page in the sample document is the cover page. Typically, this page does not have a page number. However, there are times when someone wants to get back to the document's cover.

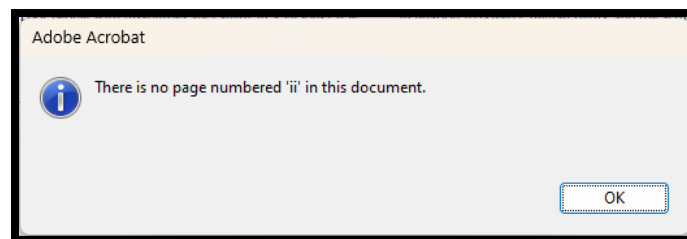
If Page Labels are not used, and anyone tries to go to one of the pages with a Roman Numeral, they will get an error message.

Figure 246 Go To Page dialog (Adobe Acrobat Pro DC).



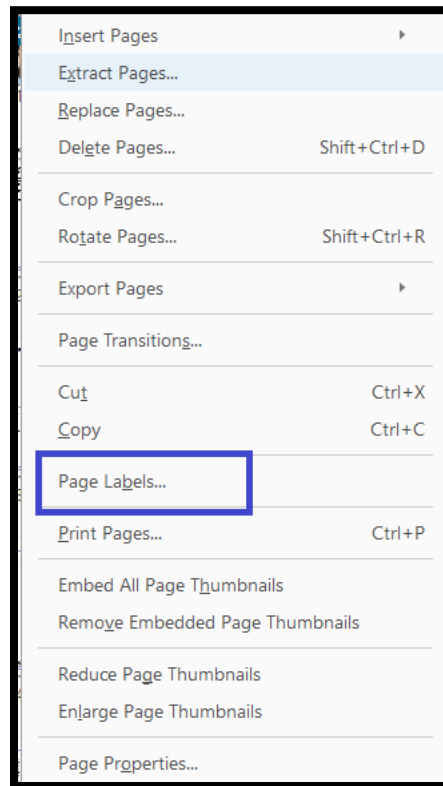
The following graphic illustrates an error message stating that there is no page “i” in the PDF.

Figure 247 Adobe Acrobat dialog saying that the page with the Roman Numeral is not found (Adobe Acrobat Pro DC).



In the Pages Panel, select the cover page and right-click to open the context menu.

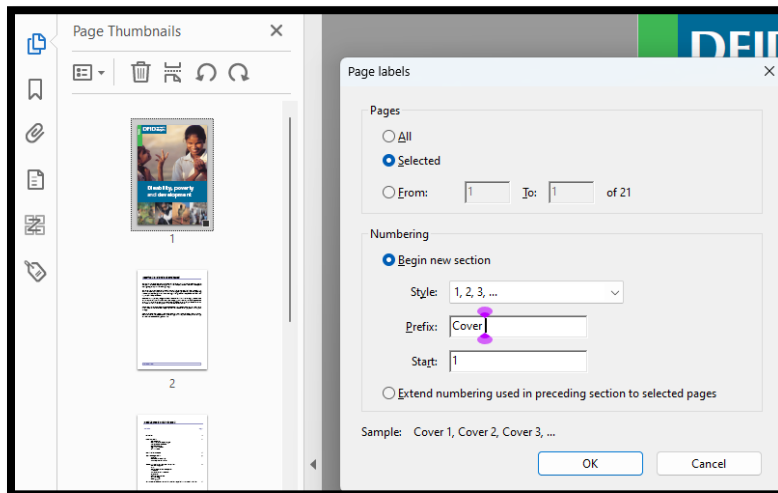
Figure 248 Pages Panel context menu showing Page Labels (Adobe Acrobat Pro DC).



Choose Page Labels.

This opens the Page Labels dialog.

Figure 249 Pages Panel and Page Label dialog (Adobe Acrobat Pro DC).



By default, page numbering starts with page 1 as the first page of a document. It doesn't matter what the page numbering system is in the PDF until Page Labels are implemented; the first page of a PDF is page 1.

In the Page Labels dialog, keep the "Selected" pages checked.

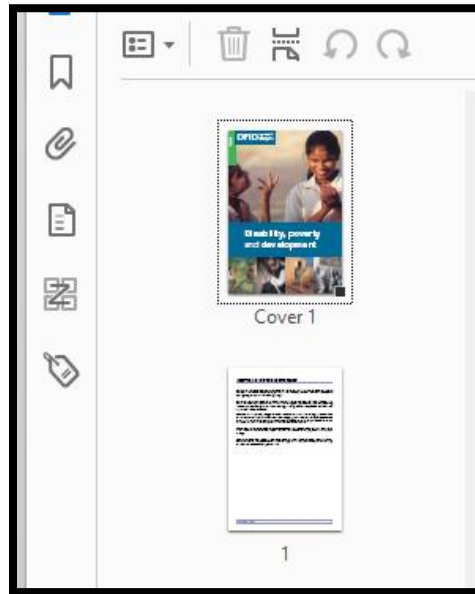
Move to the Numbering section of the dialog. In this example, I've kept the page number as 1 as it is easier for people to think of the cover page as page 1.

However, I've added a prefix to distinguish it from the actual page 1 of the document. The prefix I've added is the word Cover followed by a space. The space is important. If space isn't added, it won't be added to the numbering system.

A sample of what the page numbering, or Page Label, will look like is in the lower left of the dialog.

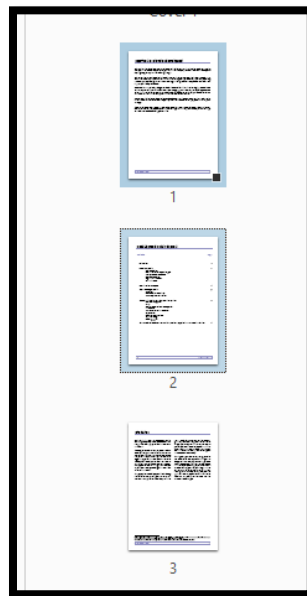
Once the OK button is activated, the Page Label or number is changed in the Pages Panel, as shown in the following graphic.

Figure 250 The cover page of a PDF once a Page Label has been implemented (Adobe Acrobat Pro DC).



The next step is to select the pages with Roman Numerals in the Pages Panel. This can be done by clicking on one, holding down the Ctrl key and clicking the second page. Clicking on one page with a Roman Numeral, holding down the Shift key and then using the Down Arrow will also select the second page.

Figure 251 Two Roman Numeral pages in the pages Panel and the first page of the document content (Adobe Acrobat Pro DC).



The following graphic illustrates the two selected pages and the page following the Roman Numeral pages.

With the mouse over one of the two pages that should be Roman Numerals (for reference), right-click and choose Page Labels. The Page Labels dialog opens.

The Page Labels dialog opens.

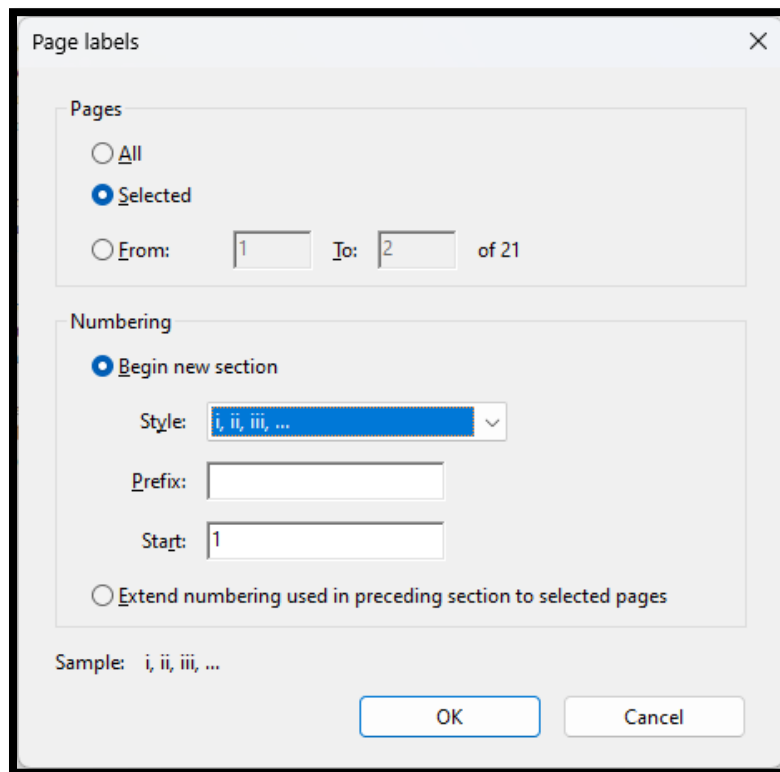
Keep the Selection checked to apply the Page Labels to the two selected pages.

Remember to remove the preface text “Cover” And the space before you activate the OK button.

In the list of Numbering Styles, choose the Roman Numerals.

You can check to make sure that the Page Labels are what you want them to be in the lower left of the Page Labels dialog.

Figure 252 Page Label dialog showing a change in page numbering to Roman Numerals (Adobe Acrobat Pro DC).

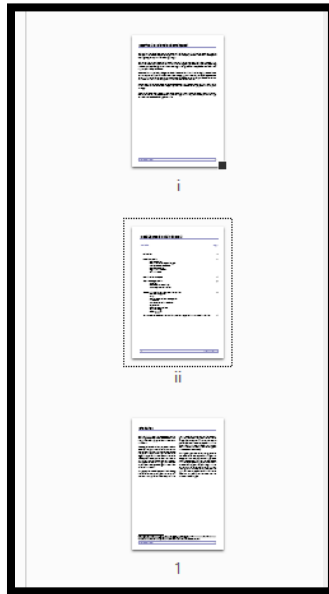


Once the OK button is activated, the two pages will display the correct page Label of Roman Numerals and the designation of Page 1 moves to the first page of the report text in the PDF.

Although the Page Labels now look appropriate for the PDF, it is suggested that Page Labels be verified for the remainder of the PDF if the rest of the page numbers start at 1 and end at the last page of the PDF.

If the PDF has a back cover, it is up to the remediator whether the page is isolated and given its own Page Label.

Figure 253 The pages panel showing the two pages with Roman Numerals and the start of the report text on page 1 (Adobe Acrobat Pro DC).



The last step is to select the remaining pages. This can be done by putting focus on Page 1 and pressing Ctrl + Shift + End.

Although the numbering starts at 1 by default, we want to ensure that the numbering can be accessed using Ctrl + Shift + N and by the adaptive technology keyboard commands. Ensuring this by using Page Labels takes a few seconds and eliminates any remediation needed for page numbering.

With the remainder of the pages in the PDF selected, right-click and choose Page Labels.

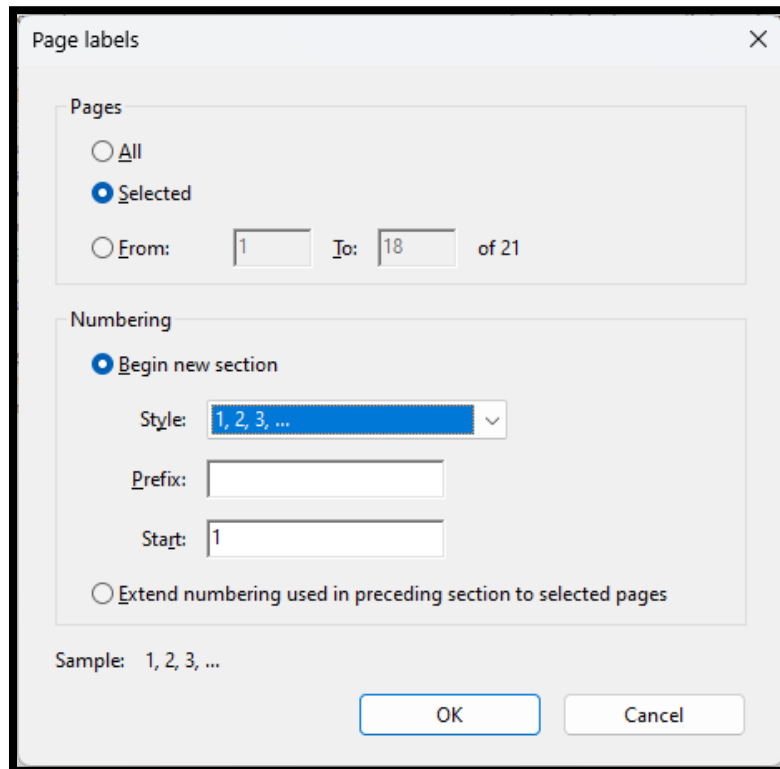
The Page Labels dialog opens.

Keep the Selected checked in the Pages section of the dialog.

Verify that the page numbering starts at page 1.

Activate the OK button.

Figure 254 The Page Labels dialog shows page numbering starting at page 1 (Adobe Acrobat Pro DC).



Save the PDF, exit Acrobat Pro DC, launch Acrobat Pro DC again and test the Page Labels using Ctrl + Shift + N.

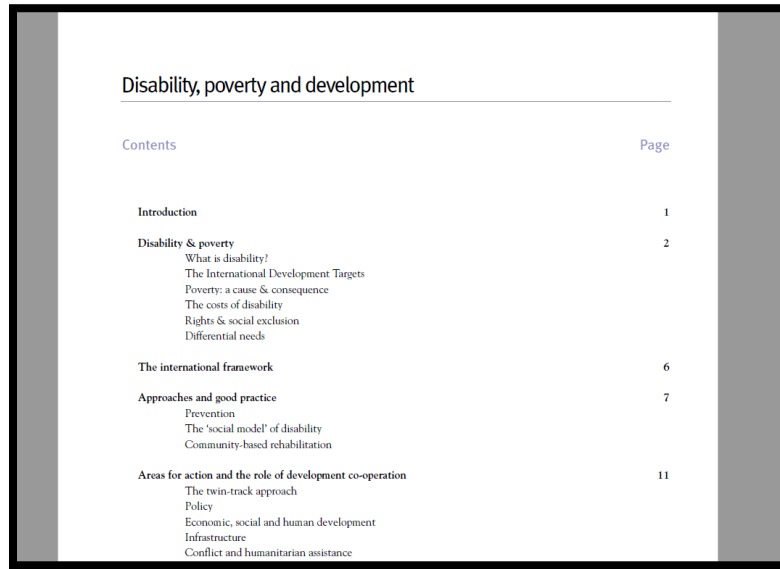
Once the Page Labels are added, Ctrl + Shift + N is pressed, and the Roman Numeral “I” is entered, followed by pressing Enter. A person is taken to the page in the document. Likewise, if someone wants to go to page 1 in the document, the first page with content/the document's body, they can be taken to that page in the PDF.

This technique can be used to go to any of the other pages in the PDF to ensure that they can easily be navigated.

When testing Page Labels with either JAWS or NVDA, ensure that the Tools Task Pane and the Navigation Pane are closed/hidden. Press F4 to close or open the Navigation Pane and Shift + F4 to close or open the Tools Task Pane.

The keyboard commands to read Page Labels are JawsKey + Page Down and NVDA key + End.

Figure 255 Page ii in a PDF once Page Labels were assigned (Adobe Acrobat Pro DC).



The image shows a screenshot of a PDF document's table of contents. The title 'Disability, poverty and development' is at the top. Below it, the word 'Contents' is on the left and 'Page' is on the right. The table lists sections and their corresponding page numbers: Introduction (1), Disability & poverty (2), The international framework (6), Approaches and good practice (7), and Areas for action and the role of development co-operation (11). Each section has sub-items listed below it.

Contents	Page
Introduction	1
Disability & poverty	2
What is disability?	
The International Development Targets	
Poverty: a cause & consequence	
The costs of disability	
Rights & social exclusion	
Differential needs	
The international framework	6
Approaches and good practice	7
Prevention	
The 'social model' of disability	
Community-based rehabilitation	
Areas for action and the role of development co-operation	11
The twin-track approach	
Policy	
Economic, social and human development	
Infrastructure	
Conflict and humanitarian assistance	

Foxit PDF Editor

“Format Page Numbers”

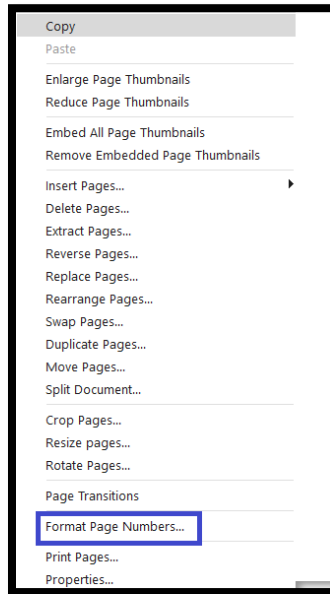
The Foxit PDF Editor uses the language “Format Page Numbers” instead of Page Labels.

In the Pages Panel, select the cover page and right-click to open the context menu.

Choose Format Page Numbers.

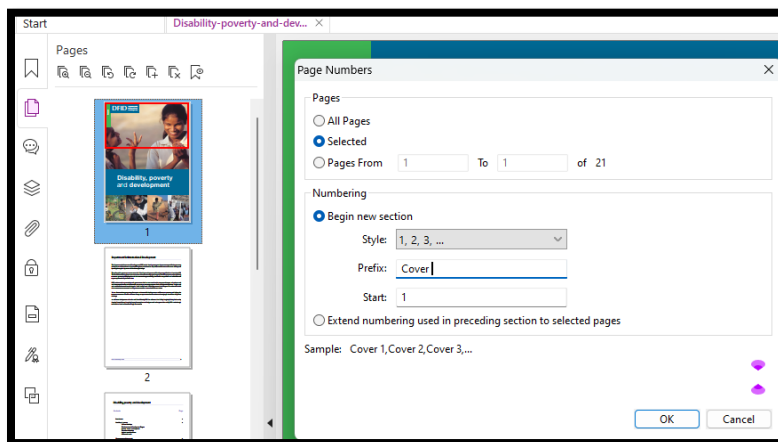
This opens the Page Numbers dialog.

Figure 256 Format Page Numbers in the Pages Panel (Foxit PDF Editor)



By default, page numbering starts with page 1 as the first page of a document. It doesn't matter what the page numbering system is in the PDF until Page Labels are implemented using the Format Page Numbers; the first page of a PDF is page 1.

Figure 257 Pages Panel showing a cover page selected and the Page Numbers dialog (Foxit PDF Editor).



In the Page Numbers dialog, keep the “Selected” pages checked.

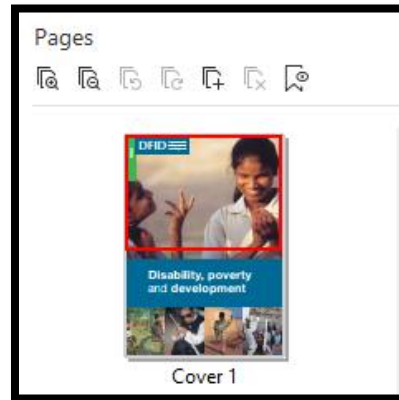
Move to the Numbering section of the dialog. In this example, I've kept the page number as 1 as it is easier for people to think of the cover page as page 1.

However, to distinguish it from the actual page 1 of the document, I've added a prefix. The prefix I've added is the word Cover followed by a space. The Space is important. If space isn't added, it won't be added to the numbering system.

A sample of what the page numbering, or Page Label, will look like is in the lower left of the dialog.

Once the OK button is activated, the Page Label or number is changed in the Pages Panel.

Figure 258 Pages Panel showing "Cover 1" as the cover page number (Foxit PDF Editor).



Return to the Pages Panel and select the preface pages in Roman Numerals (as per the example). Use the Ctrl key and click on each preface page.

Right-click and choose Format Page Numbers.

Keep the "Selected" checked.

In the Numbering Style area, choose Roman Numerals.

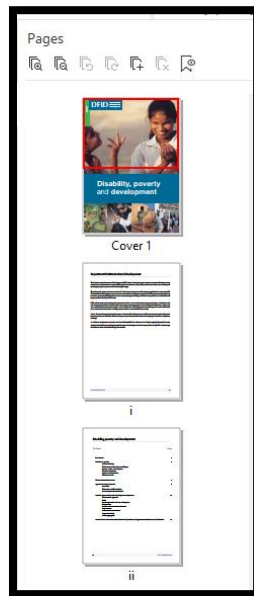
Remember to remove the preface text "Cover" and the space before you activate the OK button.

A sample of what the Page Label will look like is shown in the lower left of the page Numbering dialog.

Activate the OK button.

Once the OK button is activated, the two pages will display the correct page Label of Roman Numerals and the designation of Page 1 moves to the first page of the report text in the PDF.

Figure 259 Page Labels in the Pages Panel showing the cover page and preface pages (Foxit PDF Editor).

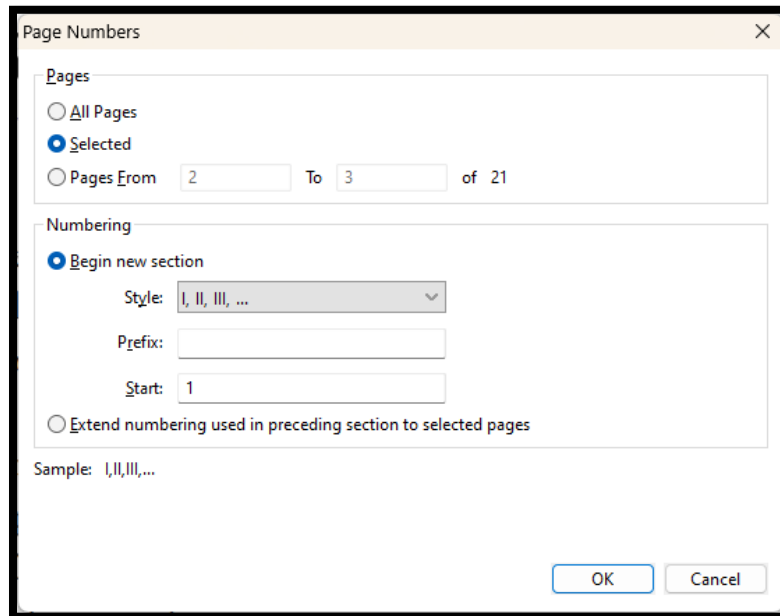


The last step is to select the remainder of the pages in the document. Although these pages will now have the Page Labels starting at 1, it is always a good idea to apply the Page Labels to ensure this is true.

Although the Format Page Numbers now look appropriate for the PDF, it is recommended that Format Page Numbers be verified for the remainder of the PDF if the rest of the page numbers start at 1 and end at the last page of the PDF.

If the PDF has a back cover, it is up to the remediator whether the page is isolated and given its own Page Label.

Figure 260 Page Numbers dialog showing the selected pages will have Roman Numeral Page Labels (Foxit PDF Editor).



In the Foxit PDF Editor, standard keyboard commands for selecting from the first selected item to the end of the items, in this case, the pages, do not work. You will need to select the page for Page 1, hold down the Shift key and then use the Down Arrow for the entire list of pages in the Pages Panel. An alternative is to use the mouse to select the rest of the pages.

With the remainder of the pages in the PDF selected, right-click and choose Format Page Numbers.

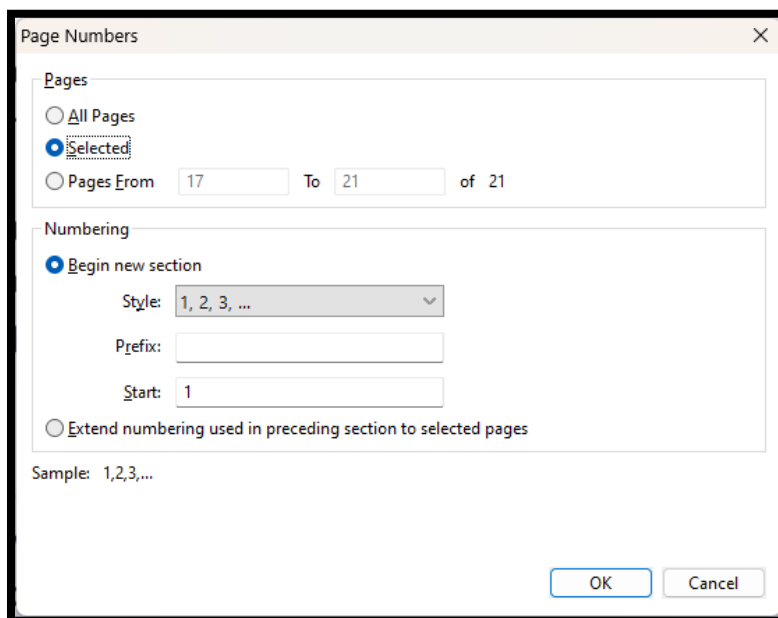
The Format Page Numbers dialog opens.

