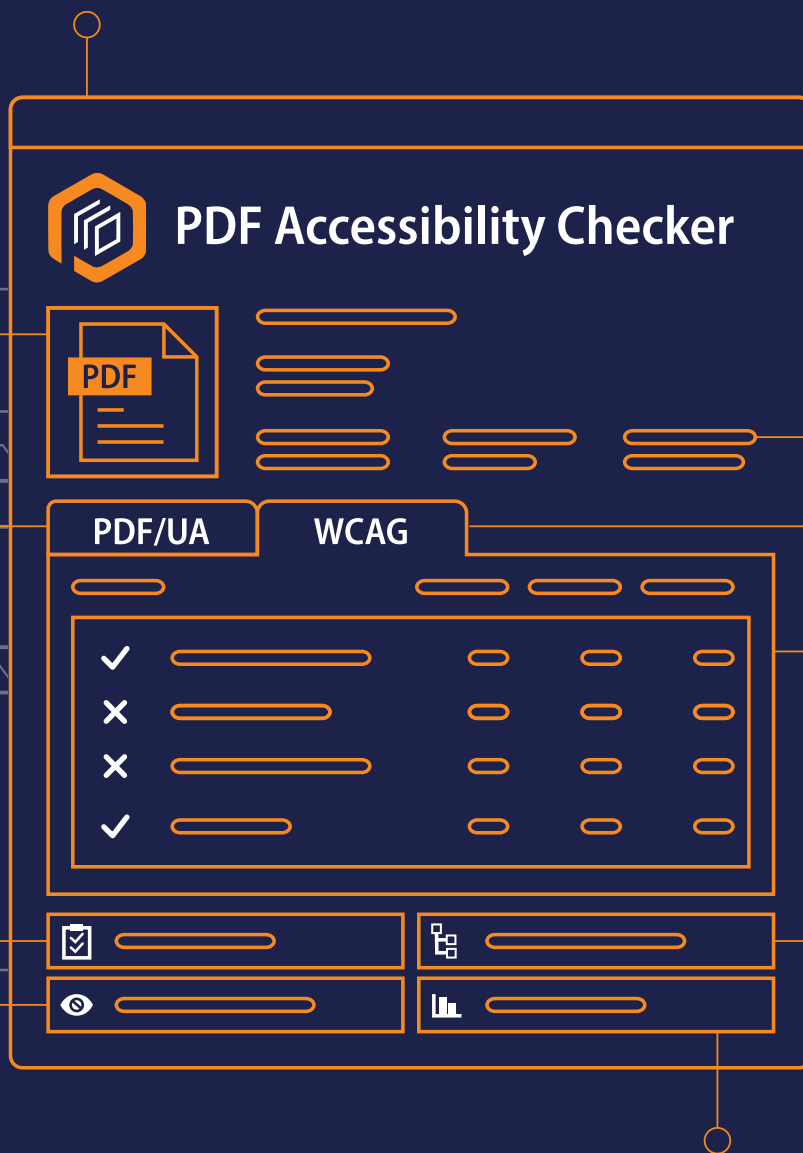


PAC 2021

User Guide





PDF Accessibility Checker (PAC) 2021 User Guide

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Introducing PDF Accessibility Checker 2021

PDF Accessibility Checker (PAC) 2021 is a free tool that you can use to check your PDF documents for accessibility and compliance with the following standards:

- ISO 14289 (PDF/UA)
- Web Content Accessibility Guidelines (WCAG), version 2.1, level AA

The following screenshot shows the PAC user interface as it appears when you first start the tool.