Keep the Selected checked in the Pages section of the dialog.

Verify that the page numbering starts at page 1.

Activate the OK button.

Figure 261 Page Numbers dialog showing the pages in the body of the PDF starting at page 1 (Foxit PDF Editor).



I couldn't find a keyboard command to go to a specific page for Windows. The keyboard command on a Mac is Command + G, which doesn't work, even if the Command key is translated to the Windows platform. To test this, you'll need a different PDF Editor/Reader.

When testing Page Labels with either JAWS or NVDA, ensure that the Tools Task Pane and the Navigation Pane are closed/hidden. Press F4 to close or open the Navigation Pane and Shift + F4 to close or open the Tools Task Pane.

The keyboard commands to read Page Labels are JawsKey + Page Down and NVDA key + End.

PDF 15: Providing submit buttons with the submit-form action in PDF forms

PDF forms can be submitted in several ways. They can be downloaded, filled out and e-mailed or printed and sent in by snail mail, or they can have a submit button on the form itself to allow easy form submission.

Typically, there are three buttons on a form, one for Submit, one for Print, and one for Reset. The same checkpoints should apply for all buttons on PDF forms.

WCAG Success Criteria

[PDF15: Providing submit buttons with the submit-form action in PDF forms](#)¹¹⁷.

- Sufficient to meet [3.2.2: On Input](#)¹¹⁸ (WCAG 2.0 A) when used with [G80: Providing a submit button to initiate a change of context](#)¹¹⁹.
 - [Understanding 3.2.2 Input](#)¹²⁰.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.6 Actions.

This topic has several sub-topics covering various types of actions..

All PDF Form Buttons Must be Accessible

Any button on a PDF form that results in an action must have clear labelling to let the person filling out the form know what to expect when the button is activated. The button must also be capable of keyboard activation. This is typically pressing the Spacebar or the Enter key while the button has focus.

¹¹⁷ PDF 15 Providing submit buttons with the submit-form action in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF15>

¹¹⁸ Success Criteria 3.2.2 Input, W3C: <https://www.w3.org/TR/WCAG22/#on-input>

¹¹⁹ Guideline 80, Providing a submit button to provide a change of context, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/general/G80>

¹²⁰ Understanding 3.2.2 Input, W3c: <https://www.w3.org/WAI/WCAG22/Understanding/on-input.html>

Adobe Acrobat Pro DC

Add a Submit Button to a PDF Form

On the Prepare Form Toolbar, select the Button form control.

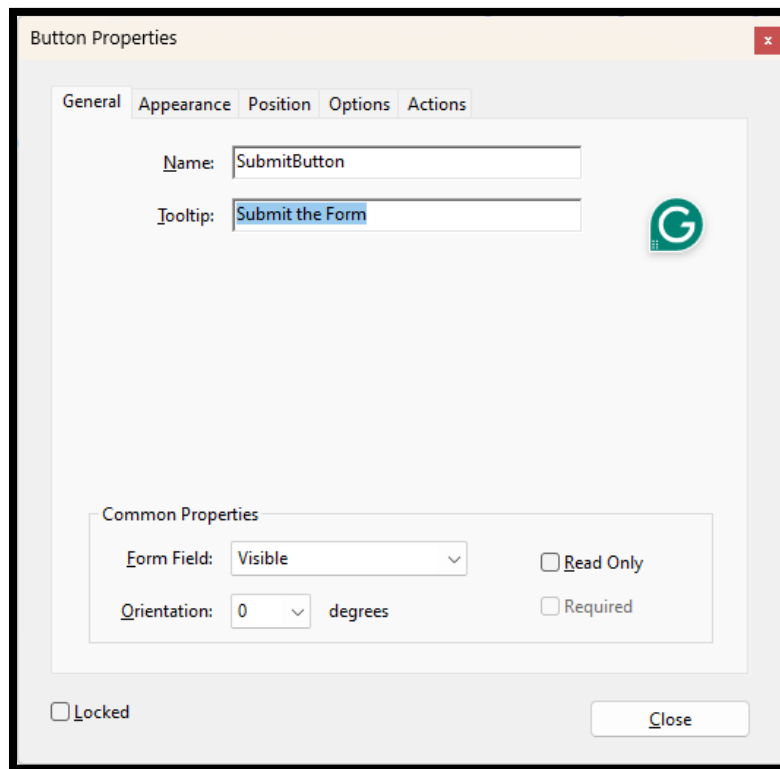
Move the mouse over the PDF and draw the area for the button form control.

When the mouse button is released, type a meaningful name for the form control. There should be no space in the name.

Click on All Properties.

In the Button Properties dialog, type the Tooltip. Even though you'll be adding a label to the button, it is essential to add the Tooltip. The Tooltip will be read to those using adaptive technology. The "Label" will be visually available to everyone else.

Figure 262 General tab in the Button Properties dialog showing the Tooltip (Adobe Acrobat Pro DC).

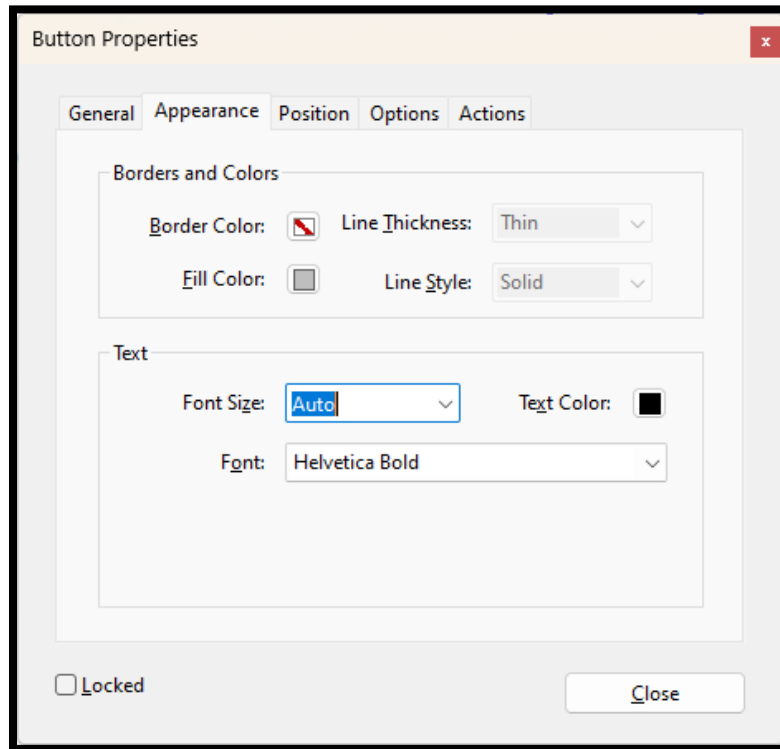


The next step is to go to the Appearance tab in the Button Properties dialog and choose Auto for the font size. This will adjust the text size to fit the button. Be aware of spacing and the size of text on buttons. Ensure that the button can be easily targeted, and the label is clear.

You can add a customized label with a bit more text than the word "submit". In the example shown here, I've added the label "Submit the Form" to provide more context

for those with disabilities not using adaptive technology. I used the same text for the Tooltip to be consistent.

Figure 263 Appearance tab in the Button Properties dialog showing Font size set to Auto (Adobe Acrobat Pro DC)

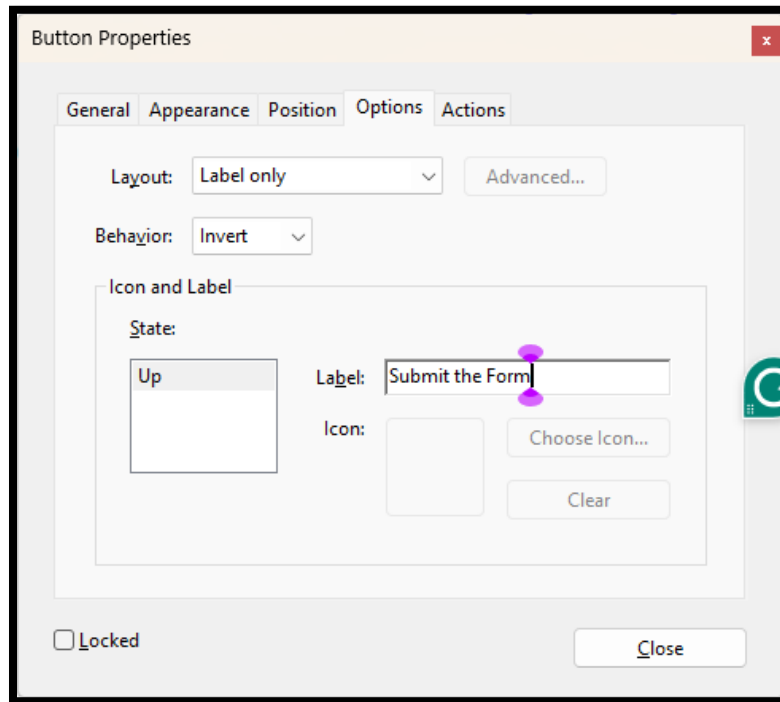


The next step is to move to the Options tab.

In the Options tab of the Button Properties dialog, add the text that will be the visual label for the button.

If the label text is not added, the button will appear as a grey square with no context. This means that someone using a screen reader or Text-to-Speech tool will hear the Tooltip but for those looking at the form, the “button” will just be a square with no context.

Figure 264 Options tab in the Button Properties dialog showing the label text added (Adobe Acrobat Pro DC).



The final step in the process of making the Submit button accessible has two steps.

Move to the Actions tab in the Button Properties dialog.

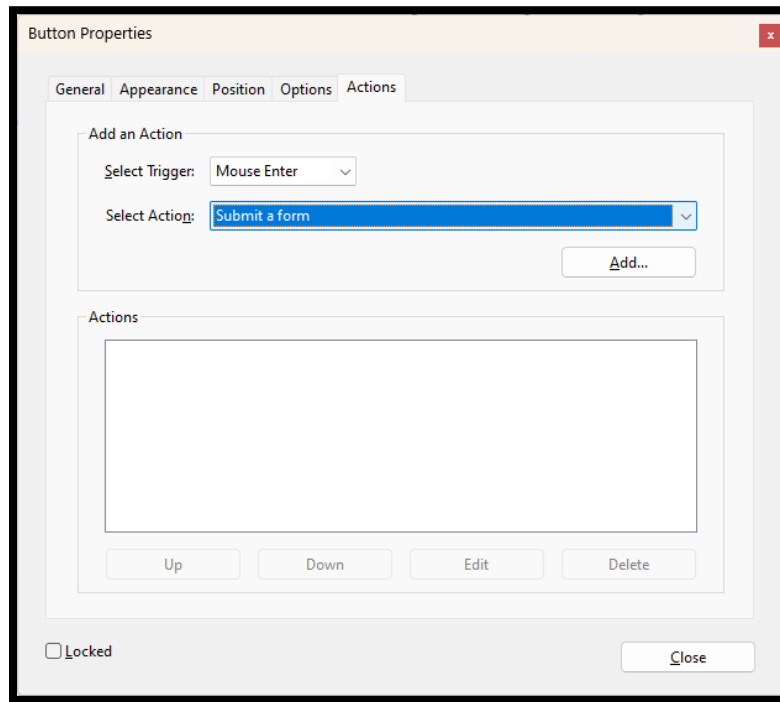
The first thing to change is the “Select Trigger” to Mouse Enter.

Then in the “Select Action” area, set the action to “Submit a Form”.

Click on the Add button.

When the Add button is activated, another dialog opens.

Figure 265 Action tab in the Button Properties dialog (Adobe Acrobat Pro DC).



The first thing to do in the “Submit Form Selections” dialog is to add an e-mail address.

In this scenario, the information from the form will be sent using e-mail.

There are two ways to do this: just send the data or send the entire PDF document.

In this example, we’ll send the entire PDF document.

In the area for “Enter a URL for this link “, type an e-mail address, making sure that the prefix “mailto:” is added. An example would be the “mailto:email-address”. There are no spaces in this text.

In the Export area, check “PDF the complete document”.

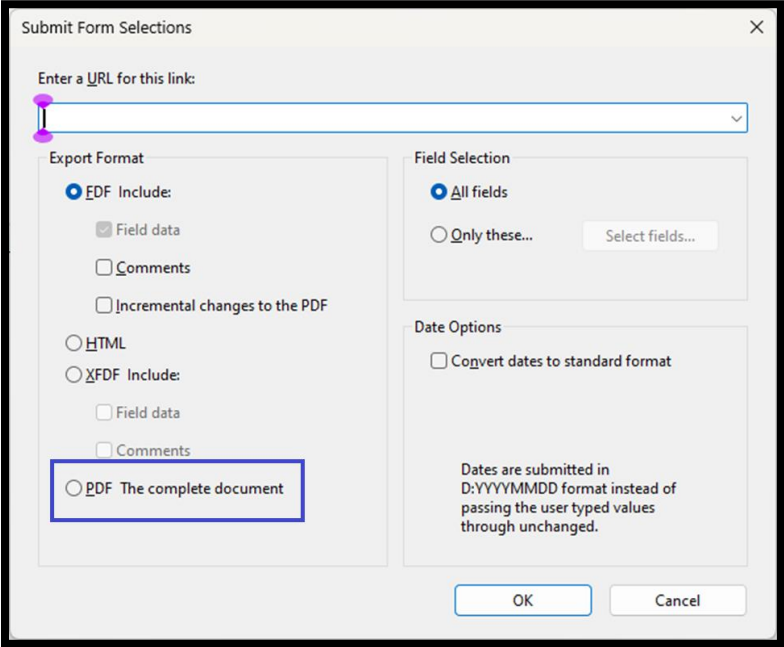
Activate the OK button.

Activate the Close button to Close the Button Properties dialog and return to the form.

Go into Preview mode and test the Submit form control.

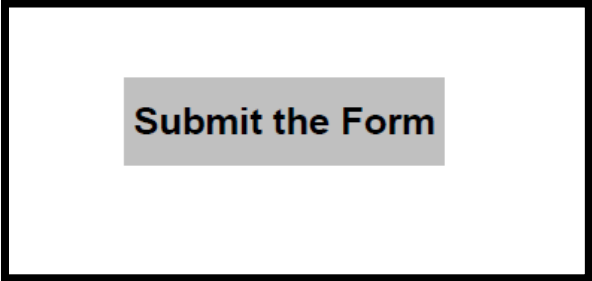
When you switch to Edit mode, ensure that you clear the form data using the Tools menu in the Tools Task pane.

Figure 266 Submit Form Selections dialog in Button Form Properties Action tab (Adobe Acrobat Pro DC).



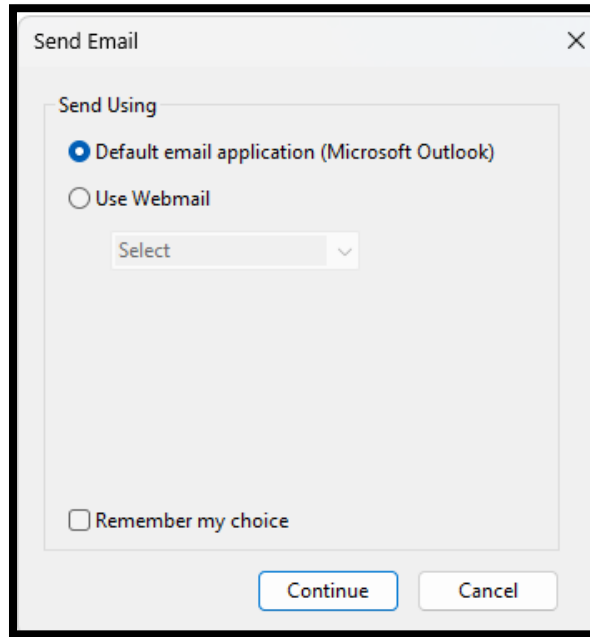
When the "Submit this Form" form Control is activated, another dialog opens asking for an e-mail client to be used.

Figure 267 Sample Submit button in a PDF form (Adobe Acrobat Pro DC).



Once the e-mail client is chosen and the Continue button is activated, the form is submitted.

Figure 268 Send Email dialog once a Submit button is activated (Adobe Acrobat Pro DC).



In testing this button, the PDF and the following message were sent to my e-mail account.

“Form Returned: Submit ButtonAcrobat.PDF.”

“The attached file is the filled-out form. Please open it to review the data.”

The “Send Email” dialog has a check box to “Remember my choice”.

Foxit PDF Editor

Add a Submit Button to a PDF Form

The first step in adding a form control with an action, such as a Submit button, is to go to the Form Ribbon and click on the icon for an action-based form control.

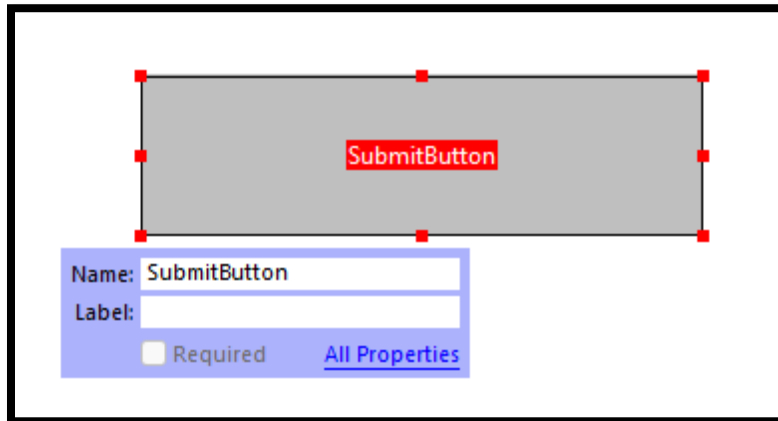
Draw the area for the submit button.

When the mouse is released, a pop-up will appear with the form control.

Give the button a meaningful name. In this example, I’ve used “SubmitForm” This is not the Tooltip. We still need to add a ToolTip in the Button Properties dialog.

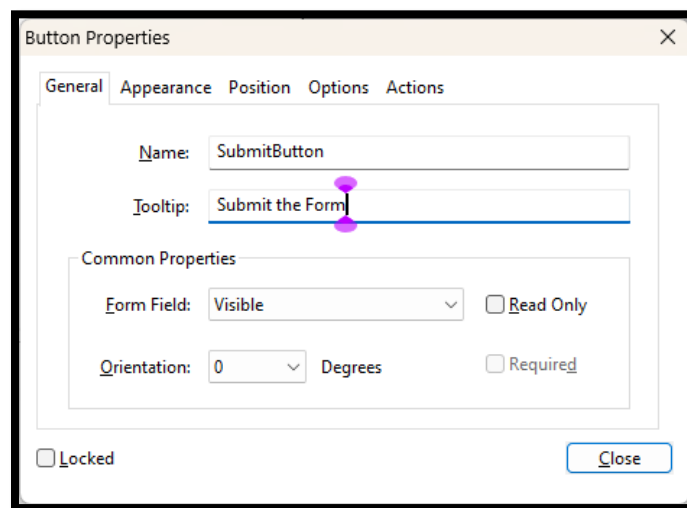
Click All Properties.

Figure 269 Button form control showing the pop-up to provide a meaningful name (Foxit PDF Editor).



Click on All Properties and add the ToolTip. In this example, it is “Submit the Form”.

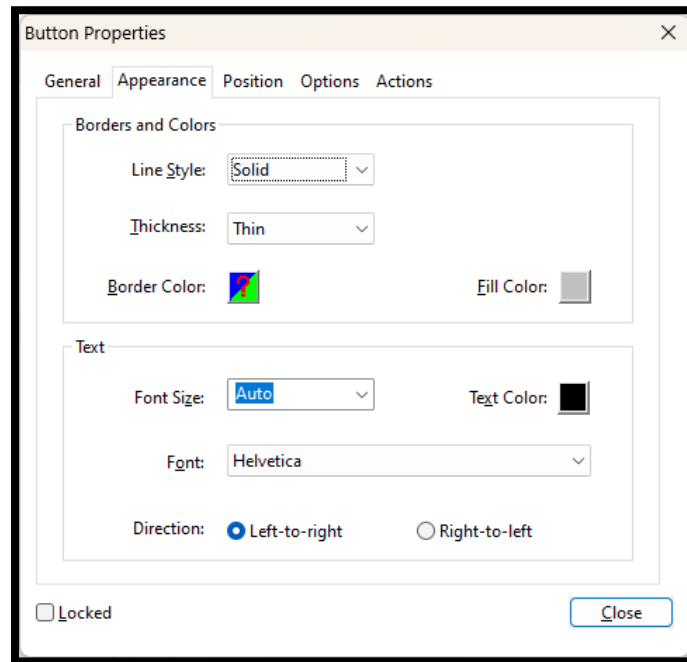
Figure 270 Button Properties dialog showing a Tooltip in the General tab (Foxit PDF Editor).



The next step is to go to the Appearance tab in the Button Properties dialog and set the Font size to “Auto”.

No other changes in the Appearance tab are needed.

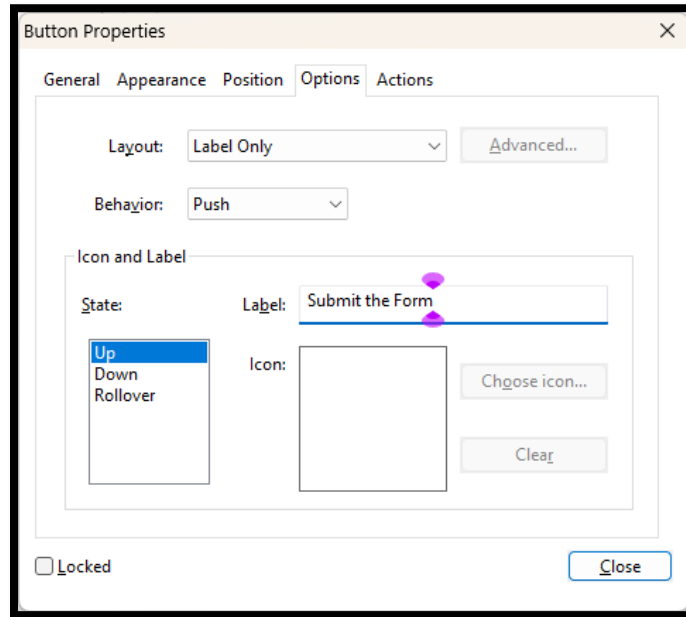
Figure 271 Button Properties dialog, Appearance tab showing font size set to "Auto" (Foxit PDF Editor).



Move to the Options tab and provide the label for the button.

The Tooltip will be read by those using adaptive technology. If a label is not provided, the button will look like a shaded square on the page. The label is to allow those visually accessing the form to know what the button is for.

Figure 272 Button Properties dialog showing the label text filled in (Foxit PDF Editor).



The final step in the process has two steps: identifying the action and then setting the method the form information is submitted.

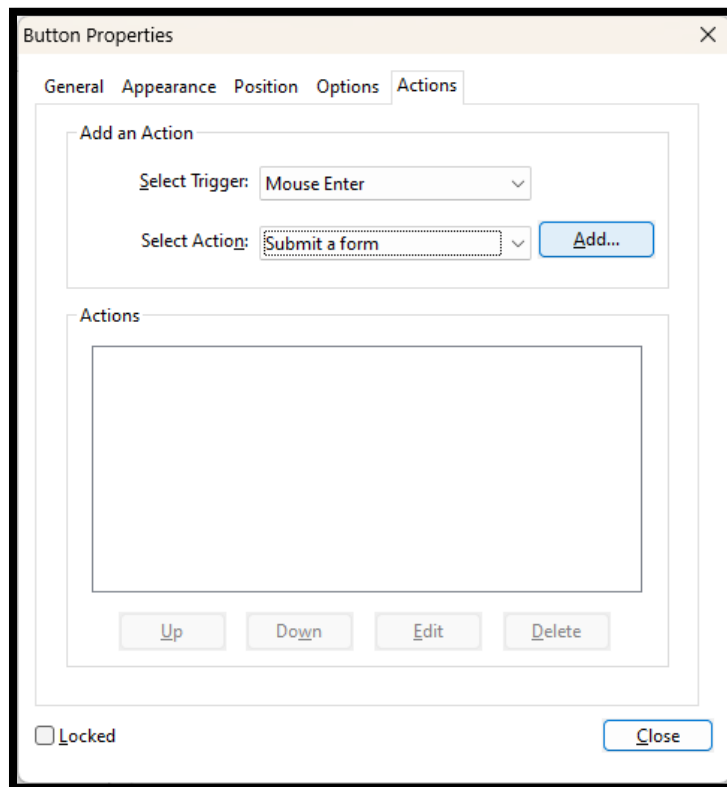
In the Button Properties dialog, move to the Actions tab.

Choose the “Select Trigger” to “mouse Enter”.

Choose the “Select Action” to “Submit a Form”.

Click the Add button.

Figure 273 Button Properties dialog showing the "Mouse Enter" and "Submit a Form" options set (Foxit PDF Editor).



When the Add button is activated, another dialog opens where the method of submitting the form is set.

In this example, we'll choose "PDF (whole file)", which means the entire completed PDF form will be sent instead of individual pieces of data from the form.

Once the option to send the entire file is set, ensure the "Submit to" is set to "Email Address".

Include the text mailto:EmailAddress with no spaces.

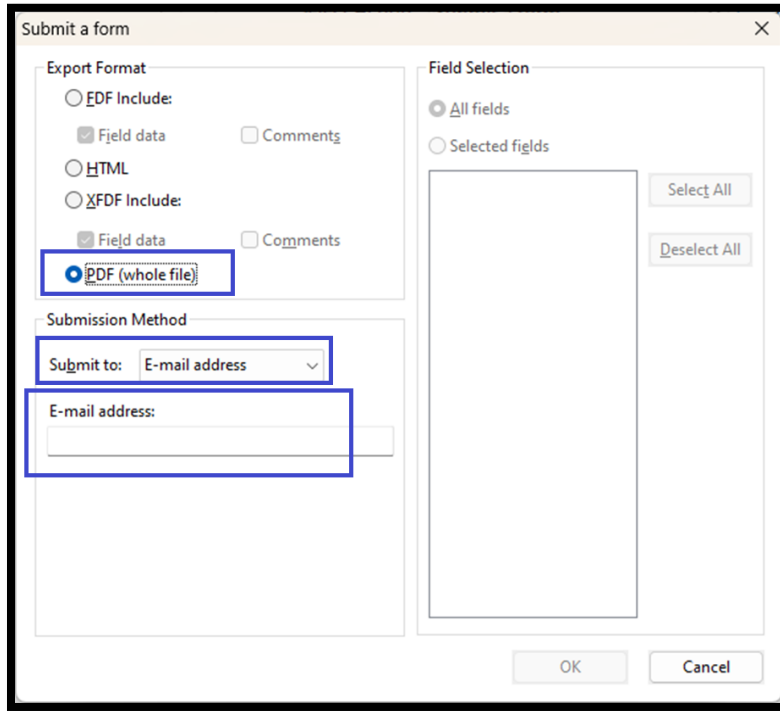
Once the submission methods are set, Click the OK button.

In the Form Ribbon, Click the Hand tool and test the submit button.

Remember to return to the Form Ribbon and clear the form data once you've tested the form.

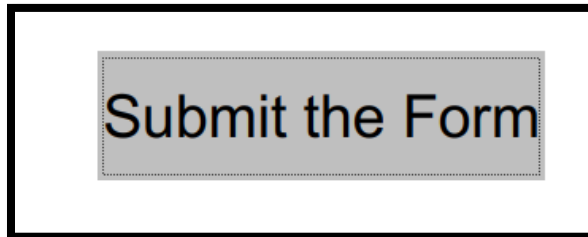
To return to editing the form, in the Form Ribbon choose Select, Select Annotations.

Figure 274 Button Properties dialog showing the submit form settings as the entire PDF to be sent by e-mail (Foxit PDF Editor).



The following graphic shows the finished submit button in the PDF form.

Figure 275 Finished Submit button in a PDF (Foxit PDF Editor).



PDF 16: Setting the default language using the /Lang entry in the document catalog of a PDF document

Using plain language, this technique means that a PDF must have a core language set in the Document Properties of the PDF.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014 both state that the ISO codes for country language is to be used to identify languages in PDFs. The problem is that if I say the language for a PDF is “en-US” and I’m using a synthesized language that is British English, I’m forced to change the synthesizer language to American English and read the PDF with a pronunciation I’m not used to. The same is true if I put the language in the Document Properties Advanced tab as “en-UK”; someone using a different synthesized voice, such as Australian English, American English, or Canadian English, will be forced to listen to the PDF in the localized language designation.

WCAG Success Criteria

[PDF16: Setting the default language using the /Lang entry in the document catalog of a PDF document](#)¹²¹.

- Sufficient to meet [3.1.1: Language of Page](#)¹²² (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 3.1.1 Language of Page](#)¹²³.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.2 Text.

7.3 Graphics.

¹²¹ PDF 16 Setting the default language using the /Lang entry in the document catalog of a PDF document, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF16>

¹²² Success criteria 3.1.1 Language of Page, W3C: <https://www.w3.org/TR/WCAG22/#language-of-page>

¹²³ Understanding 3.1.1 Language of Page, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/language-of-page.html>

Core Language Identification is Essential in PDFs

The solution has always been, whenever possible, to use plain vanilla language choices such as English, French, German, Portuguese and so forth. This allows the person who is using a screen reader or Text-to-Speech tool to read the PDF using the synthesized localized language of their choice.

Under the hood of the PDF, in the dictionary entries, the code for language may still be “en-x” but as far as the synthesizers are concerned, the language is English and can be read using the localized language synthesizer preferred by the end user.

Note: PDF 10 Specifying the language for a passage or phrase with the Lang entry in PDF documents deals with language changes for parts, phrases, and words in PDFs.

Adobe Acrobat Pro DC

Set the Core Language of a PDF

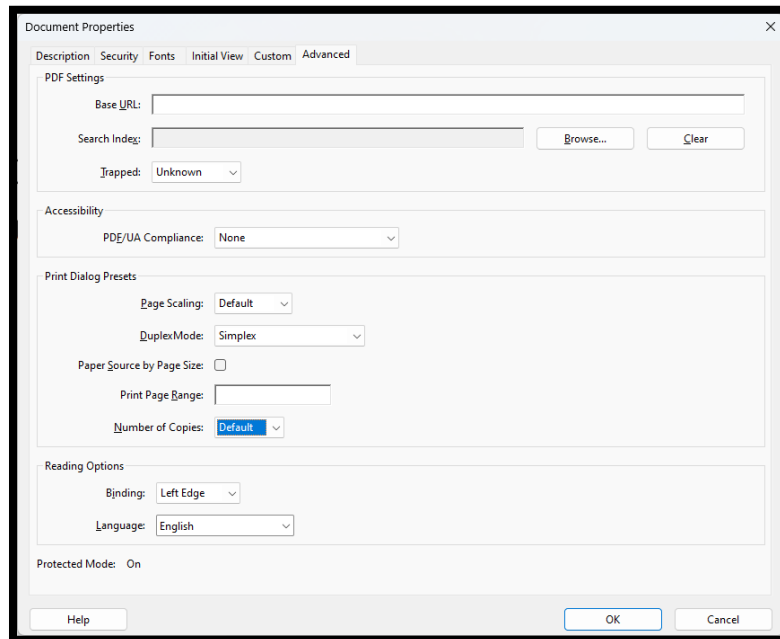
In Adobe Acrobat Pro DC, press Ctrl + D to open the Document Properties dialog.

Press Ctrl + Tab to move to the Advanced tab and verify the language attribute.

We’ve always advocated for using plain language in the language attribute so that someone using a specific localized language synthesizer can read the PDF using the pronunciation they are used to. As someone who uses the British voiced synthesizer, having a PDF open and have the language of my synthesized voice switch to a localized language such as “en-US” forces me to listen to the PDF with pronunciations I’m not used to hearing. It takes a few pages to get used to the different pronunciations.

I leave it to you to decide whether to use localized language designations or not.

Figure 276 Document Properties dialog showing the Advanced tab Language setting (Adobe Acrobat Pro DC).



Check the language to ensure that one is assigned and that it is the correct language for the core content of the document.

If the document has more than one language, the change in language attribute can be applied to a Tag or to the Tag if a word or phrase is in a different language within a sentence.

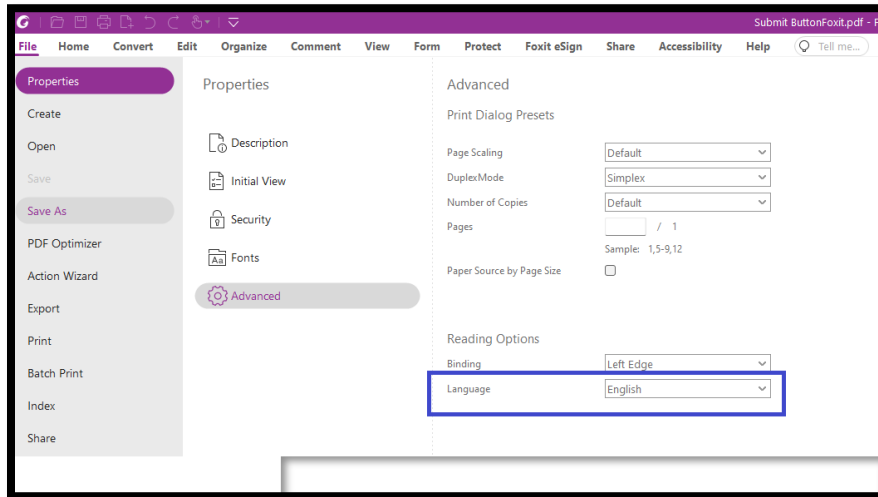
Foxit PDF Editor

Set the Core Language of a PDF

I'm not sure why developers designing the user experience tend to use unreadable text (light text on a white background), but there you are. The text in the Foxit user-interface is difficult to see and read.

In the Foxit PDF Editor, press Ctrl + D then move to the Advanced category.

Figure 277 Document Properties area showing the Advanced tab Language setting (Foxit PDF Editor).



Check the language to ensure that one is assigned and that it is the correct language for the core content of the document.

We've always advocated for using plain language in the language attribute so that someone using a specific localized language synthesizer can read the PDF using the pronunciation they are used to. As someone who uses the British voiced synthesizer, having a PDF open and have the language of my synthesized voice switch to a localized language such as "en-US" forces me to listen to the PDF with pronunciations I'm not used to hearing. It takes a few pages to get used to the different pronunciations.

I leave it to you to decide whether to use localized language designations or not.

If the document has more than one language, the change in language attribute can be applied to a Tag or to the Tag if a word or phrase is in a different language within a sentence.

PDF 17: Specifying consistent page numbering for PDF documents

In PDFs, page numbers are not tagged. They are part of Page Headers and Footers. Unlike HTML content, Page Headers and Page Footers in PDFs are called “non-printing” elements and are not tagged as part of the “body of the content”

WCAG Success Criteria

[PDF17: Specifying consistent page numbering for PDF documents](#)¹²⁴.

- Sufficient to meet [1.3.1 Info and Relationships](#)¹²⁵ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.1 Information and Relationships](#)¹²⁶.
- Advisory for [2.4.8 Location](#)¹²⁷ (WCAG 2.0, 2.1, 2.2 AAA).
 - [Understanding 2.4.8 Location](#)¹²⁸.
- Advisory for [3.2.3 Consistent Navigation](#)¹²⁹ (WCAG 2.0, 2.1.2.2 AA).
 - [Understanding 3.2.3 Consistent Navigation](#)¹³⁰.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.4.2 Page Labels.

Page Labels Identify Page Numbers in PDFs

Likewise, in word processing applications such as Microsoft Word, while Page Headers and page Footers can exist, they are not read as part of the document by

¹²⁴ PDF 17 Specifying consistent page numbering for PDF documents, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF17>

¹²⁵ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

¹²⁶ Understanding 1.3.1 Info and Relationships, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/info-and-relationships.html>

¹²⁷ Success criteria 2.4.8 Location, W3C: <https://www.w3.org/TR/WCAG22/#location>

¹²⁸ Understanding 2.4.8 Location, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/location.html>

¹²⁹ Success Criteria 3.2.3 Consistent Navigation, W3C: <https://www.w3.org/TR/WCAG22/#consistent-navigation>

¹³⁰ Understanding 3.2.2 Consistent Navigation, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/consistent-navigation.html>

adaptive technology such as screen readers and Text-to-Speech tools. The focus is on the main content area of the document.

Think about how you read a document with Page Headers and Page Footers. Do you consciously stop at the end of the content on a page, divert your attention to the Page Footer, read all the content in the Page Footer, then move on and read all the content in the Page Header before returning to the main content of the document?

If someone not using adaptive technology finds this annoying, imagine being forced to listen to every Page Header and Footer in a document while trying to understand what the content in the document is about.

The other accessibility barrier with tagging Page Header and Footer information, especially Page Numbers, is where to put that information in the Tags Tree.

If a paragraph, list or table spans more than one page, and according to the ISO PDF standards, all of the paragraph content is to be together in a single <P> tag, all of the list items are to be kept together in a single parent <L> and all of the parts of a table are to be kept in a single <Table> tag, where would tagged page numbers go? You can't interrupt the reading of the paragraph, list, or table to insert a page number. That negatively affects the readability and ability to understand what someone is reading.

Consider hearing "page x, page y, page z followed by table that spans 3 pages. It makes no sense.

See the potential frustration?

So, what do we do with page numbers? It is important for everyone to be able to go to a specific page in a document and have accurate information about the page number you're on, especially if a PDF has preface pages in Roman Numerals.

Both JAWS and NVDA have keyboard commands for identifying the page number or Page Labels. To use the keyboard commands, you must have the Navigation Pane and the Tools Task pane closed. Press F4 to show or hide the Navigation Pane; and Shift + F4 to show or hide the Tools Task pane.

- JawsKey + Page Down with both the Navigation Pane and Tools Task Pane closed.
- NVDA key + End with both the Navigation Pane and Tools Task Pane closed.

Page Labels are identified in the PDF once the source document has been converted to tagged PDF.

In the example for this chapter, I'm using a PDF with a cover page, two preface pages with Roman Numerals and the remainder of the document starts at page 1 and there are no further page number changes.

Adobe Acrobat Pro DC

Implementing Page Labels

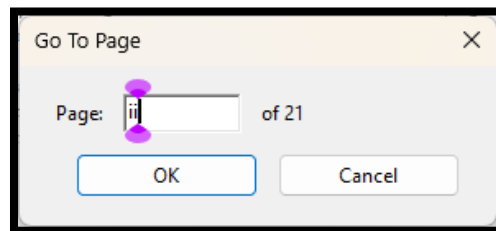
In Adobe Acrobat Pro DC, go to the Pages Panel in the Navigation Pane.

In this example, the PDF is a report with a cover page, two preface pages using Roman Numerals as page numbers and the remainder of the PDF uses Arabic numbers starting at 1.

The first page in the sample document is the cover page. Typically, this page does not have a page number. However, there are times when someone wants to get back to the document's cover.

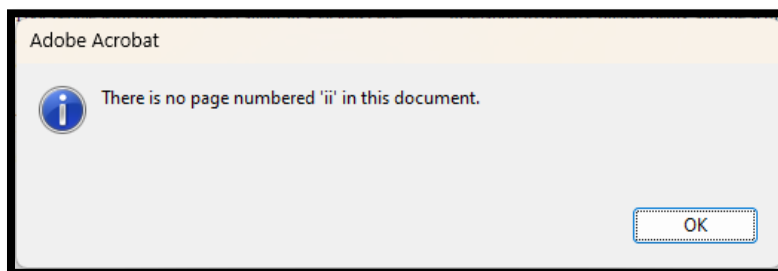
If Page Labels are not used, if anyone tries to go to one of the pages with a Roman Numeral, they will get an error message.

Figure 278 Go To Page dialog (Adobe Acrobat Pro DC).



The following graphic illustrates an error message stating that there is no page “i” in the PDF.

Figure 279 Adobe Acrobat dialog saying that the page with the Roman Numeral is not found (Adobe Acrobat Pro DC).



In the Pages Panel, select the cover page and right-click to open the context menu.

Figure 280 Pages Panel context menu showing Page Labels (Adobe Acrobat Pro DC).

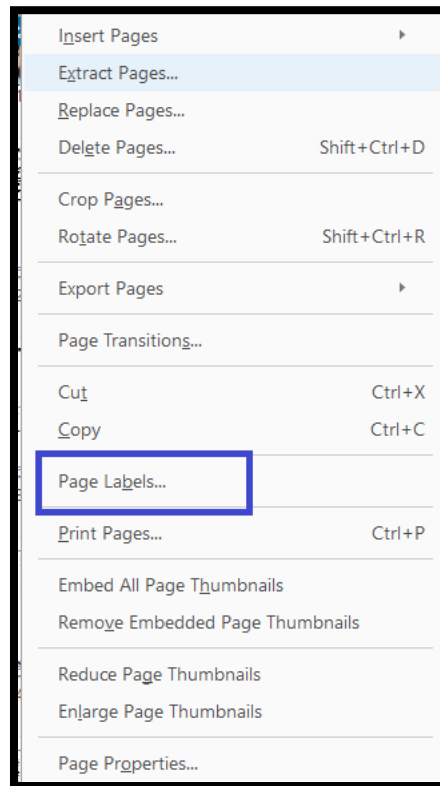
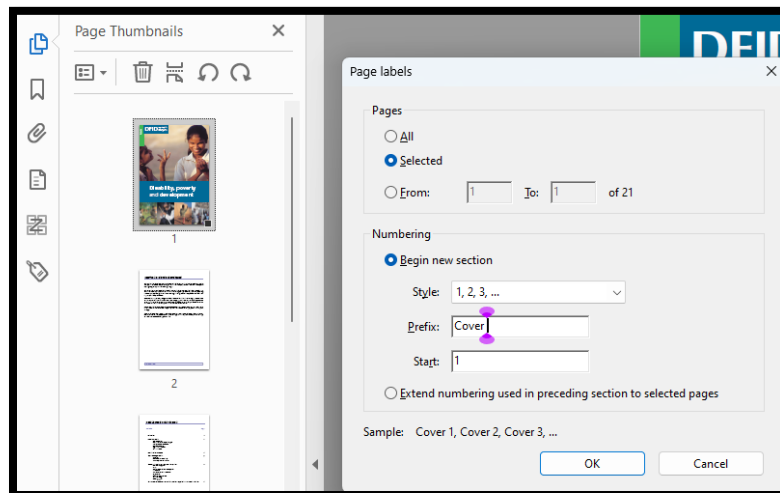


Figure 281 Pages Panel and Page Label dialog (Adobe Acrobat Pro DC).



Choose Page Labels.

This opens the Page Labels dialog.

By default, page numbering starts with page 1 as the first page of a document. It doesn't matter what the page numbering system is in the PDF until Page Labels are implemented; the first page of a PDF is page 1.

In the Page Labels dialog, keep the "Selected" pages checked.

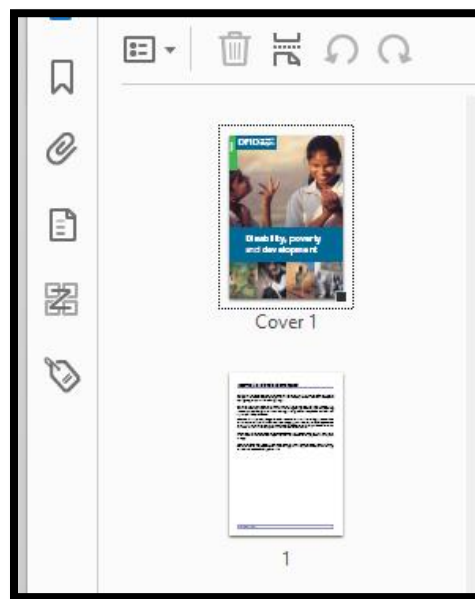
Move to the Numbering section of the dialog. In this example, I've kept the page number as 1 as it is easier for people to think of the cover page as page 1.

However, to distinguish it from the actual page 1 of the document, I've added a prefix. The prefix I've added is the word Cover followed by a space. The space is important. If space isn't added, it won't be added to the numbering system.

A sample of what the page numbering, or Page Label, will look like is in the lower left of the dialog.

Once the OK button is activated, the Page Label or number is changed in the pages Panel as shown in the following graphic.

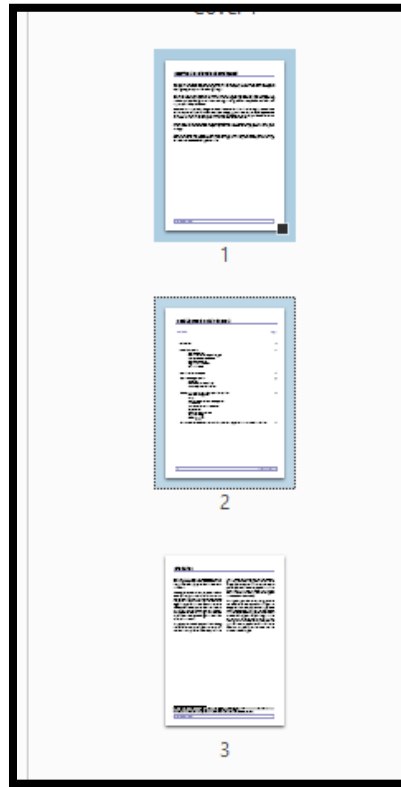
Figure 282 The cover page of a PDF once a Page Label has been implemented (Adobe Acrobat Pro DC).



The next step is to select the pages with Roman Numerals in the Pages Panel. This can be done by clicking on one, holding down the Ctrl key and clicking the second page. Clicking on one page with a Roman Numeral, holding down the Shift key and then using the Down Arrow will also select the second page.

The following graphic illustrates the two selected pages and the page following the Roman Numeral pages.

Figure 283 Two Roman Numeral pages in the pages Panel and the first page of the document content (Adobe Acrobat Pro DC).



With the mouse over one of the two pages that should be Roman Numerals (for reference), right-click and choose Page Labels. The Page Labels dialog opens.

The Page Labels dialog opens.

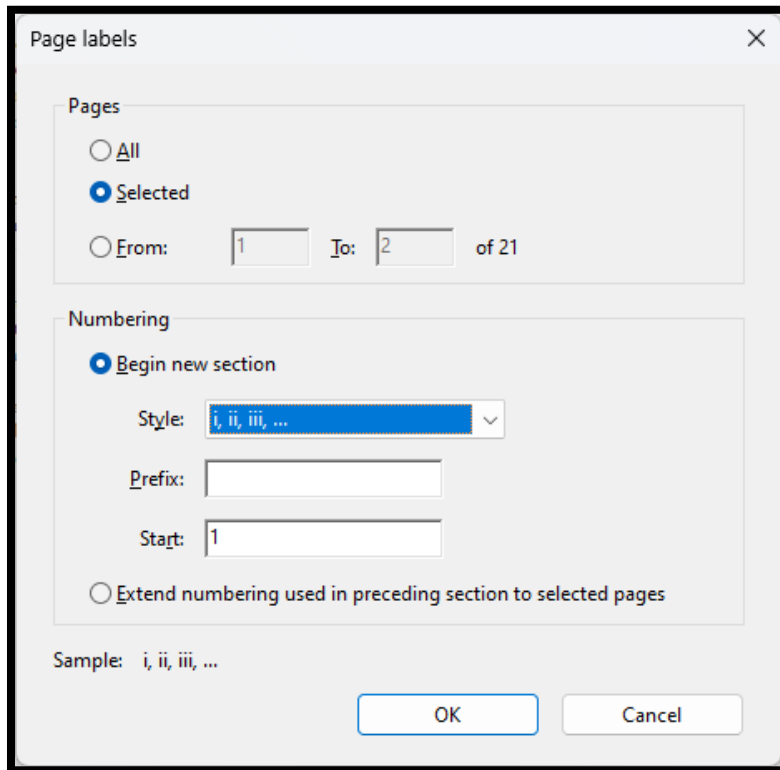
Keep the Selection checked to apply the Page Labels to the two selected pages.

Remember to remove the Prefix text “Cover” and the space before activating the OK button.

In the list of Numbering Styles, choose the Roman Numerals.

You can check to ensure that the Page Labels are what you want them to be in the lower left of the Page Labels dialog.

Figure 284 Page Label dialog showing a change in page numbering to Roman Numerals (Adobe Acrobat Pro DC).

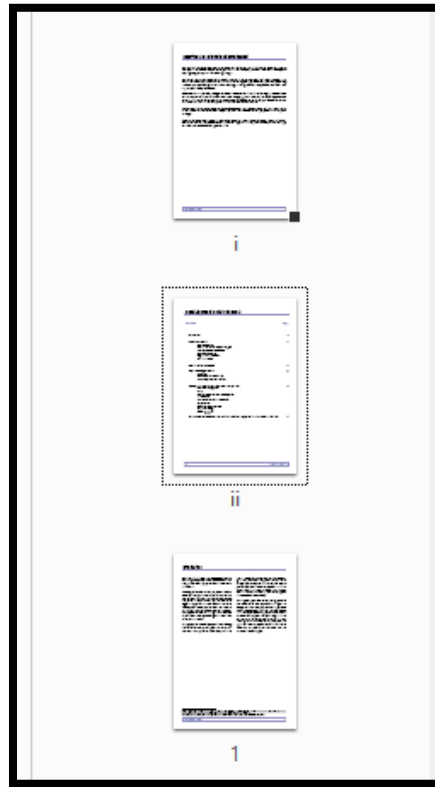


Once the OK button is activated, the two pages will display the correct page Label of Roman Numerals and the designation of Page 1 moves to the first page of the report text in the PDF.

Although the Page Labels now look appropriate for the PDF, it is recommended that Page Labels be verified for the remainder of the PDF if the rest of the page numbers start at 1 and end at the last page of the PDF.

If the PDF has a back cover, it is up to the remediator whether the page is isolated and given its own Page Label.

Figure 285 The pages panel showing the two pages with Roman Numerals and the start of the report text on page 1 (Adobe Acrobat Pro DC).



The last step is to select the remaining pages. This can be done by putting focus on Page 1 and pressing Ctrl + Shift + End.

Although the numbering starts at 1 by default, we want to ensure that the numbering can be accessed using Ctrl + Shift + N and by the adaptive technology keyboard commands. Ensuring this by using Page Labels takes a few seconds and eliminates any remediation needed for page numbering.

With the remainder of the pages in the PDF selected, right-click and choose Page Labels.

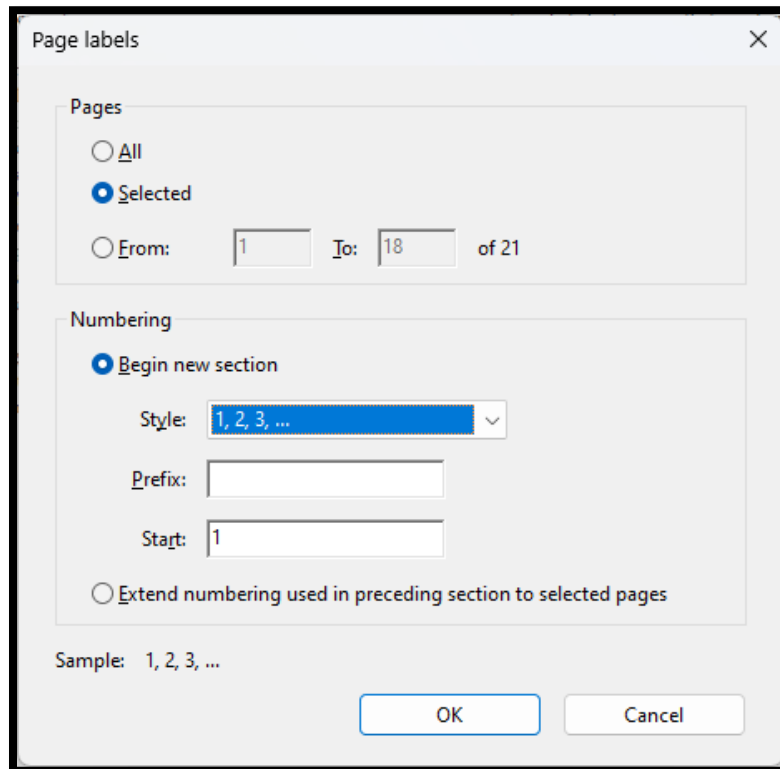
The Page Labels dialog opens.

Keep the Selected checked in the Pages section of the dialog.

Verify that the page numbering starts at page 1.

Activate the OK button.

Figure 286 The Page Labels dialog showing page numbering starting at page 1 (Adobe Acrobat Pro DC).



Save the PDF, exit Acrobat Pro DC, launch Acrobat Pro DC again and test the Page Labels using Ctrl + Shift + N.

Once the Page Labels are added, Ctrl + Shift + N is pressed, and the Roman Number “I” is entered, followed by pressing Enter, a person is taken to the page in the document. Likewise, if someone wants to go to page 1 in the document, the first page with content/the document's body, they can be taken to that page in the PDF.

This technique can be used to go to any of the other pages in the PDF to ensure that they can easily be navigated to.

Both JAWS and NVDA have keyboard commands for identifying the page number or Page Labels. To use the keyboard commands, you must have the Navigation Pane and the Tools Task pane closed. Press F4 to show or hide the Navigation Pane; and Shift + F4 to show or hide the Tools Task pane.

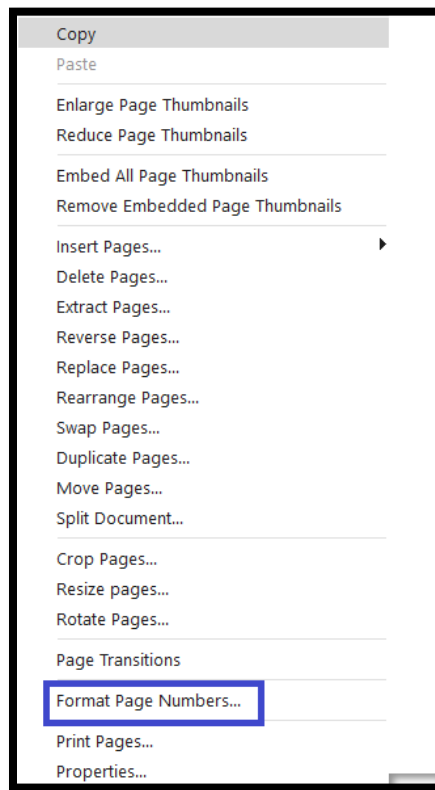
- JawsKey + Page Down with both the Navigation Pane and Tools Task Pane closed.
- NVDA key + End with both the Navigation Pane and Tools Task Pane closed.

Foxit PDF Editor

“Format Page Numbers”

The Foxit PDF Editor uses the language “Format Page Numbers” instead of Page Labels.

Figure 287 Format Page Numbers in the Pages Panel (Foxit PDF Editor)



In the Pages Panel, select the cover page and right-click to open the context menu.

Choose Format Page Numbers.

This opens the Page Numbers dialog.

By default, page numbering starts with page 1 as the first page of a document. It doesn't matter what the page numbering system is in the PDF until Page Labels are implemented using the Format Page Numbers; the first page of a PDF is page 1.

In the Page Numbers dialog, keep the “Selected” pages checked.

Move to the Numbering section of the dialog. In this example, I've kept the page number as 1 as it is easier for people to think of the cover page as page 1.

However, to distinguish it from the actual page 1 of the document, I've added a prefix. The prefix I've added is the word Cover followed by a space. The space is important. If space isn't added, it won't be added to the numbering system.

Remember to remove the Prefix text "Cover" and the space before activating the OK button.

A sample of what the page numbering, or Page Label, will look like is in the lower left of the dialog.

Once the OK button is activated, the Page Label or number is changed in the Pages Panel as shown in the following graphic.

Figure 288 pages Panel showing a cover page selected and the Page Numbers dialog (Foxit PDF Editor).

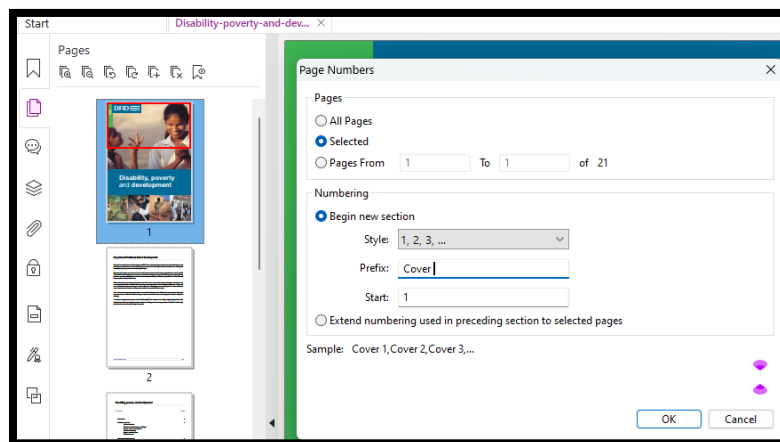
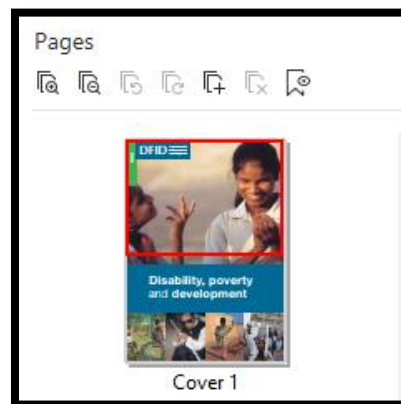


Figure 289 Pages Panel showing "Cover 1" as the cover page number (Foxit PDF Editor).



Return to the Pages Panel and select the preface pages in Roman Numerals (as per the example).

Right-click and choose Format Page Numbers.

Keep the “Selected” checked.

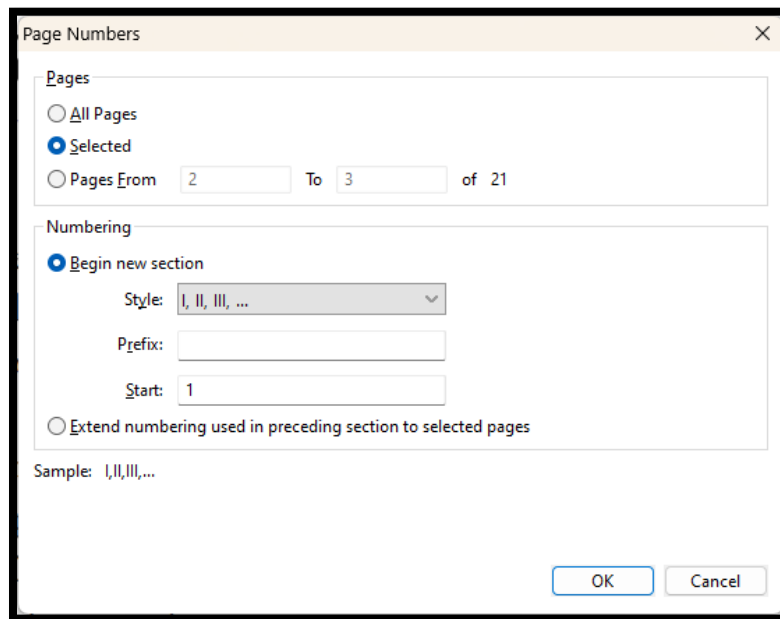
In the Numbering Style area, choose Roman Numerals.

A sample of what the Page Label will look like is shown in the lower left of the page Numbering dialog.

Activate the OK button.

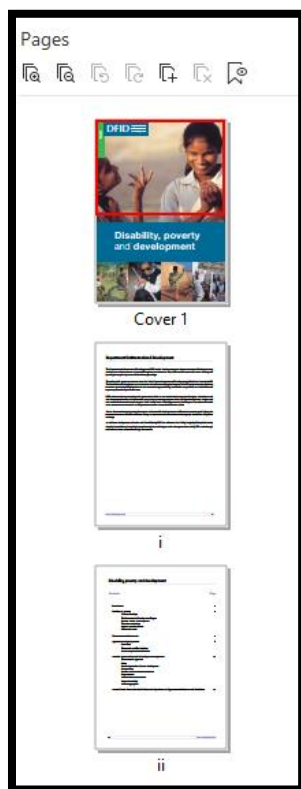
Once the OK button is activated, the two pages will display the correct page Label of Roman Numerals and the designation of Page 1 moves to the first page of the report text in the PDF.

Figure 290 Page Numbers dialog showing the selected pages will have Roman Numeral Page Labels (Foxit PDF Editor).



The last step is to select the remainder of the pages in the document. Although these pages will now have the Page Labels starting at 1, it is always a good idea to apply the Page Labels to ensure this is true.

Figure 291 Pages Panel showing the cover page number and two pages with Roman Numerals (Foxit PDF Editor).



Although the Format Page Numbers now look appropriate for the PDF, it is recommended that Format Page Numbers be verified for the remainder of the PDF if the rest of the page numbers start at 1 and end at the last page of the PDF.

If the PDF has a back cover, it is up to the remediator whether the page is isolated and given its own Page Label.

In the Foxit PDF Editor, standard keyboard commands for selecting from the first selected item to the end of the items, in this case, the pages, do not work. You will need to select the page for Page 1, hold down the Shift key and then use the Down Arrow for the entire list of pages in the Pages Panel. An alternative is to use the mouse to select the rest of the pages.

With the remainder of the pages in the PDF selected, right-click and choose Format Page Numbers.

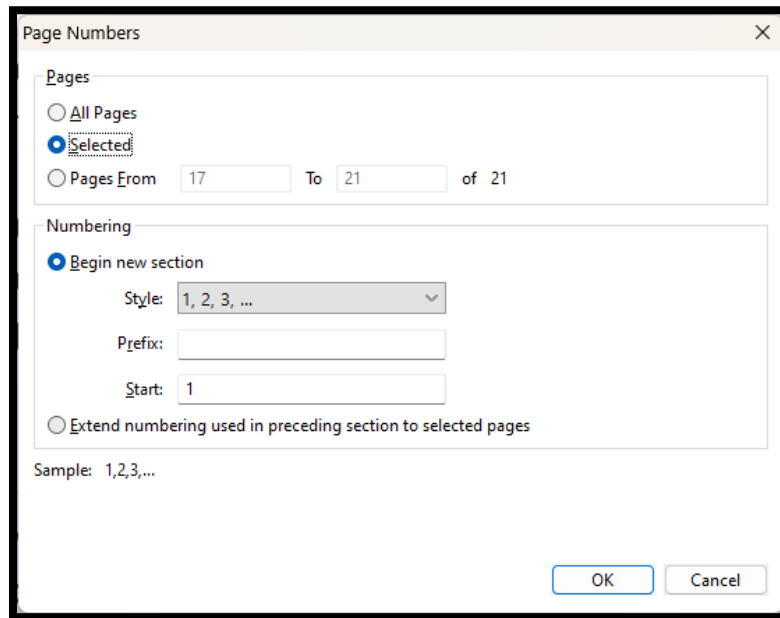
The Format Page Numbers dialog opens.

Keep the Selected checked in the Pages section of the dialog.

Verify that the page numbering starts at page 1.

Activate the OK button.

Figure 292 Page Numbers dialog showing the pages in the body of the PDF starting at page 1 (Foxit PDF Editor).



I couldn't find a keyboard command to go to a specific page for Windows. The keyboard command on a Mac is Command + G, which doesn't work, even if the Command key is translated to the Windows platform. To test this, you'll need a different PDF Editor/Reader.

When testing Page Labels with either JAWS or NVDA, ensure that the Tools Task Pane and the Navigation Pane are closed/hidden. Press F4 to close or open the Navigation Pane and Shift + F4 to close or open the Tools Task Pane.

The keyboard commands to read Page Labels are JawsKey + Page Down and NVDA key + End.

PDF 18: Specifying the document title using the Title entry in the document information dictionary of a PDF document

This is another simple thing to do, but it sounds difficult.

In PDFs, the Document title would be the equivalent of the title on each website page.

WCAG Success Criteria

[PDF18: Specifying the document title using the Title entry in the document information dictionary of a PDF document](#)¹³¹.

- Sufficient to meet [2.4.2: Page Title](#)¹³² (WCAG 2.0, 2.1, 2.2 A) when used with [G88: Providing descriptive titles for Web pages](#)¹³³.
 - [Understanding 2.4.5 Page Title](#)¹³⁴.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 32000 – 1:2008.

12.7.2 Viewer Preferences.

Table 150: Entries in a viewer preferences dictionary (continued).

The Document Title Combined with the Initial View Setting

Adding the Document Title is typically done in the authoring application such as Microsoft Word or Microsoft PowerPoint. If it is missed, usually an accessibility checker in the PDF environment will pick it up and flag it for you.

There are two parts to using the Document Title in PDFs.

The first step is to make sure that the title of the document is present in the Document Properties for the document.

¹³¹ PDF 18 Specifying the document title using the Title entry in the document information dictionary of a PDF document, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF18>

¹³² Success criteria 2.4.2 Page Title, W3C: <https://www.w3.org/TR/WCAG22/#page-titled>

¹³³ Guideline 88, Providing descriptive titles for Web pages, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/general/G88>

¹³⁴ Understanding 2.4.3 Page Title, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/page-titled.html>

The second is to make sure that in the Document Properties dialog, the Initial View tab has “Document Title” set to show.

This means that when someone using adaptive technology has more than one PDF open in a PDF Editor or Reader, they will hear the document title instead of the filename as the Ctrl + Tab to put the focus on a specific PDF.

In fact, using the Document Title attribute combined with the Initial View to show the Document Title instead of the filename helps everyone keep track of which PDF they are currently reading.

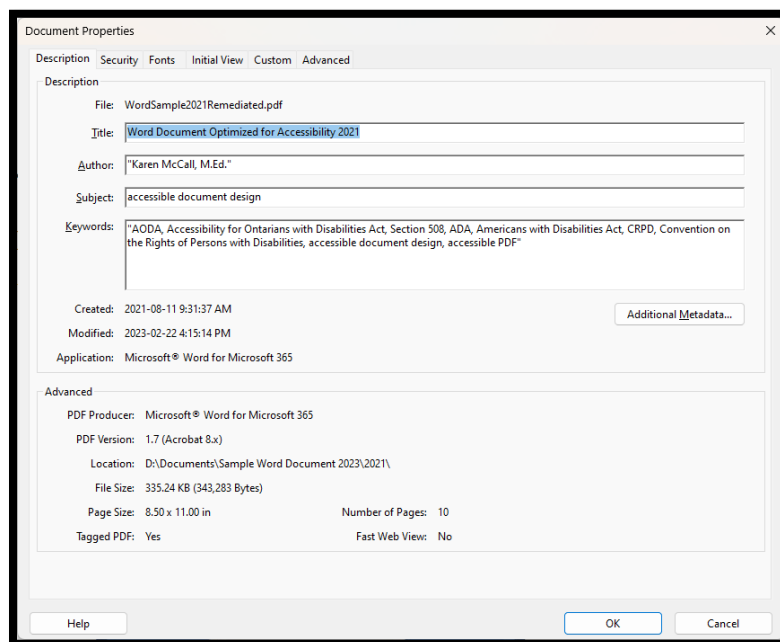
Adobe Acrobat Pro DC

Add the Document Title in Document Properties.

With the PDF document open, press Ctrl + D or go to the File, Document Properties.

In the Properties dialog, on the Description tab, enter the document title.

Figure 293 Document Properties dialog, Description tab with Document title entered (Adobe Acrobat Pro DC).



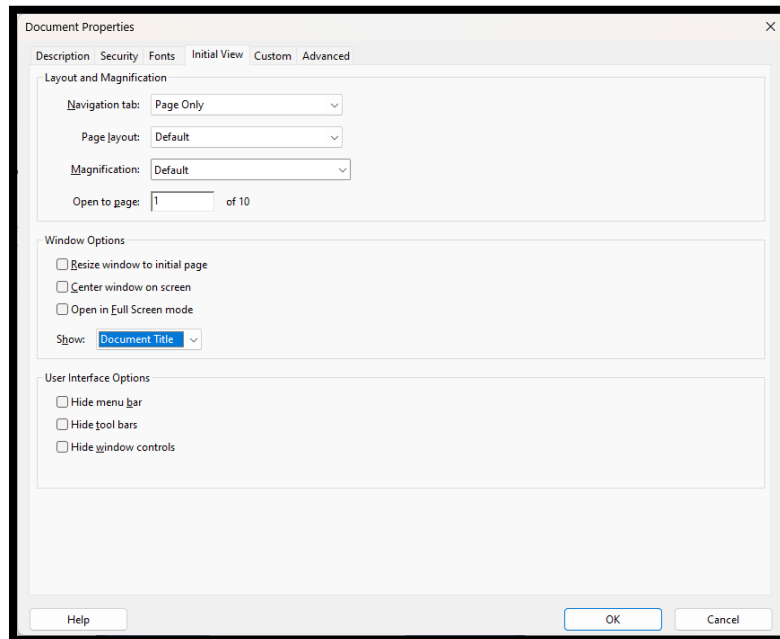
Before you close the Properties dialog, verify that the Initial View is set to Show “Document Title”.

Set the Initial View to Show the Document Title

Press Ctrl + D or go to File, Document Properties and then go to the Initial View tab.

Choose to “Show” Document Title” instead of Filename.

Figure 294 Document Properties dialog, Initial View tab showing Document Title to be shown (Adobe Acrobat Pro DC).



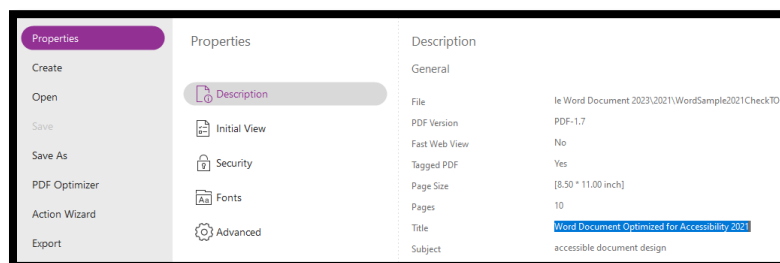
Foxit PDF Editor

Add the Document Title in Document Properties.

In the Foxit PDF Editor, press Ctrl + D to open the Properties settings.

In the Description area, ensure the document's title is present.

Figure 295 Properties, Description area, Document Title present (Foxit PDF Editor).



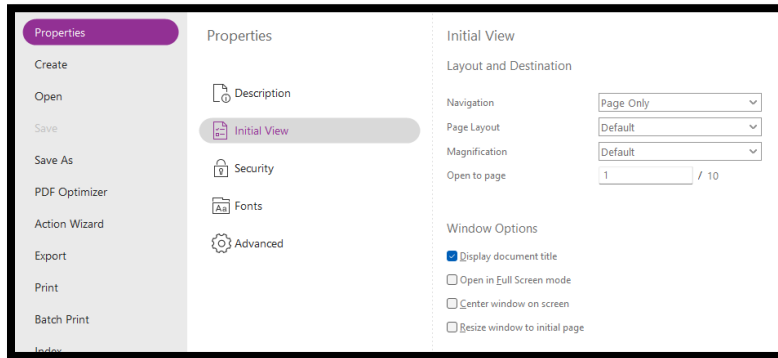
While you are in the Properties area, check the Initial View is set to show the Document Title.

Set the Initial View to Show the Document Title

Press Ctrl + D to open the Properties area in Foxit PDF Editor.

Click on the Initial View area and ensure the Initial View is set to Show the Document Title instead of the filename.

Figure 296 Properties area, Initial View set to Show Document title (Foxit PDF Editor).



Microsoft Word 365

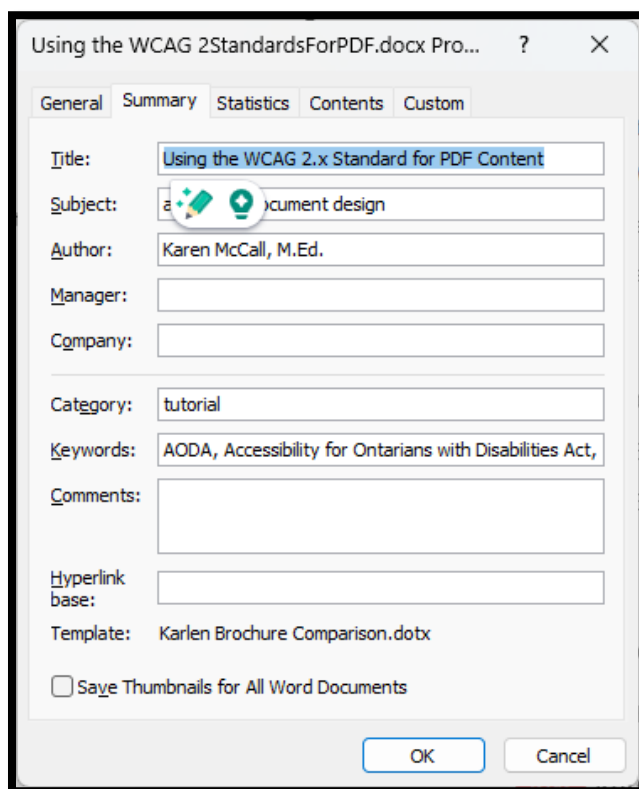
Add the Document Title to the Document Properties

With a Word document open, press Alt + F, letter I, Q, S for the File Backstage area, Info tab, and Properties.

Choose the Advanced Properties which opens the Advanced Properties dialog.

I find that this is the most efficient way to get all the metadata or attributes converted correctly over to the PDF version.

Figure 297 Advanced Properties dialog in Word showing Document title entered.



The Microsoft 365 ability to save the document as a tagged PDF will automatically ensure that the Initial View is set to show the Document Title. You may need to check this if you've used the Adobe Acrobat Pro DC tools to export to a tagged PDF.

Microsoft PowerPoint 365

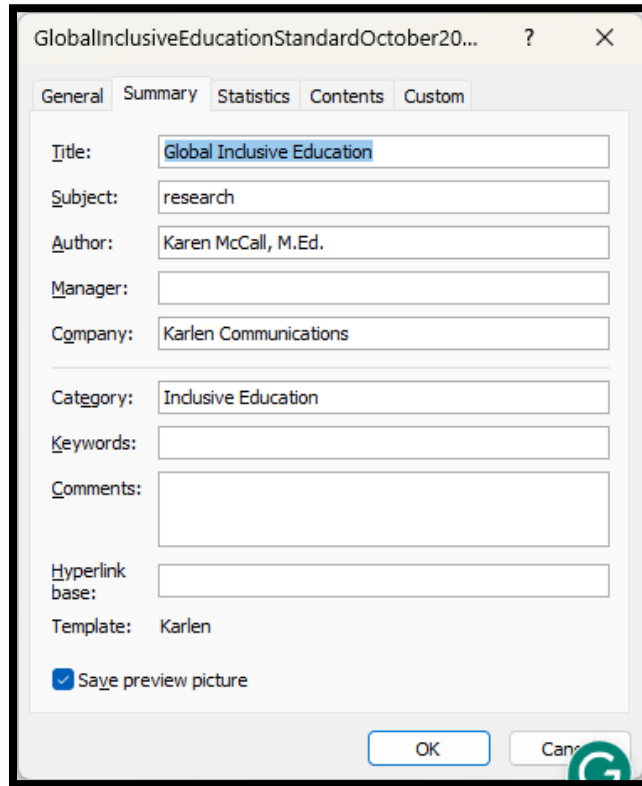
Add the Document Title to the Document Properties

With a PowerPoint presentation open, press Alt + F, letter I, Q, S for the File Backstage area, Info tab, and Properties.

Choose the Advanced Properties which opens the Advanced Properties dialog.

I find that this is the most efficient way to get all the metadata or attributes converted correctly over to the PDF version.

Figure 298 Advanced Properties dialog in PowerPoint showing the title of the document entered.



The Microsoft 365 ability to save the document as a tagged PDF will automatically make sure that the Initial View is set to show the Document Title. You may need to check this if you've used the Adobe Acrobat Pro DC tools to export to a tagged PDF.

PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents

In PDF 16, we looked at how to set the default language for an entire PDF.

There are times when we need to set the language for specific parts, phrases, organizational names, or words within the text of a PDF.

We make those language changes in the Tags Tree of a PDF Editor.

WCAG Success Criteria

[PDF19: Specifying the language for a passage or phrase with the Lang entry in PDF documents](#)¹³⁵.

- Sufficient to meet [3.1.1 Language of Page](#)¹³⁶ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 3.1.1 Language of Page](#)¹³⁷.
- Sufficient to meet [3.1.2 Language of Parts](#)¹³⁸ (WCAG 2.0, 2.1, 2.2 AA).
 - [Understanding 3.1.2 Language of Parts](#)¹³⁹.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

ISO 14289 – 1:2014.

7.2 Text.

Language Changes for Parts and Phrases in PDFs

In Canada, because we are a bilingual country, our federal government will often have one language down the right side of a page and another language down the left side of the page as illustrated in the following graphic.

¹³⁵ PDF 19 Specifying the language for a passage or phrase with the Lang entry in PDF documents, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF19>

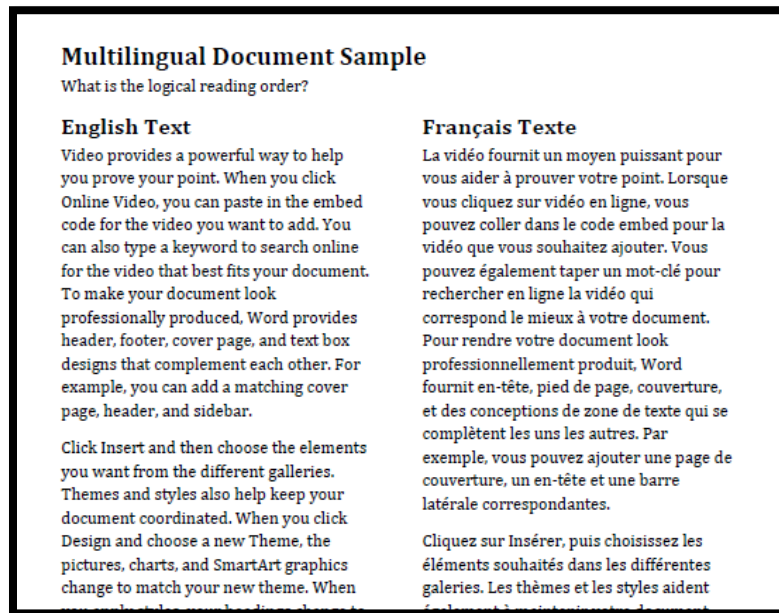
¹³⁶ Success Criteria 3.1.1 Language of Page, W3C: <https://www.w3.org/TR/WCAG22/#language-of-page>

¹³⁷ Understanding 3.1.1 Language of Page, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/language-of-page.html>

¹³⁸ Success criteria 3.1.2 Language of Parts, W3C: <https://www.w3.org/TR/WCAG22/#language-of-parts>

¹³⁹ Understanding 3.1.2 Language of Parts, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/language-of-parts.html>

Figure 299 Sample document showing one language on the left and another on the right.



This technique is used throughout the entire ten-page document. The remediation is to put the English text in one <Part> Tag and the French text in another <Part> Tag with the French language attribute on the <Part> tag for the corresponding content.

This means that all the Tags nested under the <Part> Tag containing the French text will inherit the French language of the <Part> Tag.

With all the same language nested under their respective <Part>> Tags, someone reading this text can read all of one language without interruption.

When it comes to a change of language within a sentence, the Tag is used to isolate the text and the language attribute is applied to the Tag (not the text directly). The text will inherit the language identified for the Tag.

Adobe Acrobat Pro DC

If you're using the JAWS screen reader with the Eloquence speech synthesizer, you can test the PDF, and the language will change. If you use a natural phoneme/natural-sounding voice, you may need to download and install additional language packs.

Changing the Language on a Grouping Tag or Single Tag

In the first example, the PDF has several pieces of content that require a change in language.

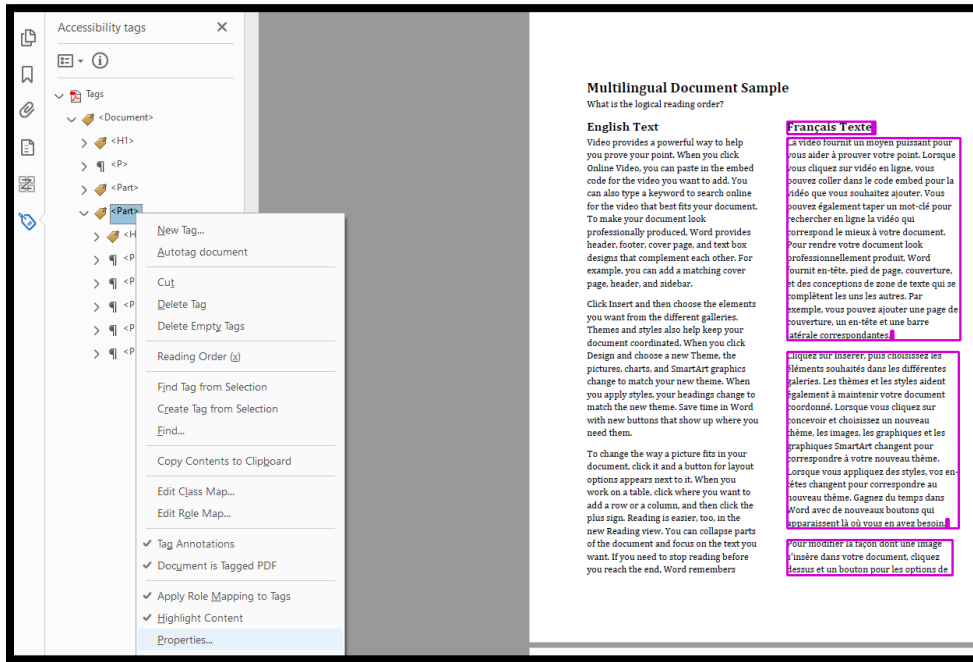
If the example includes several structure elements (Headings, graphics, lists, tables and so forth), the first step is to put all the structure elements that require the same

language attribute in a <Part> Tag IF this makes sense in terms of logical reading order. The example provided in the preface of these instructions is such an example.

If the change in language is for a single paragraph, the language attribute is provided for the <P> Tag.

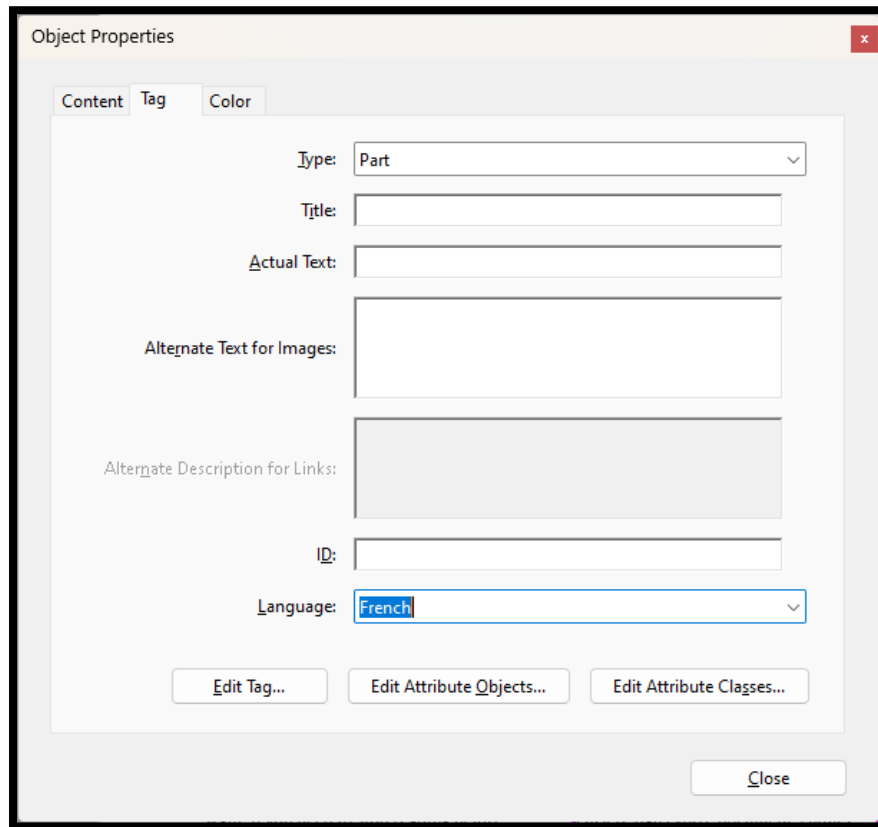
In this example, I am using a multilingual document in English and French, as shown in the preface to the instructions.

Figure 300 Multilingual PDF showing <Part> Tag for French and context menu (Adobe Acrobat Pro DC).



In the Tags Tree, right-click and choose Properties.

Figure 301 Object Properties dialog showing the language attribute (Adobe Acrobat Pro DC).



In the Object Properties dialog, add the language attribute. In this example, it is French. This vanilla language choice allows end-users to retain their French-synthesized voice without switching to a localized version. Localized versions are identified by codes such as “fr-CA” or “fr-FR”.

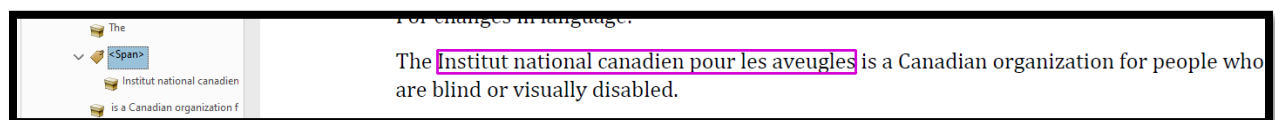
Activate the Close button.

Use the Tag to Change the Language of Phrase

There are times in PDFs when a word or phrase is in a different language within a sentence.

The sample sentence used in this example is: “The Institut national canadien pour les aveugles is a Canadian organization for people who are blind or visually disabled.”

Figure 302 Correct Tags for the sentence containing the French text (Adobe Acrobat Pro DC).



The first step is to isolate the words in the different language.

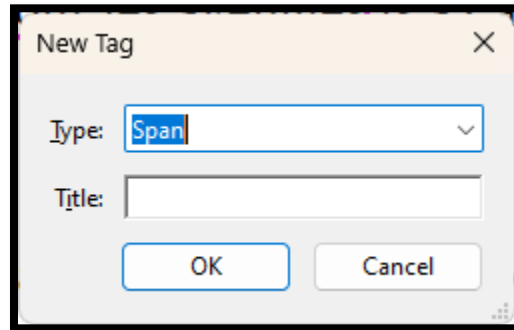
Expand the <P> Tag (in this example).

Select the text nested under the <P> Tag. If you do not do this, the new Tag could be anywhere in the Tags Tree.

With the content under the <P> Tag selected, right-click and choose New Tag.

In the New Tag dialog, either type Span or choose Span from the dropdown list.

Figure 303 New Tag dialog showing Span as the new Tag to be created (Adobe Acrobat Pro DC).



You do not need a title; activate the OK button to add the new Tag to the Tags Tree. Using this method will put the new Tag close to where you need it.

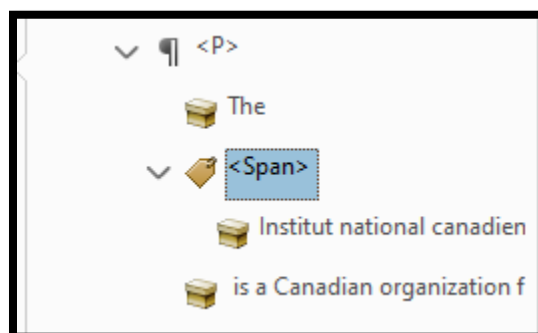
Select the tag.

Using the Select Text tool, select the words in the different language in the PDF.

With the mouse over the Tag (for reference), right-click and choose Create Tag from Selection.

The text that was selected in the PDF will be nested under the Tag.

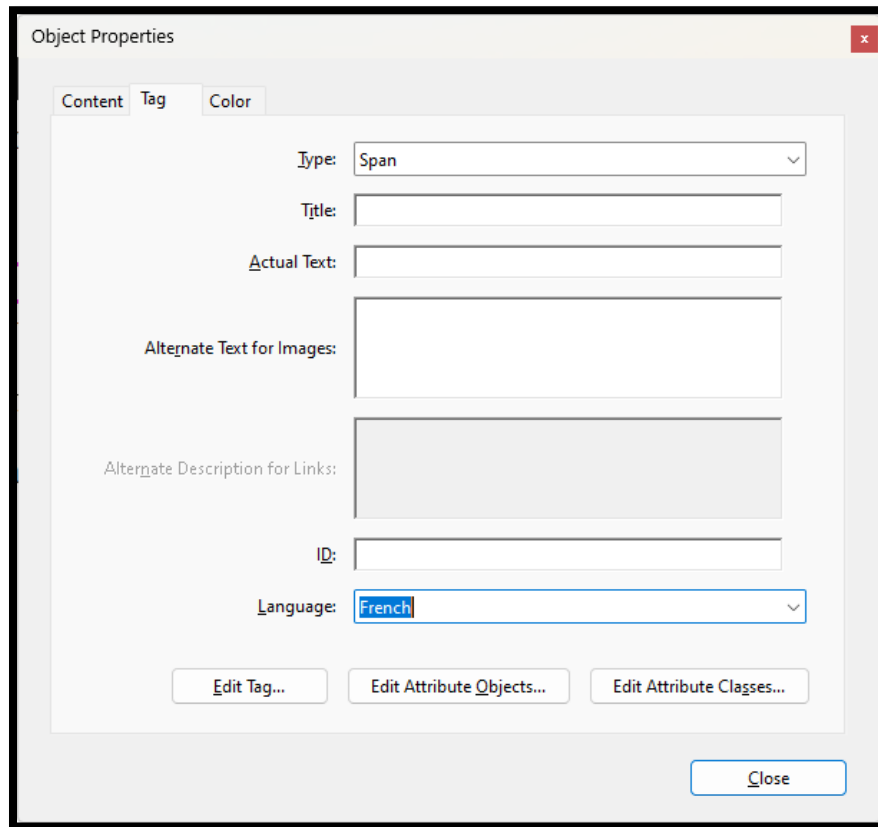
Figure 304 Word or phrase in a different language in the Tag (Adobe Acrobat Pro DC).



Once the word or phrase that is in a different language is in a Tag, right-click on the Tag (not the text).

Choose Properties.

Figure 305 The Object Properties dialog shows the language attribute (Adobe Acrobat Pro DC).



When the Object Properties dialog opens, press Alt+I to move to the Language attribute area and ensure that the language is a plain vanilla one if possible. In this example, the change in language is French.

Activate the Close button.

Foxit PDF Editor

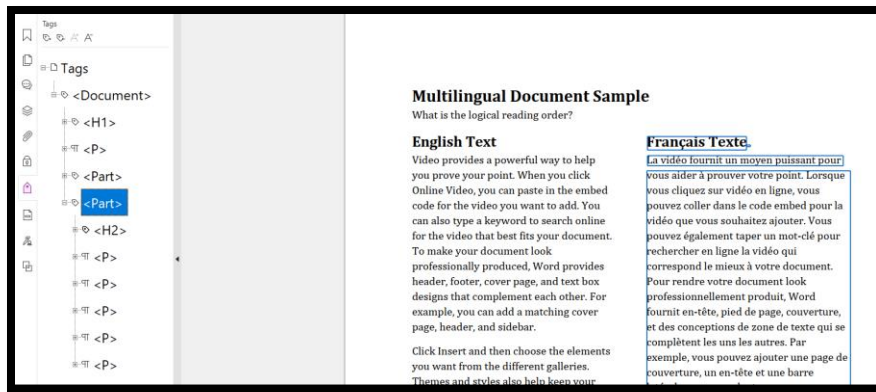
I haven't been able to test the use of the Tag for changes in language or acronyms in the Foxit PDF Editor or Reader. I must switch to Adobe Acrobat Pro DC to do the testing. If you're using the JAWS screen reader with the Eloquence speech synthesizer, you can test the PDF, and the language will change. If you use a natural phoneme/natural-sounding voice, you may need to download and install additional language packs.

Changing the Language on a Grouping Tag

In the first example, the PDF has several pieces of content that require a change in language.

If the example includes several structure elements (Headings, graphics, lists, tables and so forth), the first step is to put all the structure elements that require the same language attribute in a <Part> Tag IF this makes sense in terms of logical reading order. The example provided in the preface of these instructions is such an example.

Figure 306 Tags Tree showing content in a different language in a <Part> Tag (Foxit PDF Editor).



If the change in language is for a single paragraph, the language attribute is provided for the <P> Tag.

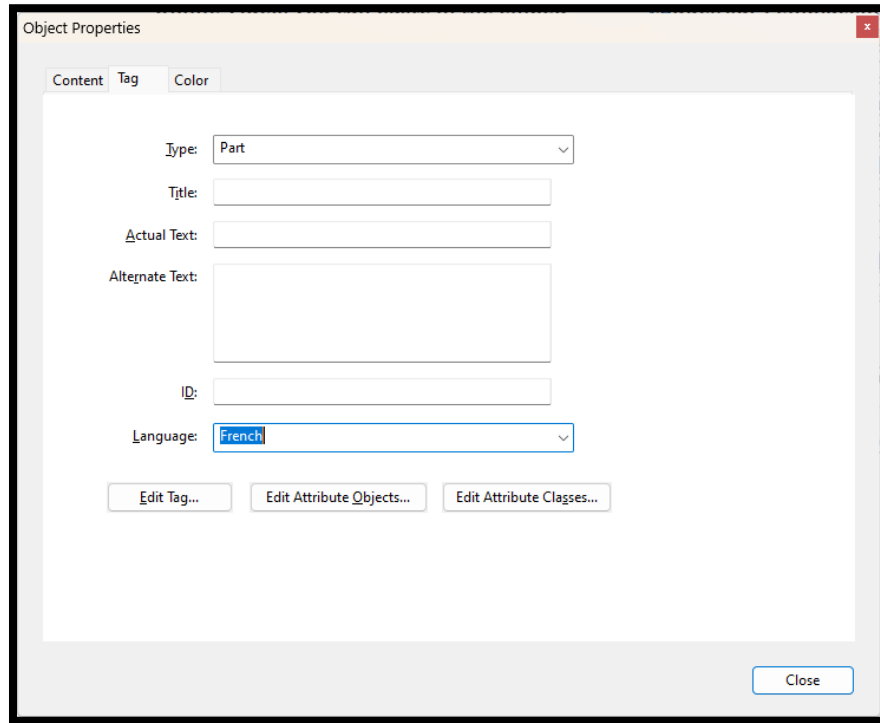
In this example, I am using a multilingual document in English and French, as shown in the preface to the instructions.

With the content of the second language in a single <Part> Tag (using our example PDF), select the <Part> Tag for the second language.

Right-click and choose Properties.

In the Object Properties dialog, add the language attribute.

Figure 307 Object Properties dialog showing language attribute added (Foxit PDF Editor).



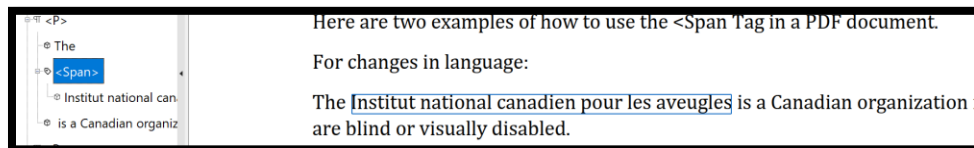
Activate the Close button.

Use the Tag to Change the Language of Phrase

There are times in PDFs when a word or phrase is in a different language within a sentence.

The sample sentence used in this example is: “The Institut national canadien pour les aveugles is a Canadian organization for people who are blind or visually disabled.”

Figure 308 PDF Tags Tree showing a phrase in a different language in a Tag (Foxit PDF Editor).



The first step is to isolate the words in the different language.

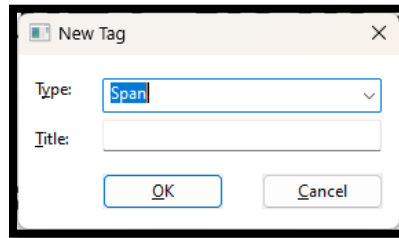
Expand the <P> Tag (in this example).

Select the text nested under the <P> Tag. If you do not do this, the new Tag could be anywhere in the Tags Tree.

With the content under the <P> Tag selected, right-click and choose New Tag.

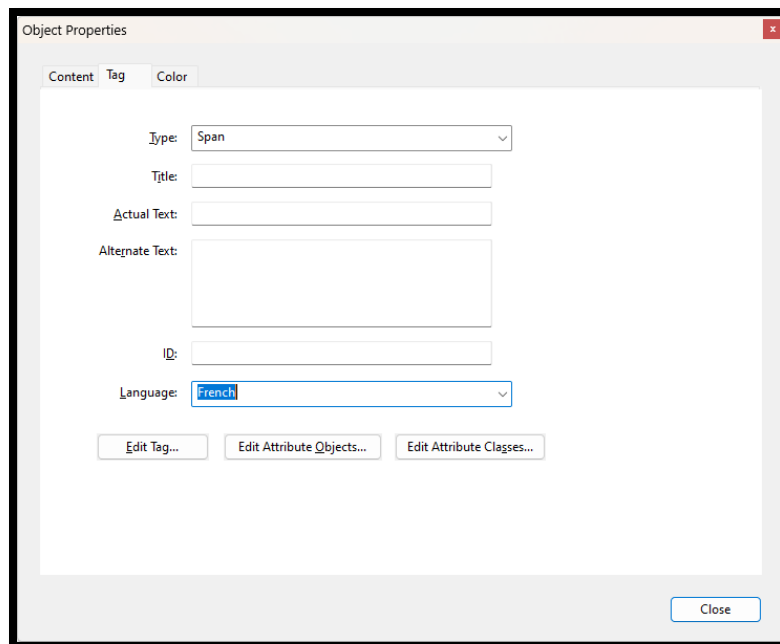
In the New Tag dialog, either type Span or choose Span from the dropdown list.

Figure 309 New Tag dialog showing the Span Tag (Foxit PDF Editor).



You do not need a title; activate the OK button to add the new Tag to the Tags Tree. Using this method will put the new Tag close to where you need it.

Figure 310 Object Properties dialog showing the language attribute changed (Foxit PDF Editor).



Select the Tag.

Using the Select Text tool, select the words in the different language in the PDF.

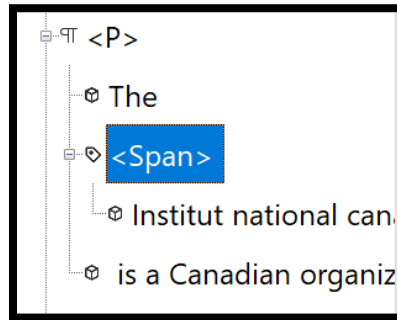
With the mouse over the Tag (for reference), right-click and choose Create Tag from selection.

The text that was selected in the PDF will be nested under the Tag.

Once the word or phrase that is in a different language is in a Tag, right-click on the Tag (not the text).

Choose Properties.

Figure 311 Paragraph Tag in a PDF with a change in language in a Tag (Foxit PDF Editor).



When the Object Properties dialog opens, press Alt + I to move to the Language attribute area and ensure that the language is a plain vanilla one if possible. In this example, the change in language is French.

Activate the Close button.

PDF 20: Using Adobe Acrobat Pro's Table Editor to repair mistagged tables

A better name for this technique would be to ensure that merged cells are identified using ColSpan and RowSpan. However, currently, this is only available using a tool like the Table Editor in Adobe Acrobat Pro or Foxit PDF Editor.

This demonstrates a weakness in the PDF Editors that this is the only tool that allows the assignment of ColSpan or RowSpan.

WCAG Success Criteria

[PDF20: Using Adobe Acrobat Pro's Table Editor to repair mistagged tables](#)¹⁴⁰.

- Sufficient to meet [1.3.1 Info and Relationships](#)¹⁴¹ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.1 Info and Relationships](#)¹⁴².

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards..

None of the ISO documents specifically identifies the Table Editor in a specific reader to remediate tables.

ISO 32000 – 1:2008.

ColSpan and RowSpan are optional (Table 349 – Standard table attributes).

There is no further information on ColSpan or RowSpan in ISO 14289 – 1:2014..

ColSpan and RowSpan in PDF Tables

The first step in working with tables in PDFs is to ensure that if a table spans more than one page, all the rows are in one parent <Table> Tag. If the table is divided into several tables, one on each page, the data will be read to those using adaptive technology as if they were separate tables. The relationship between the pieces of data will be lost.

The second step is to ensure that column and row titles have <TH> Tags.

¹⁴⁰ PDF 20 Using Adobe Acrobat Pro's Table Editor to repair mistagged tables, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF20>

¹⁴¹ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

¹⁴² Understanding 1.3.1 Info and Relationships, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/info-and-relationships.html>

Once those elements are checked, a tool like the Table Editor can be used to identify ColSpan and RowSpan.

The following table is the one used for the examples of Adobe Acrobat Pro DC and Foxit PDF Editor.

Table 1 Plants in my garden.

Plant	Colour	Around House	Along Fence
Iris	Blue	10	15
	Purple	8	10
	Yellow	7	8
	Orange	10	6
	Pink	15	10
Holly Hocks	Purple	6	5
	Yellow	25	15
	White	15	20

Personalizing the Table Editor

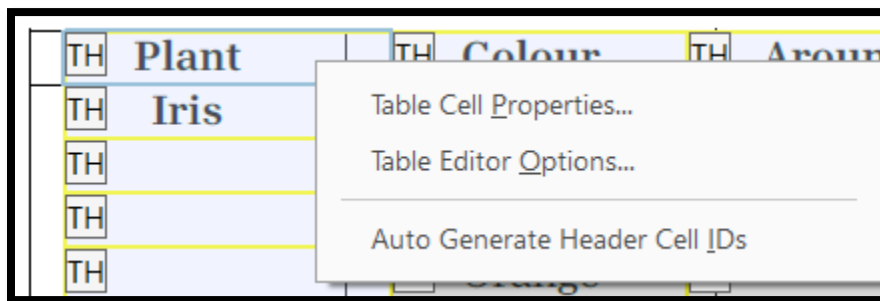
In Adobe Acrobat Pro DC, the Reading Order Panel can be accessed by activating the Accessibility Tools in the Tools Task pane and choosing Reading Order.

In Foxit PDF Editor, the reading Order Panel is accessed through a button on the Accessibility Ribbon.

In either PDF Editor, once the Table Editor is active, the table takes focus. All cells are outlined, and if you have the check box to identify the <TH> and <TD> cells, they will be shown in the upper left of each cell.

Right-click anywhere in the table and choose Table Editor Options from the context menu.

Figure 312 Table Editor mode showing context menu options.



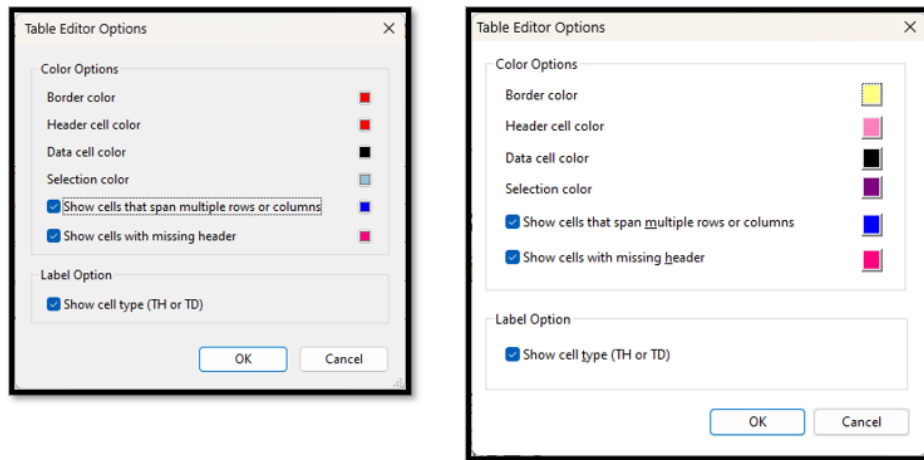
When the Table Editor is open, the colours for the types of cells are all shades of black. I typically change these to colourful colours so that types of cells are easier to see.

The options to check are:

- Show cells that span multiple columns or rows.
- Show cells with missing headers (table header cells are NOT the same as Headings in the main part of the document).
- Show cell type (TH or TD).

Activate the OK button.

Figure 313 Table Editor Options dialog (Adobe Acrobat Pro DC on the left; Foxit PDF Editor on the right).



Adobe Acrobat Pro DC

Using the Table Editor for ColSpan and RowSpan Assignments

In the PDF, move to the page with the table.

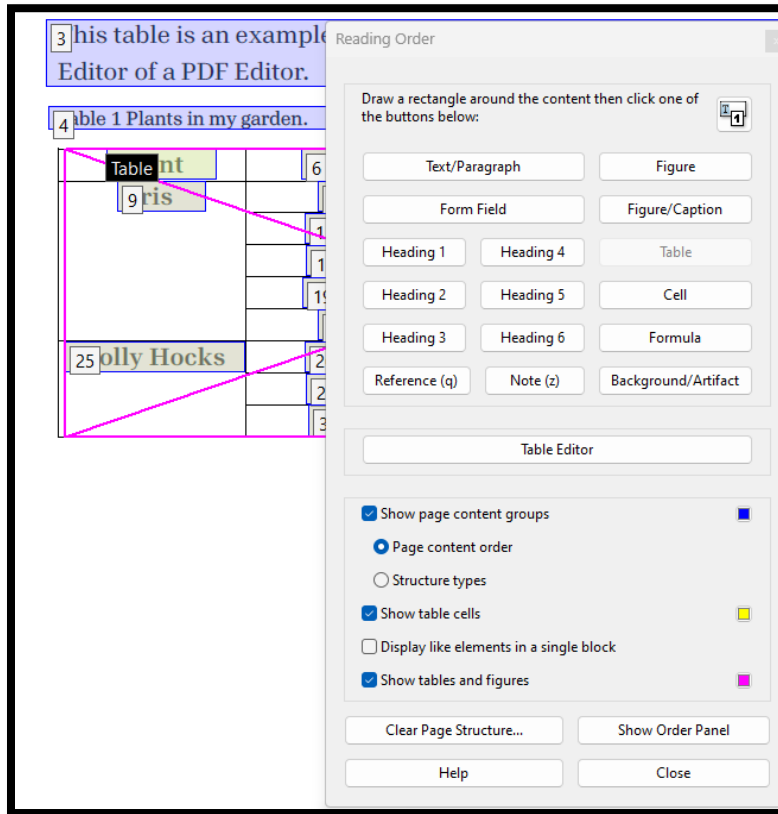
Activate the Accessibility Panel in the Tools Task Pane.

Activate Reading Order Panel.

When the Reading Order Panel opens, use the Hand Tool to select the table in the PDF.

In the Reading Order Panel, activate the Table Editor button. It will not be active until a table is selected.

Figure 314 Reading Order Panel showing Table Editor (Adobe Acrobat Pro DC).



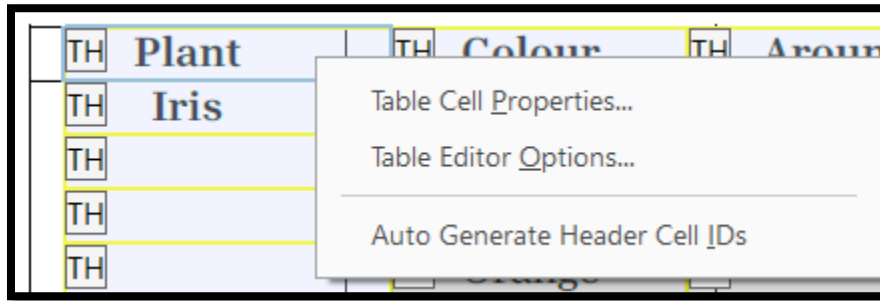
The Table Editor launches, showing the table cells, <TH> and <TD> Tags.

Figure 315 Table Editor active (Adobe Acrobat pro DC).

TH	Plant	TH	Colour	TH	Around House	TH	Along Fence
TH	Iris	TD	Blue	TD	10	TD	15
TH		TD	Purple	TD	8	TD	10
TH		TD	Yellow	TD	7	TD	8
TH		TD	Orange	TD	10	TD	6
TH		TD	Pink	TD	15	TD	10
TH	olly Hocks	TD	Purple	TD	6	TD	5
TH		TD	Yellow	TD	25	TD	15
TH		TD	White	TD	15	TD	20

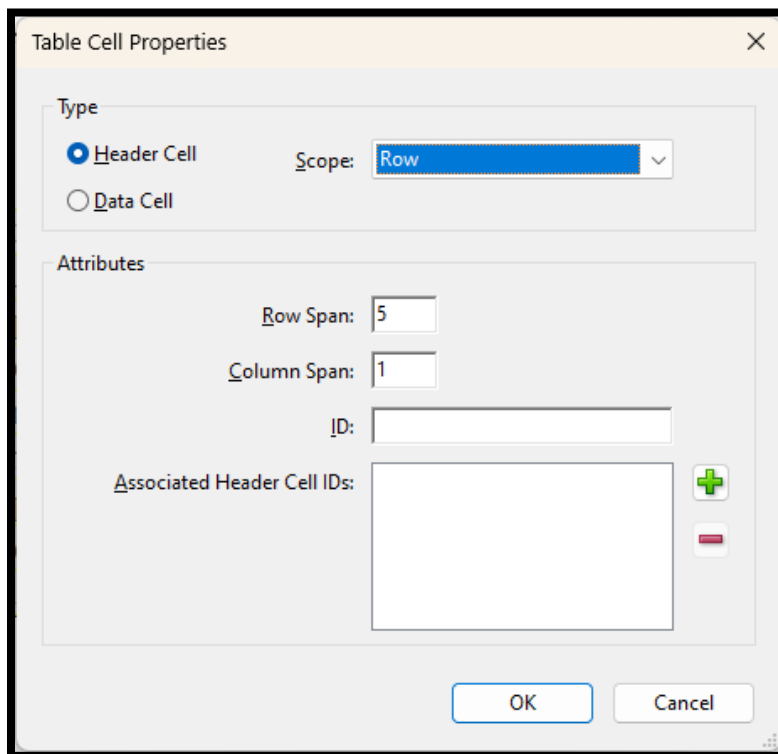
With the Table Editor open, right-click on a cell and choose Table Cell Properties from the context menu. We've already looked at how to personalize the Table Editor Options.

Figure 316 Table Editor context menu (Adobe Acrobat Pro DC).



When the Table Editor opens, select the first cell in the series of cells that should be spanned. In case it is the cell containing the word “Iris”.

Figure 317 Table Cell Properties dialog showing the RowSpan entries (Adobe Acrobat Pro DC).



For this table, we are going to implement RowSpan. The topics of Iris and Holly Hocks span multiple rows.

In the list of possible span options, choose Row.

In the Row Spans combo list, enter the number 5 for this example.

Leave the Column number as 1 (the RowSpan includes one column).

Activate the OK button.

You will get a warning about changing the structure of the table. Say Yes. If you have made a mistake: close the document without saving, open it again and start over.

Figure 318 Table Editor showing RowSpan for Iris and Holly Hocks (Adobe Acrobat Pro DC).



Plant	Colour		Around House	Along Fence
Iris	Blue		10	15
	Purple		8	10
	Yellow		7	8
	Orange		10	6
	Pink		15	10
Holly Hocks	Purple		6	5
	Yellow		25	15
	White		15	20

Once ColSpan and/or RowSpan are completed, press Escape to return to the full Reading Order Panel.

Foxit PDF Editor

Using the Table Editor for ColSpan and RowSpan

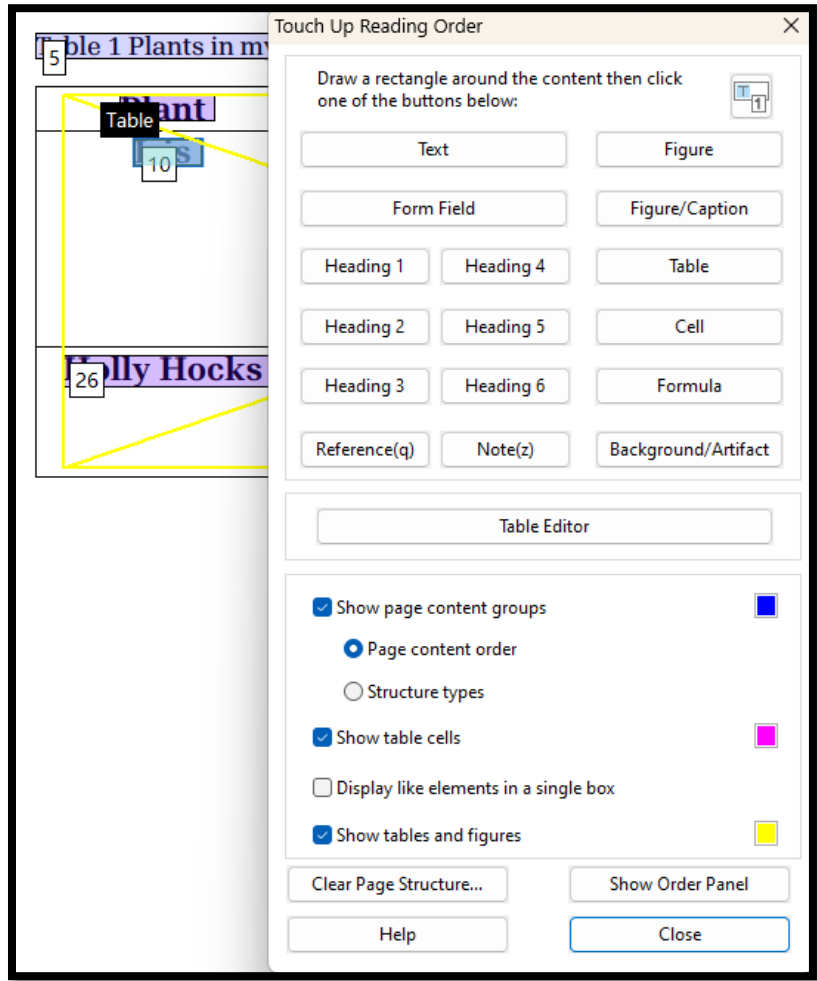
Assignments

Activate the Reading Order Panel from the Accessibility Ribbon.

Using the Hand Tool, select the Table.

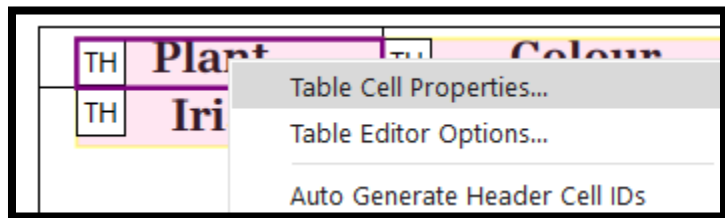
Activate the Table Editor button in the Reading Order Panel.

Figure 319 Reading Order Panel showing Table Editor button active (Foxit PDF Editor).



When the Table Editor opens, select the first cell in the series of cells that should be spanned. In case it is the cell containing the word “Iris”.

Figure 320 Table Editor showing context menu and Table Cell Properties selected (Foxit PDF Editor).

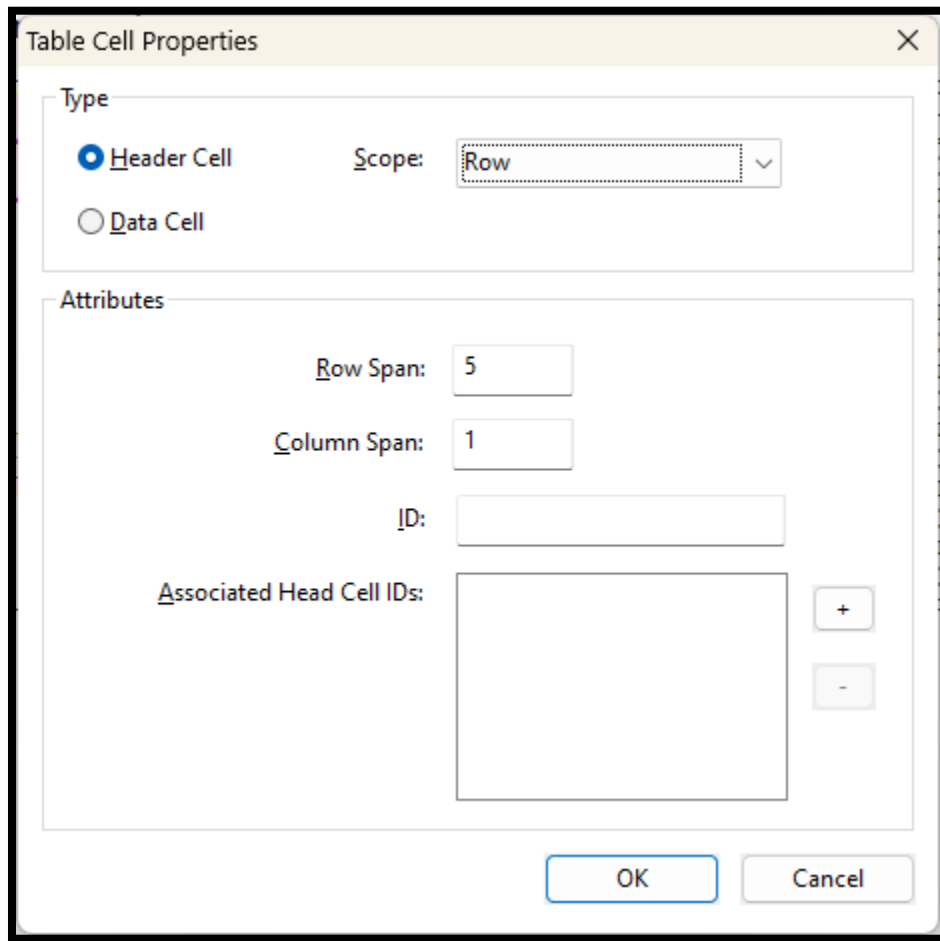


In the Table Cell Properties dialog, select Row for the Span options. This is a dropdown list.

Choose 5 for RowSpan number. The ColSpan number remains at 1.

Activate the OK button.

Figure 321 Table Cell Properties dialog showing Span option and RowSpan number (Foxit PDF Editor).



You'll get a warning stating that the changes to the table will be structural and asking if you want to Continue.

Activate the Yes button.

The table will reflect the changes in RowSpan made using the Table Editor.

The following graphic illustrates the changes in RowSpan for "Iris" and "Holly Hocks".

Figure 322 Table Editor showing the RowSpan applied to "Iris" and "Holly Hocks" (Foxit PDF Editor).

Table 1 Plants in my garden.

Plant	Colour	Around House	Along Fence
Iris	Blue	10	15
	Purple	8	10
	Yellow	7	8
	Orange	10	6
	Pink	15	10
Holly Hocks	Purple	6	5
	Yellow	25	15
	White	15	20

To exit the Table Editor and Reading Order Panel, click anywhere off the table. Unlike Adobe Acrobat Pro DC, where pressing Escape will return you to the Reading Order Panel, pressing Escape in Foxit PDF Editor will also exit the Table Editor and the Reading Order Panel.

PDF 21: Using List Tags for lists in PDF documents

This technique ensures that the correct Tags for lists are present in the Tags Tree. This includes keeping list elements together when they span more than one page.

Neither Adobe Acrobat Pro nor Foxit PDF Editor have a tool for quickly tagging lists.

WCAG Success Criteria

[PDF21: Using List Tags for lists in PDF documents](#)¹⁴³.

- Sufficient to meet [1.3.1: Info and Relationships](#)¹⁴⁴ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 1.3.1 Info and Relationships](#)¹⁴⁵.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards.

ISO 14289 – 1:2014.

7.6 Lists.

Correct List Structure (Tags)

Lists must be tagged manually.

The structure of the lists is as follows:

<L> as the parent List tag.

 for each list item.

<Lbl> for bullets and numbers.

<LBody> for the text of a list item.

 for each list item.

<Lbl> for bullets and numbers.

<LBody> for the text of a list item.

¹⁴³ PDF 21 Using List Tags for lists in PDF documents, W3C:
<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF21>

¹⁴⁴ Success Criteria 1.3.1 Info and Relationships, W3C: <https://www.w3.org/TR/WCAG22/#info-and-relationships>

¹⁴⁵ Understanding 1.3.1 Info and Relationships, W3C:
<https://www.w3.org/WAI/WCAG22/Understanding/info-and-relationships.html>

If a list does not have a bullet or number, the <Lbl> Tag is unnecessary as it would be an empty tag.

However, if there are paragraphs of text associated with a list item, the correct way to Tag this is as a sub-list. There is an example of this scenario in this topic.

The following graphic illustrates a List structure in the Tags Tree and the corresponding list in the PDF. The example is of a list spanning two pages. The two lists were manually brought together.

Figure 323 List structure in the Tags Tree.

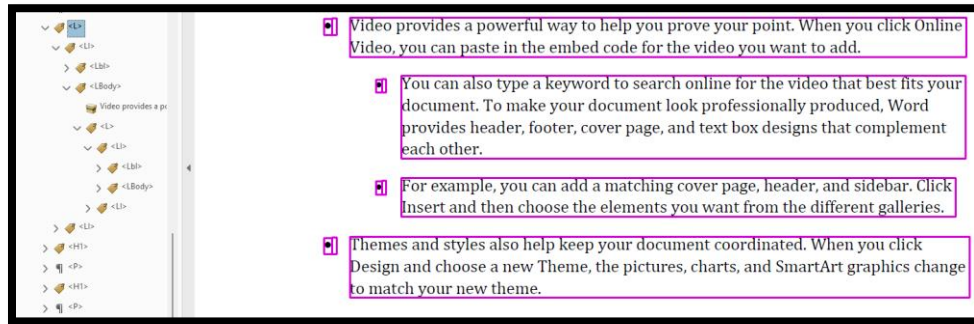


The following is the Tags Tree for a list item with a sub-list as illustrated above.

```
<L>
  <LI>
    <Lbl>
      <LBody>
        <L>
          <LI>
            <Lbl>
              <LBody>
            <LI>
              <Lbl>
                <LBody>
          <LI>
            <Lbl>
              <LBody>
        <LI>
          <Lbl>
            <LBody>
```

The following list Tags illustrate a multi-level list structure.

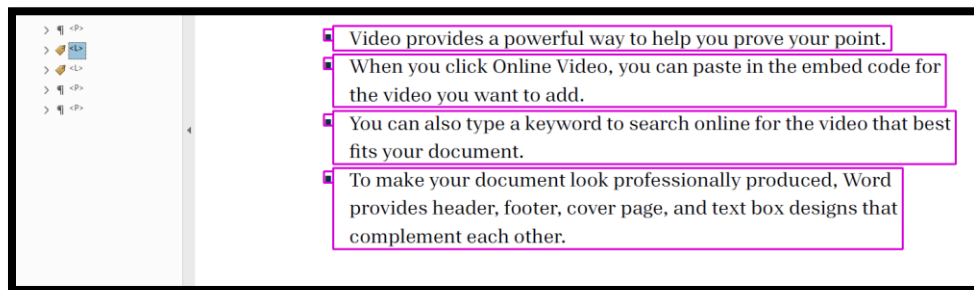
Figure 324 Multi-list structure in a PDF (Adobe Acrobat Pro DC).



The preceding tagging technique is used when there are paragraphs of text with no bullets or numbers associated with a list item. The paragraphs of text are in a list structure.

The following is an example of a single list broken across pages that needs remediation.

Figure 325 List that is broken across two pages in a PDF.



The remediation is to open both parent <L> Tags and bring the Tags from the second list into their logical place in the first list, as shown in the following graphic.

PDF 22: Indicating when the user input falls outside the required format or values in PDF forms

This technique provides information to someone filling in a form that the information they entered is incorrect regarding the answer format.

WCAG Success Criteria

[PDF22: Indicating when user input falls outside the required format or values in PDF forms](#)¹⁴⁶.

- Sufficient to meet [3.3.1 Error Identification](#)¹⁴⁷ (WCAG 2.0, 2.1, 2.2 A).
 - [Understanding 3.3.1 Error Identification](#)¹⁴⁸.
- Sufficient to meet [3.3.3 Error Suggestion](#)¹⁴⁹ (WCAG 2.0, 2.1, 2.2 AA).
 - [Understanding 3.3.3 Error Suggestion](#)¹⁵⁰.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards.

ISO 32000 – 1:2008.

12.6 Actions.

12.7 Interactive Forms.

Error Messages in PDF Forms

For example, if a date form control format (Calendar button on the Prepare Form Toolbar) is yy-dd-mm and someone enters the information as dd-mm-yy, they should get an error message that includes a reminder of the correct format.

This technique depends on two preexisting conditions:

¹⁴⁶ PDF 22 Indicating when user input falls outside the required format or values in PDF forms, W3C: <https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF22>

¹⁴⁷ Success criteria 3.3.1 Error Identification, W3C: <https://www.w3.org/TR/WCAG22/#error-identification>

¹⁴⁸ Understanding 3.3.1 Error Identification, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/error-identification.html>

¹⁴⁹ Success criteria 3.3.3 Error Suggestion, W3C: <https://www.w3.org/TR/WCAG22/#error-suggestion>

¹⁵⁰ Understanding 3.3.3 Error Suggestion, W3C: <https://www.w3.org/WAI/WCAG22/Understanding/error-suggestion.html>

1. The request for information is clear in the form. For example, the question is written as “Date (yy-mm-dd)”.
2. The Tooltip includes the format. For example: “Date (yy-dd-mm)”.

Without identifying the format required in the written question and Tooltip, it is unfair to those filling out the form to mandate a specific format.

These types of formats are present in form controls for dates and birthdates.

Date form control is one example of conforming to this PDF technique.

Adobe Acrobat Pro DC

Identifying the Format for Dates

To work on form controls, ensure you are in the Prepare Form tools.

The Format tab in the form control properties dialog sets the identification of an accepted format.

To set the format for form controls, right-click on the form control.

Choose Properties from the context menu.

In the Properties dialog, go to the Format tab.

If you add a Date form control, there is a Corresponding icon in the Prepare Form Toolbar. You can also use a Text form control and apply the date format.

Our example is for a date.

In the Format tab, activate the “Select Format Category”.

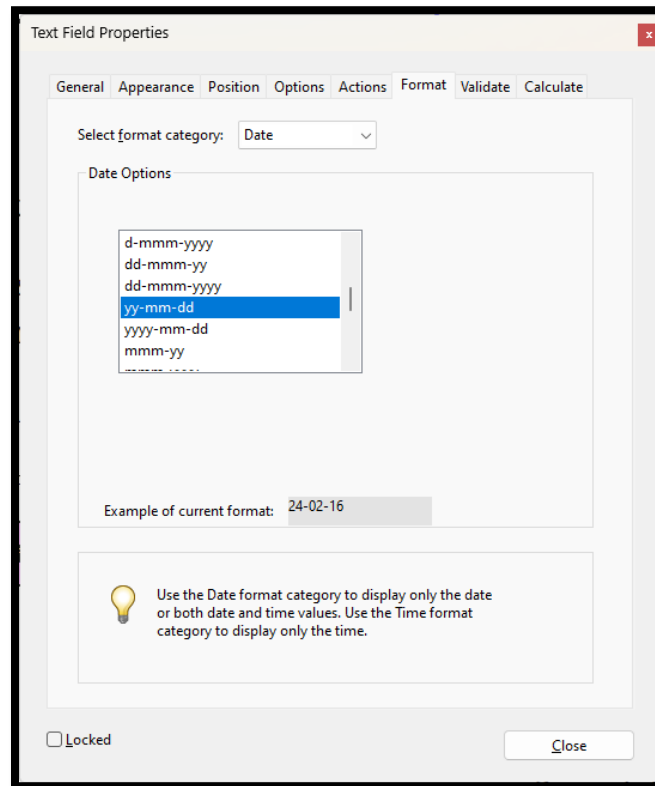
Choose Date.

This reveals the options for a date format.

If you’ve used a Date form control, the date format is predetermined, but you can change it. You must coordinate the default date format with the format requested in the form. This can mean changing the date format for the Date form control.

Once the date format is chosen, activate the Close button.

Figure 327 Format tab in the Text Field Properties dialog showing date settings (Adobe Acrobat Pro DC).



The ability to create a custom date format is at the end of the list of date formats. Remember that the date format chosen in the Format tab must match the date format in the question on the form and the ToolTip for the form control.

Foxit PDF Editor

Identifying the Format for Dates

While working on form controls, make sure the focus is on the Form Ribbon.

The Format tab in the form control properties dialog sets the identification of an accepted format.

To set the format for form controls, right-click on the form control.

Choose Properties from the context menu.

In the Properties dialog, go to the Format tab.

If you add a date form control, there is a Date icon in the Form Ribbon. You can also use a Text form control and apply the date format.

Our example is for a date.

In the Format tab, activate the “Select Format Category”.

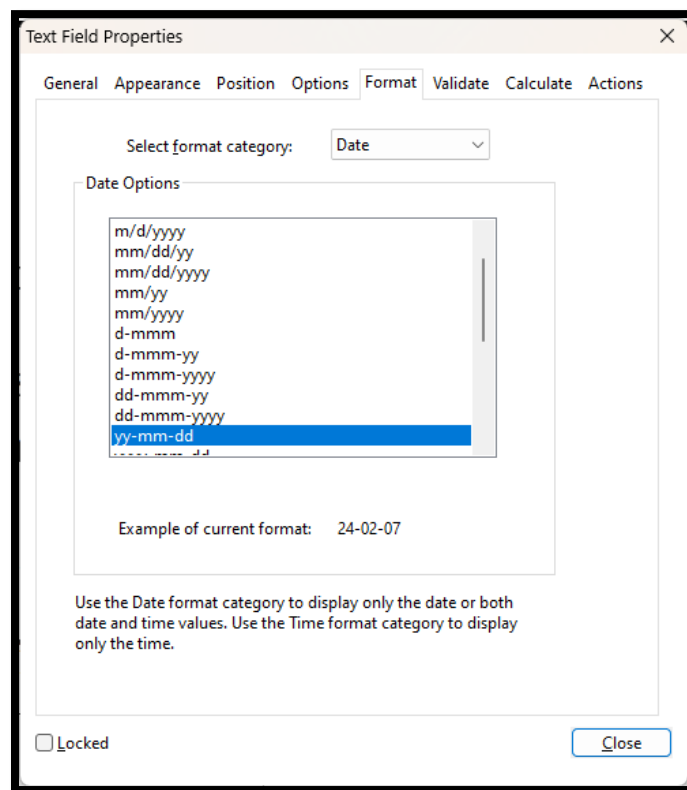
Choose Date.

This reveals the options for a date format.

If you’ve used a Date form control, the date format is predetermined, but you can change it. You must coordinate the default date format with the format requested in the written question on the form. This can mean changing the date format for the Date form control.

Once the date format is chosen, activate the Close button.

Figure 328 Tex Field Properties dialog showing Format tab and date format selected (Foxit PDF Editor).



The ability to create a custom date format is at the end of the list of date formats. Remember that the date format chosen in the Format tab must match the date format in the question on the form and the ToolTip for the form control.

PDF 23: Providing interactive form controls in PDF documents

A distinction must be made between PDF forms (static forms) and XFA (dynamic forms).

WCAG Success Criteria

[PDF23: Providing interactive form controls in PDF documents](#)¹⁵¹.

- Sufficient to meet [2.1.1 Keyboard](#)¹⁵² (WCAG 2.0 A).
 - [Understanding 2.1.1 Keyboard](#)¹⁵³.

ISO 32000 – 1:2008 and ISO 14289 – 1:2014

There is no free version of either first iteration of the ISO PDF standards.

ISO 32000 – 1:2008.

12.6 Actions.

12.7 Interactive Forms..

PDF and XFA (Extensible Markup Architecture) Forms

XFA or Extensible Markup Language forms must be created in a tool like the old LiveCycle Designer or the current iteration of that application, Form Designer. These applications provide the ability to create a form from scratch, adding questions, navigation, and form controls. They also provide the ability to add expanding form controls. These form controls expand over a page or pages as the end-user enters information.

Dynamic (XFA) forms cannot be validated using any of the accessibility checkers in a PDF Editor environment, such as Adobe Acrobat Pro or Foxit PDF Editor. There are currently no standards or accessibility standards for XFA forms. There is no accessibility checker in tools such as Form Designer. I did see a prototype of an accessibility checker for Form Designer, but it created a separate PDF with no correlation to the error. For example, an error might have been “Missing Tooltip”, but the accessibility checker didn’t identify which form control had the missing Tooltip.

¹⁵¹ PDF 23 Providing interactive form controls in PDF documents, W3C:

<https://www.w3.org/WAI/WCAG22/Techniques/pdf/PDF23>

¹⁵² Success criteria 2.1.1 Keyboard, W3C: <https://www.w3.org/TR/WCAG22/#keyboard>

¹⁵³ Understanding 2.1.1 Keyboard, W3C:

<https://www.w3.org/WAI/WCAG22/Understanding/keyboard.html>

You had to toggle back and forth between the PDF and the form to figure things out. This was a poor experience.

Static PDF forms are created from a template that is opened in a PDF Editor and remediated to add the form controls.

Once the form controls are added, the form controls must be added to the Tags Tree. They must be in the same <P> Tag as the question.

For example:

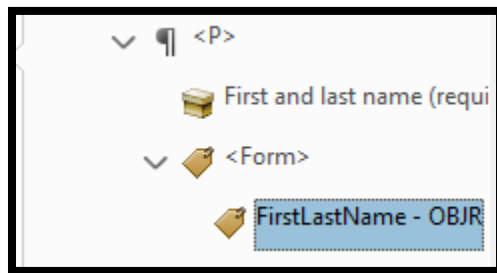
<P>

First and Last Name:

<Form>

FirstLastName-OBJR

Figure 329 Correctly tagged form control in the Tags Tree.



The preceding graphic illustrates a correctly tagged form control in the Tags Tree.

Summary

There is no substitute for knowing what accessible digital is and how to create and remediate it. Both the PDF Techniques for WCAG 2.x and the ISO PDF standards can provide some guidance, however, both leave out a lot of essential information about creating accessible digital content as the default.

There is currently no standard on how to create word processed, presentation, spreadsheet, or desktop published content to be accessible. Generally, I try to follow publishing standards in terms of formatting and structure, then use the WCAG and ISO standards to fill in any gaps in PDFs. The PDF Techniques for WCAG do not represent most of what makes a PDF accessible for those with disabilities, neither do the PDF standards.

It is only through knowledge, understanding and keeping up with the research on how people consume information, how adaptive technology works and what tools are available in source applications to optimize content to be accessible, that we can produce accessible digital content.

There is no “easy” button.

BUT...

That is why I love this field! It is not a static field. It is emerging and evolving with each iteration of software and digital tools. If we understand how to create digital content with structure and correct formatting, that IS our “easy” button. It becomes part of how we create content (just like spell checking)!

I recently read an article by Jakob Nielson that put forth the concept that AI (Artificial Intelligence) is going to be the panacea for those with disabilities. If we’ve learned anything from our now decades of computer -based technology it is the adage: “garbage in, garbage out”. If we don’t teach people how to create AI tools based on human needs rather than easy machine coding, we will simply have AI that is eternally not intelligent. We will be going down the same rabbit hole trying to fix problems that we created.

The strength of our field is our knowledge and understanding and ability to transfer concepts to formats and problems we encounter on a daily basis.

Table of Figures

Figure 1 Prepare the Document for Screen Reader dialog (Adobe Acrobat Pro DC).	22
Figure 2 Reading Untagged PDF with Assistive Technology (Foxit PDF Editor).	23
Figure 3 Save As area in the File menu options in Word.	24
Figure 4 Save As dialog showing PDF as the file type and the Options button.	24
Figure 5 Word Options dialog for PDFs showing the Create Bookmarks from Headings setting.	25
Figure 6 File, Save As area in PowerPoint.	26
Figure 7 Microsoft 365 desktop application Save As PDF dialog.	27
Figure 8 Microsoft 365 PowerPoint desktop Save As PDF Options dialog.	28
Figure 9 Acrobat Ribbon in Microsoft Word 365.	29
Figure 10 Acrobat Ribbon in Microsoft PowerPoint 365.	29
Figure 11 Save as Adobe PDF from the Microsoft 365 File menu.	30
Figure 12 Save as Adobe PDF dialog.	30
Figure 13 Options dialog for the Save as Adobe PDF from the Word File menu.	31
Figure 14 Foxit PDF Editor Ribbons in Word (Left) and PowerPoint (Right)	31
Figure 15 Object Properties dialog showing the Actual Text edit area.	40
Figure 16 Sample multilingual PDF showing the content and Tags Tree	41
Figure 17 The <Caption> Tag in a PDF from Word when the Caption tool is used (Microsoft 365).	42
Figure 18 First step in the Set Alternative Text process in Adobe Acrobat Pro DC, the notification dialog.	43
Figure 19 Adobe Acrobat Pro DC, Accessibility tools, Set Alternative Text dialog.	43
Figure 20 Context menu for a Tag in the Tags Tree (Adobe Acrobat Pro DC).	44
Figure 21 The Object Properties dialog for a Tag in Adobe Acrobat Pro DC.	45
Figure 22 The Foxit PDF Editor Accessibility Ribbon, Set Alternative Text option.	45
Figure 23 First step in the Set Alternative Text process in Foxit PDF Editor, notification dialog.	46
Figure 24 Foxit PDF Editor Set Alternative Text dialog.	46
Figure 25 Context menu for a Tag in Foxit PDF Editor showing the Properties option.	47
Figure 26 The Object Properties dialog on a Tag in the Tags Tree (Foxit PDF Editor). ..	48
Figure 27 Context menu showing View Alt Text option in Microsoft Word (Microsoft 365).	49
Figure 28 Alt Text Pane in Word (Microsoft 365).	50
Figure 29 Add Alt Text or Approve Generated Alt Text from the inserted graphic (Microsoft Word 365).	51
Figure 30 Alt Text button in the Accessibility group in the Picture Format Ribbon (Word 365).	52
Figure 31 The Accessibility Assistant Pane in Word showing 2 graphics with no Alt Text.	53

Figure 32 Review Description (Alt Text) in the Accessibility Assistant (Word 365 desktop).	54
Figure 33 Insert Caption on the References Ribbon (Microsoft Word 365).	55
Figure 34 Caption dialog (Microsoft Word 365).....	55
Figure 35 Graphic context menu showing View Alt Text (PowerPoint 365).	56
Figure 36 The Alt Text Pane in PowerPoint 365.	57
Figure 37 Accessibility Ribbon in PowerPoint 365.....	58
Figure 38 The Alt Text button on the Picture Format Ribbon in PowerPoint 365.	58
Figure 39 Accessibility Pane in PowerPoint 365 showing Missing Object Description list.	59
Figure 40 The Accessibility Checker in PowerPoint 365 allows adding Alt Text.	60
Figure 41 Bookmarks Panel in Adobe Acrobat Pro DC with Add Bookmark button active.....	62
Figure 42 Nested Bookmarks in the Bookmarks Panel of Adobe Acrobat Pro DC.	63
Figure 43 Adobe Acrobat Pro DC context menu to create a Bookmark.	64
Figure 44 Acrobat Ribbon in Microsoft Word 365.	65
Figure 45 Bookmarks tab in the Preferences dialog from the Acrobat Ribbon in Microsoft Word 365.	66
Figure 46 Adobe Acrobat Pro DC Preferences dialog with Convert to PDF selected. ...	67
Figure 47 Adobe PDF Settings for Supported Documents.	67
Figure 48 New Bookmarks from Structure option in the Bookmarks Panel Options menu (Adobe Acrobat Pro DC).	68
Figure 49 Structure Elements dialog showing several Heading levels to be used as Bookmarks (Adobe Acrobat Pro DC).....	69
Figure 50 Bookmarks Panel in Foxit PDF Editor.....	70
Figure 51 Bookmarks Panel with Bookmark in Edit mode (Foxit PDF Editor).....	70
Figure 52 Nested Bookmarks in the Bookmarks Panel of Foxit PDF Editor.....	71
Figure 53 Foxit PDF Editor Ribbon in Microsoft Word 365.	72
Figure 54 Foxit PDF Editor Add-in Settings dialog in Word.	72
Figure 55 Bookmarks Panel, Options context menu, New Bookmarks from Structure (Foxit PDF Editor).	73
Figure 56 Structure Elements dialog showing several Heading levels selected to create Bookmarks (Foxit PDF Editor).	74
Figure 57 Options dialog from the Save As dialog once the PDF file type is chosen.	75
Figure 58 Page Properties dialog in Adobe Acrobat Pro DC showing Tab Order settings.	79
Figure 59 View of a PDF page in the Order Panel (Adobe Acrobat Pro DC).	80
Figure 60 Reading Order Panel settings (Adobe Acrobat Pro DC).	81
Figure 61 Sample of Tags in the Tags Tree (Adobe Acrobat Pro DC).	82
Figure 62 Sample table Tags in a PDF document with corresponding content highlighted (Adobe Acrobat Pro DC).....	83

Figure 63 Sample List Tags in the Tags Tree (Adobe Acrobat Pro DC).	83
Figure 64 Page Properties dialog in Foxit PDF Editor.	84
Figure 65 Sample PDF in the Order Panel (Foxit PDF Editor).....	85
Figure 66 Accessibility Ribbon in Foxit PDF Editor.	86
Figure 67 Touch-up Reading Order Panel showing settings in Foxit PDF Editor.	86
Figure 68 Sample Tags Tree in the Tags Panel of Foxit PDF Editor.	87
Figure 69 Sample <Table> Tags in the Tags Panel in Foxit PDF Editor.....	88
Figure 70 Sample <List> Tag in the Tags Tree in PDF Editor.....	89
Figure 71 Order Panel with a blank line selected and the context menu showing Tags as Background/Artifact (Adobe Acrobat Pro DC).	91
Figure 72 Graphic in a PDF selected showing the buttons in the Reading Order Panel active (Adobe Acrobat Pro DC).	92
Figure 73 Container selected in the Content Panel with context menu showing Create Artifact (Adobe Acrobat Pro DC).....	93
Figure 74 Order Panel with blank line selected and context menu showing Tag as Background/Artifact (Foxit PDF Editor).	94
Figure 75 Touch-Up Reading Order Panel showing graphic selected and Tag as Background/Artifact button active (Foxit PDF Editor).	95
Figure 76 Content Panel with a graphic selected and the context menu to Create Artifact showing (Foxit PDF Editor).	96
Figure 77 Alt Text Pane showing Mark as Decorative check box (Microsoft Word 365).	98
Figure 78 Alt Text button on the Picture Format Ribbon (Microsoft Word 365).....	98
Figure 79 Add Alt Text or Approve Generated Alt Text from the inserted graphic (Microsoft Word 365).	99
Figure 80 Modify Style dialog showing Format button (Microsoft Word 365).	100
Figure 81 The paragraph dialog showing settings to add space after the text. (Microsoft Word 365).....	101
Figure 82 Text Field Properties dialog showing the Tooltip indicating a required field and the Required check box checked (Adobe Acrobat Pro DC).	104
Figure 83 Text Field Properties showing a ToolTip that indicates a required field and the Required check box checked (Foxit PDF Editor).	106
Figure 84 Sample table Tags in the Tags Tree of a PDF.	108
Figure 85 Table spanning two pages in a PDF showing separate <Table> Tags for each table.	110
Figure 86 Table spanning multiple pages remediated to join the table so it is a single <Table> structure.	111
Figure 87 Order Panel with individual cell contents selected and context menu visible (Adobe Acrobat Pro DC)	112
Figure 88 Mistagged table tagged using the Order Panel (Adobe Acrobat Pro DC).	113

Figure 89 Reading Order Panel showing active Table button and a table selected in a PDF (Adobe Acrobat Pro DC).....	113
Figure 90 Table mistagged using the Reading Order Panel shown in the Tags Tree (Adobe Acrobat Pro DC).....	114
Figure 91 Order Panel with table cells selected and context menu to Tag as Table (Foxit PDF Editor).....	115
Figure 92 Sample table structure created using the Order Panel with mistagged cells (Foxit PDF Editor).....	116
Figure 93 PDF showing Reading Order Panel over the document.....	117
Figure 94 Tags Tree showing table has been mistagged.....	117
Figure 95 The <Caption> Tag in a PDF from Word when the Caption tool is used (Microsoft 365).....	123
Figure 96 Paragraph where all the words are together with no spaces between them.	123
Figure 97 The text for the misrecognized text with no spaces between words.	123
Figure 98 Sample scanned document after text recognition showing spaces between characters in words.....	124
Figure 99 File, Create, From Scanner (Adobe Acrobat Pro DC).....	125
Figure 100 Scan and OCR Toolbar in Adobe Acrobat Pro DC.	125
Figure 101 Recognize Text options (Adobe Acrobat Pro DC).....	126
Figure 102 Recognize Text Sub-Toolbar (Adobe Acrobat Pro DC).....	126
Figure 103 Recognize Text dialog for the OCR settings (Adobe Acrobat pro DC).....	126
Figure 104 Recognized Text sub-menu (Adobe Acrobat Pro DC).....	127
Figure 105 Adobe Acrobat dialog showing no text reading concerns (Adobe Acrobat Pro DC).....	127
Figure 106 The Correct Text Recognition toolbar (Adobe Acrobat Pro DC).....	127
Figure 107 Convert Ribbon showing From Scanner (Foxit PDF Editor).....	128
Figure 108 Recognize Text options in the Convert Ribbon (Foxit PDF Editor).....	129
Figure 109 Recognize Text dialog (Foxit PDF Editor).....	130
Figure 110 The Search Complete dialog (Foxit PDF Editor).....	130
Figure 111 OCR Suspects dialog (Foxit PDF Editor).....	131
Figure 112 OCR Suspects dialog showing "Check All" checked and buttons active (Foxit PDF Editor).....	132
Figure 113 Tags Tree after Text Recognition (Foxit PDF Editor).....	132
Figure 114 OCR Suspects dialog showing different options chosen (Foxit PDF Editor).....	133
Figure 115 ABBYY FineReader File menu options.....	134
Figure 116 Sample of text with hyphen (top); remediated text (bottom) in ABBYY FineReader OCR Editor.....	135
Figure 117 Open in OCR Editor and Scan to OCR Editor in ABBYY FineReader.	136

Figure 118 File menu, New OCR Project and Save OCR Project in ABBYY FineReader.	136
Figure 119 OCR Project including OCR Editor in ABBYY FineReader.	137
Figure 120 File menu, Save As options in ABBY FineReader.	138
Figure 121 The Tags Tree showing the Tag used to isolate an acronym (Adobe Acrobat Pro DC).	140
Figure 122 Object Properties dialog showing the Content tab, Expansion Text editor (Adobe Acrobat Pro DC).	140
Figure 123 Acronym isolated using the tag (Foxit PDF Editor).	141
Figure 124 Object Properties dialog Showing Content tab, Expansion Text editor (Foxit PDF Editor).	141
Figure 125 Sample of text with no Headings, illustrating difficulty navigating content.	145
Figure 126 A Tag in the Tags Tree before editing (Left) and after editing (Right) (Adobe Acrobat Pro DC).	146
Figure 127 Order Panel context menu Tag as Heading options (Adobe Acrobat Pro DC).	147
Figure 128 Reading Order Panel showing Heading levels highlighted to text (Adobe Acrobat Pro DC).	148
Figure 129 A Tag in the Tags Tree before editing (Left) and after editing (Right) (Foxit PDF Editor).	149
Figure 130 Order Panel showing context menu for an element and the ability to Tag as Heading levels (Foxit PDF Editor).	150
Figure 131 Reading Order Panel showing Heading levels highlighted to text (Foxit PDF Editor).	151
Figure 132 The Quick Access Toolbar with the Apply Styles Pane added and in focus (Microsoft Word 365).	151
Figure 133 Quick Styles Gallery in the Home Ribbon showing Heading styles.	152
Figure 134 Styles Pane in Word.	153
Figure 135 The Apply Styles Pane in Word.	154
Figure 136 The Apply Styles Pane on my Quick Access Toolbar showing the Normal style in use.	154
Figure 137 Modify Style dialog in Word for Heading 1.	155
Figure 138 Create New Style from Formatting dialog in Word.	156
Figure 139 The New Style button at the bottom left of the Styles Pane in Word.	157
Figure 140 New Style button at the bottom left of the Styles Pane in Word.	157
Figure 141 Three slides showing the Title slide, general slide and Section Header slide in a presentation (PowerPoint 365).	158
Figure 142 An example of the "Picture with Caption" slide layout in PowerPoint 365.	158

Figure 143 An example of how the "Content with Caption" slide layout can be used to provide details about complex tables in PowerPoint 365.....	159
Figure 144 Accessibility Ribbon in PowerPoint 365 showing the Slide Title button. ..	160
Figure 145 Part of the Accessibility Ribbon in PowerPoint 365 showing the Slide Title option.	160
Figure 146 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text.	163
Figure 147 Tables of Content Gallery showing Content Control based Tables of Content (Microsoft 365).....	164
Figure 148 Rich Text content control in a sample Word form.	164
Figure 149 Content control in a Word document with text spanning multiple pages (XFA form control).	165
Figure 150 Sample ActiveX form control (Word 365).	165
Figure 151 Prepare Form screen in Adobe Acrobat Pro DC.....	167
Figure 152 Prepare Form Toolbar above a PDF document (Adobe Acrobat Pro DC). .	167
Figure 153 Prepare Form tools in the Tools Task Pane (Adobe Acrobat Pro DC).....	168
Figure 154 Option to "Show Tab Number" in the Prepare Form Tools in the Tools Task Pane (Adobe Acrobat Pro DC).....	169
Figure 155 Text form control pop-up (Adobe Acrobat Pro DC).	169
Figure 156 ToolTip area of the Properties dialog (Adobe Acrobat Pro DC).....	170
Figure 157 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).....	171
Figure 158 Find in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).	172
Figure 159 Find Element dialog in Tags Panel Adobe Acrobat Pro DC.	172
Figure 160 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text.	173
Figure 161 Form Ribbon (Foxit PDF Editor).	173
Figure 162 Form Ribbon, Select Tool, Select Annotation (Foxit PDF Editor).	174
Figure 163 Pop-up for a form control (Foxit PDF Editor).	174
Figure 164 Properties dialog showing ToolTip area highlighted (Foxit PDF Editor)....	174
Figure 165 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor).	175
Figure 166 New Tag dialog (Foxit PDF Editor).	176
Figure 167 New <Form> Tag in the correct position in the Tags Tree (Foxit PDF Editor).	176
Figure 168 Find option in the context menu in the Tags Tree (Foxit PDF Editor).	177
Figure 169 Find Unmarked Annotations in the Find dialog (Foxit PDF Editor).	177
Figure 170 Correct nesting of question, <Form> Tag and annotation in the Tags Tree (Foxit PDF Editor).	178
Figure 171 Correctly tagged link in a PDF.	180

Figure 172 Additional text in a PDF document has reached the edge of the page/bottom.	181
Figure 173 Edit PDF showing writing over a footer in a PDF document.	182
Figure 174 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).....	183
Figure 175 New Tag dialog showing Link Tag (Adobe Acrobat Pro DC).....	184
Figure 176 <Link> Tag with text to be used for the link (Adobe Acrobat Pro DC)	184
Figure 177 Link options in the Edit PDF Toolbar (Adobe Acrobat Pro DC).	184
Figure 178 Create Link dialog showing Link Type as Invisible Rectangle and Link Action as Open a web page (Adobe Acrobat Pro DC.).....	185
Figure 179 Edit URLs dialog where the link is typed or pasted into the edit area (Adobe Acrobat Pro DC).....	185
Figure 180 Complete accessible link in the Tags Tree (Adobe Acrobat Pro DC)	186
Figure 181 Preferences dialog, General category, Create Links from URLs unchecked (Adobe Acrobat Pro DC).	186
Figure 182 Context menu for a link in Edit PDF mode showing sub-menu Delete options (Adobe Acrobat Pro DC).....	187
Figure 183 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).....	187
Figure 184 New Tag dialog showing Link Tag (Adobe Acrobat Pro DC).....	188
Figure 185 <Link> Tag with text to be used for the link (Adobe Acrobat Pro DC)	188
Figure 186 Link options in the Edit PDF Toolbar (Adobe Acrobat Pro DC).	189
Figure 187 Create Link dialog showing Link Type as Invisible Rectangle and Link Action as Open a web page (Adobe Acrobat Pro DC.).....	189
Figure 188 Edit URLs dialog where the link is typed or pasted into the edit area (Adobe Acrobat Pro DC).....	190
Figure 189 Complete accessible link in the Tags Tree (Adobe Acrobat Pro DC)	190
Figure 190 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor)	191
Figure 191 New Tag dialog showing Link as the selected Tag (Foxit PDF Editor)	192
Figure 192 <Link>> Tag with text or a long web address nested under it. (Foxit PDF Editor).>	192
Figure 193 Edit Ribbon showing the Links button on the right (Foxit PDF Editor)	192
Figure 194 Create Link dialog showing underline properties and Open a web page option (Foxit PDF Editor).....	193
Figure 195 The URL Edit dialog (Foxit PDF Editor).	193
Figure 196 Completed accessible link in the Tags Tree (Foxit PDF Editor).....	194
Figure 197 An example of an accessible link in a PDF that was not originally a link (Foxit PDF Editor)	194
Figure 198 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor)	195

Figure 199 Edit Ribbon showing the Links button on the right (Foxit PDF Editor)	195
Figure 200 <Link>> Tag with text or long web address nested under it. (Foxit PDF Editor).>	196
Figure 201 Create Link dialog showing underline properties and Open a web page option (Foxit PDF Editor).....	197
Figure 202 The URL Edit dialog (Foxit PDF Editor).	197
Figure 203 Completed accessible link in the Tags Tree (Foxit PDF Editor).....	198
Figure 204 An example of an accessible link in a PDF that was not originally a link (Foxit PDF Editor)	198
Figure 205 Text form control pop-up (Adobe Acrobat Pro DC).	200
Figure 206 ToolTip area of the Properties dialog (Adobe Acrobat Pro DC).....	201
Figure 207 Tag Annotations in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).....	202
Figure 208 Find in the Options context menu of the Tags Panel (Adobe Acrobat Pro DC).	203
Figure 209 Find Element dialog in Tags Panel Adobe Acrobat Pro DC.	203
Figure 210 Sample of a correctly tagged form question with the <Form> Tag and its annotation nested with the question text (Adobe Acrobat Pro DC).....	204
Figure 211 Format tab in the Text Field Properties dialog showing date settings (Adobe Acrobat Pro DC).....	205
Figure 212 Dropdown Properties dialog showing entries for a dropdown list (Adobe Acrobat Pro DC).....	206
Figure 213 Dropdown Properties dialog showing a list of choices and the "Allow user to enter custom text" option (Adobe Acrobat pro DC).	207
Figure 214 Object Properties dialog showing a blank option for a Combo List (Adobe Acrobat Pro DC).....	208
Figure 215 Combo list in a PDF document with no default choice (Adobe Acrobat Pro DC).....	208
Figure 216 Combo list in a PDF form in edit mode showing the space used to create the default blank entry (Adobe Acrobat Pro DC).	208
Figure 217 Options tab in the Text Field Properties dialog showing the Alignment options (Adobe Acrobat Pro DC).....	210
Figure 218 Format tab in the Text Field Properties dialog showing the Select Format Category item (Adobe Acrobat Pro DC).....	211
Figure 219 Calculate tab in the Text Field Properties dialog showing a Simplified field notation (Adobe Acrobat Pro DC).	212
Figure 220 Field Selection dialog in Calculate tab of Text Field Properties dialog (Adobe Acrobat Pro DC).....	212
Figure 221 Form Ribbon (Foxit PDF Editor).	213
Figure 222 Form Ribbon, Select Tool, Select Annotation (Foxit PDF Editor).	213
Figure 223 Pop-up for a form control (Foxit PDF Editor).	213

Figure 224 Properties dialog showing ToolTip area highlighted (Foxit PDF Editor)....	214
Figure 225 Context menu in the Tags Tree showing Tag Annotations checked (Foxit PDF Editor).	215
Figure 226 New Tag dialog (Foxit PDF Editor).	215
Figure 227 New <Form> Tag in the correct position in the Tags Tree (Foxit PDF Editor).	216
Figure 228 Find option in the context menu in the Tags Tree (Foxit PDF Editor).	216
Figure 229 Find Unmarked Annotations in the Find dialog (Foxit PDF Editor).	217
Figure 230 Correct nesting of the question, <Form> Tag and annotation in the Tags Tree (Foxit PDF Editor).....	217
Figure 231 Text Field Properties dialog showing Format tab and date format selected (Foxit PDF Editor).	218
Figure 232 Text Field Properties dialog, Options tab with dropdown list entries showing a default entry (Foxit PDF Editor).	219
Figure 233 Text Field Properties dialog with entries set showing check box for allowing custom text entry (Foxit PDF Editor).....	220
Figure 234 Object Properties dialog showing a blank option for a Combo List (Foxit PDF Editor).	221
Figure 235 Combo list in a PDF document with no default choice (Foxit PDF Editor).	221
Figure 236 Combo list in a PDF form in edit mode showing the space used to create the default blank entry (Foxit PDF Editor).	222
Figure 237 Text Field Properties dialog, Options tab showing Alignment (Foxit PDF Editor).	223
Figure 238 Text Field Properties dialog, Format tab, Number and Currency format (Foxit PDF Editor).	224
Figure 239 Text Field Properties dialog, Calculate tab showing Simplified Notation selected (Foxit PDF Editor).....	225
Figure 240 Field Selection dialog showing a list of named form controls (Foxit PDF Editor).	226
Figure 241 Object Properties dialog showing Alternative Text area (Adobe Acrobat Pro DC).....	229
Figure 242 The Object Properties dialog shows the Alternative Text area (Foxit PDF Editor).	230
Figure 243 Insert Ribbon, Link, Insert Link option (Microsoft Word 365).	230
Figure 244 Insert Hyperlink dialog (Microsoft Word 365).	231
Figure 245 Insert Hyperlink dialog with Text to Display and Address areas (Microsoft PowerPoint 365).	232
Figure 246 Go To Page dialog (Adobe Acrobat Pro DC).....	235
Figure 247 Adobe Acrobat dialog saying that the page with the Roman Numeral is not found (Adobe Acrobat Pro DC).	235

Figure 248 Pages Panel context menu showing Page Labels (Adobe Acrobat Pro DC).	236
Figure 249 Pages Panel and Page Label dialog (Adobe Acrobat Pro DC).	237
Figure 250 The cover page of a PDF once a Page Label has been implemented (Adobe Acrobat Pro DC).	238
Figure 251 Two Roman Numeral pages in the pages Panel and the first page of the document content (Adobe Acrobat Pro DC).	238
Figure 252 Page Label dialog showing a change in page numbering to Roman Numerals (Adobe Acrobat Pro DC).	239
Figure 253 The pages panel showing the two pages with Roman Numerals and the start of the report text on page 1 (Adobe Acrobat Pro DC).	240
Figure 254 The Page Labels dialog shows page numbering starting at page 1 (Adobe Acrobat Pro DC).	241
Figure 255 Page ii in a PDF once Page Labels were assigned (Adobe Acrobat Pro DC).	242
Figure 256 Format Page Numbers in the Pages Panel (Foxit PDF Editor)	243
Figure 257 Pages Panel showing a cover page selected and the Page Numbers dialog (Foxit PDF Editor).	243
Figure 258 Pages Panel showing "Cover 1" as the cover page number (Foxit PDF Editor).	244
Figure 259 Page Labels in the Pages Panel showing the cover page and preface pages (Foxit PDF Editor).	245
Figure 260 Page Numbers dialog showing the selected pages will have Roman Numeral Page Labels (Foxit PDF Editor).	246
Figure 261 Page Numbers dialog showing the pages in the body of the PDF starting at page 1 (Foxit PDF Editor).	247
Figure 262 General tab in the Button Properties dialog showing the Tooltip (Adobe Acrobat Pro DC).	249
Figure 263 Appearance tab in the Button Properties dialog showing Font size set to Auto (Adobe Acrobat Pro DC)	250
Figure 264 Options tab in the Button Properties dialog showing the label text added (Adobe Acrobat Pro DC).	251
Figure 265 Action tab in the Button Properties dialog (Adobe Acrobat Pro DC).	252
Figure 266 Submit Form Selections dialog in Button Form Properties Action tab (Adobe Acrobat Pro DC).	253
Figure 267 Sample Submit button in a PDF form (Adobe Acrobat Pro DC).	253
Figure 268 Send Email dialog once a Submit button is activated (Adobe Acrobat Pro DC).	254
Figure 269 Button form control showing the pop-up to provide a meaningful name (Foxit PDF Editor).	255

Figure 270 Button Properties dialog showing a Tooltip in the General tab (Foxit PDF Editor).	255
Figure 271 Button Properties dialog, Appearance tab showing font size set to "Auto" (Foxit PDF Editor).	256
Figure 272 Button Properties dialog showing the label text filled in (Foxit PDF Editor).	257
Figure 273 Button Properties dialog showing the "Mouse Enter" and "Submit a Form" options set (Foxit PDF Editor).....	258
Figure 274 Button Properties dialog showing the submit form settings as the entire PDF to be sent by e-mail (Foxit PDF Editor).....	259
Figure 275 Finished Submit button in a PDF (Foxit PDF Editor).....	259
Figure 276 Document Properties dialog showing the Advanced tab Language setting (Adobe Acrobat Pro DC).	262
Figure 277 Document Properties area showing the Advanced tab Language setting (Foxit PDF Editor).	263
Figure 278 Go To Page dialog (Adobe Acrobat Pro DC).....	266
Figure 279 Adobe Acrobat dialog saying that the page with the Roman Numeral is not found (Adobe Acrobat Pro DC).	266
Figure 280 Pages Panel context menu showing Page Labels (Adobe Acrobat Pro DC).	267
Figure 281 Pages Panel and Page Label dialog (Adobe Acrobat Pro DC).	267
Figure 282 The cover page of a PDF once a Page Label has been implemented (Adobe Acrobat Pro DC).....	268
Figure 283 Two Roman Numeral pages in the pages Panel and the first page of the document content (Adobe Acrobat Pro DC).	269
Figure 284 Page Label dialog showing a change in page numbering to Roman Numerals (Adobe Acrobat Pro DC).	270
Figure 285 The pages panel showing the two pages with Roman Numerals and the start of the report text on page 1 (Adobe Acrobat Pro DC).....	271
Figure 286 The Page Labels dialog showing page numbering starting at page 1 (Adobe Acrobat Pro DC).....	272
Figure 287 Format Page Numbers in the Pages Panel (Foxit PDF Editor)	273
Figure 288 pages Panel showing a cover page selected and the Page Numbers dialog (Foxit PDF Editor).	274
Figure 289 Pages Panel showing "Cover 1" as the cover page number (Foxit PDF Editor).	274
Figure 290 Page Numbers dialog showing the selected pages will have Roman Numeral Page Labels (Foxit PDF Editor).	275
Figure 291 Pages Panel showing the cover page number and two pages with Roman Numerals (Foxit PDF Editor).	276

Figure 292 Page Numbers dialog showing the pages in the body of the PDF starting at page 1 (Foxit PDF Editor).....	277
Figure 293 Document Properties dialog, Description tab with Document title entered (Adobe Acrobat Pro DC).....	279
Figure 294 Document Properties dialog, Initial View tab showing Document Title to be shown (Adobe Acrobat Pro DC).....	280
Figure 295 Properties, Description area, Document Title present (Foxit PDF Editor).	280
Figure 296 Properties area, Initial View set to Show Document title (Foxit PDF Editor).	281
Figure 297 Advanced Properties dialog in Word showing Document title entered. ...	282
Figure 298 Advanced Properties dialog in PowerPoint showing the title of the document entered.	283
Figure 299 Sample document showing one language on the left and another on the right.....	285
Figure 300 Multilingual PDF showing <Part> Tag for French and context menu (Adobe Acrobat Pro DC).....	286
Figure 301 Object Properties dialog showing the language attribute (Adobe Acrobat Pro DC).....	287
Figure 302 Correct Tags for the sentence containing the French text (Adobe Acrobat Pro DC).....	287
Figure 303 New Tag dialog showing Span as the new Tag to be created (Adobe Acrobat Pro DC).....	288
Figure 304 Word or phrase in a different language in the Tag (Adobe Acrobat Pro DC).....	288
Figure 305 The Object Properties dialog shows the language attribute (Adobe Acrobat Pro DC).....	289
Figure 306 Tags Tree showing content in a different language in a <Part> Tag (Foxit PDF Editor).	290
Figure 307 Object Properties dialog showing language attribute added (Foxit PDF Editor).	291
Figure 308 PDF Tags Tree showing a phrase in a different language in a Tag (Foxit PDF Editor).	291
Figure 309 New Tag dialog showing the Span Tag (Foxit PDF Editor).	292
Figure 310 Object Properties dialog showing the language attribute changed (Foxit PDF Editor).	292
Figure 311 Paragraph Tag in a PDF with a change in language in a Tag (Foxit PDF Editor).	293
Figure 312 Table Editor mode showing context menu options.	295
Figure 313 Table Editor Options dialog (Adobe Acrobat Pro DC on the left; Foxit PDF Editor on the right).....	296
Figure 314 Reading Order Panel showing Table Editor (Adobe Acrobat Pro DC).	297

Figure 315 Table Editor active (Adobe Acrobat pro DC).	297
Figure 316 Table Editor context menu (Adobe Acrobat Pro DC).	298
Figure 317 Table Cell Properties dialog showing the RowSpan entries (Adobe Acrobat Pro DC).	298
Figure 318 Table Editor showing RowSpan for Iris and Holly Hocks (Adobe Acrobat Pro DC).	299
Figure 319 Reading Order Panel showing Table Editor button active (Foxit PDF Editor).	300
Figure 320 Table Editor showing context menu and Table Cell Properties selected (Foxit PDF Editor).	300
Figure 321 Table Cell Properties dialog showing Span option and RowSpan number (Foxit PDF Editor).	301
Figure 322 Table Editor showing the RowSpan applied to "Iris" and "Holly Hocks" (Foxit PDF Editor).	302
Figure 323 List structure in the Tags Tree.	304
Figure 324 Multi-list structure in a PDF (Adobe Acrobat Pro DC).	305
Figure 325 List that is broken across two pages in a PDF.	305
Figure 326 Correct tagging of a list that spans two pages.	306
Figure 327 Format tab in the Text Field Properties dialog showing date settings (Adobe Acrobat Pro DC).	309
Figure 328 Text Field Properties dialog showing Format tab and date format selected (Foxit PDF Editor).	310
Figure 329 Correctly tagged form control in the Tags Tree.	312