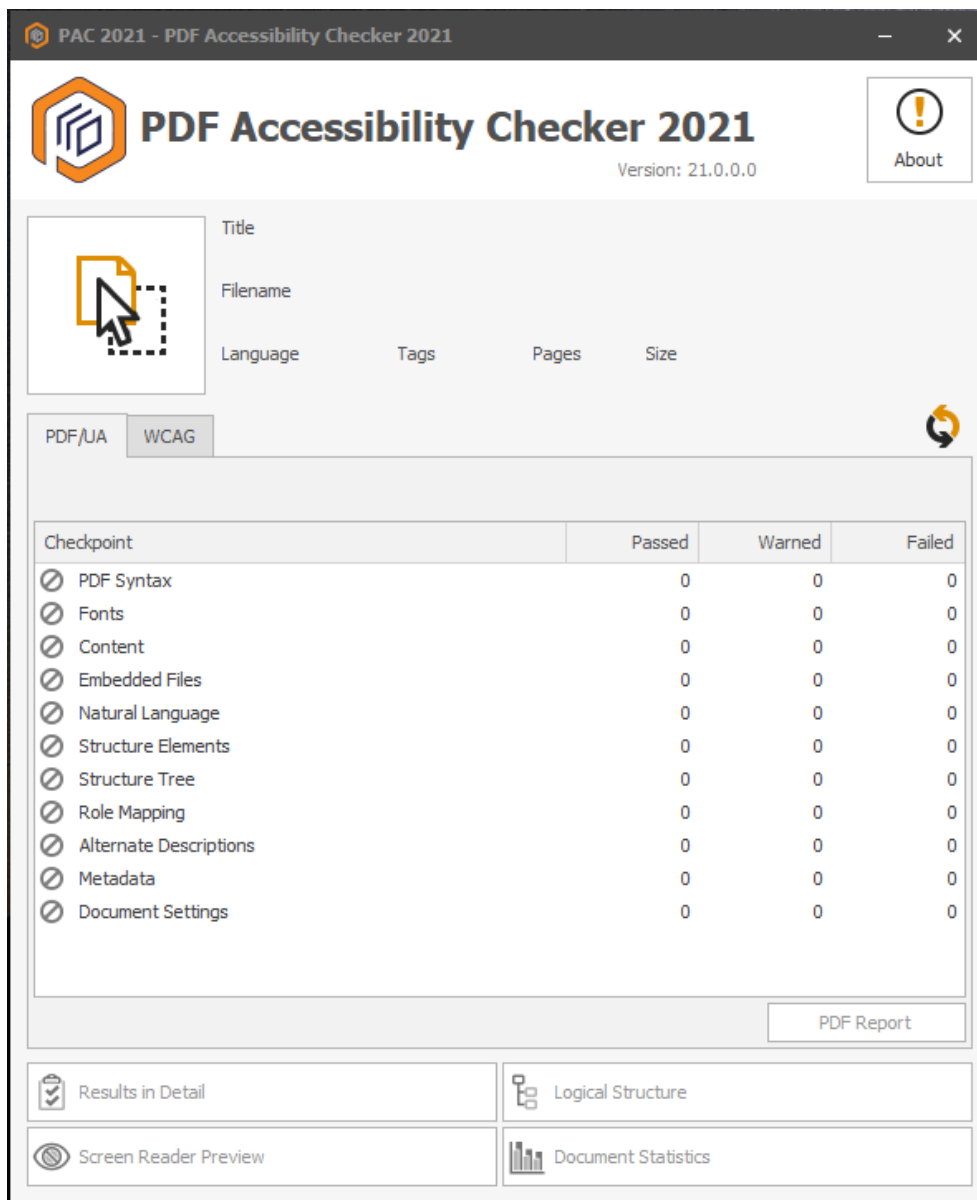


Figure 1: PDF Accessibility Checker user interface



Understanding the basics

- PDF Accessibility Checker focuses on the technical accessibility of your documents.

ISO Standard PDF/UA is a standard of technical accessibility.

As a complementary standard to WCAG 2.1, the ISO Standard PDF/UA guarantees the basic accessibility of a PDF document.

- PDF/UA guarantees the best possible user experience.

People with disabilities use various types of assistive technology (AT). For an optimally accessible experience, PDF documents must be of high-quality and barrier-free.

- 0 Errors means that the document is only technically barrier-free

The Matterhorn Protocol, a test catalog for PDF/UA compliance, includes 136 error conditions. Of those, only 108 which can be checked by machine.

The Web Content Accessibility Guidelines (WCAG) includes many criterion that can be checked by machine.

With PAC, most of them can be checked at the push of a button.

- PAC helps with additional manual inspection

Additional visual checks pertaining semantics and logical reading order are necessary to ensure compliance with PDF/UA and WCAG 2.1.

PAC includes view to support these visual checks:

- Screen Reader Preview: A view for quick, visual check of the document structure
- Logical Structure: A detailed view for expert, detailed checking of the tag tree and tags



What's new in PDF Accessibility Checker (PAC)

We've made some changes to PAC; here are the highlights:

- You can now test your PDF documents for compliance with WCAG 2.1, Level AA.
- We've added a Contrast Color Checker, which is one of the WCAG 2.1 checkpoints. The color contrast between real text and the background is checked; this includes the text in an image, such as labels in a bar chart.
- The Summary report has a new look and feel, making it clear and easy to navigate and review.
- We've added support for more languages: German (DE), English (EN), French (FR), Spanish (SP), and Danish (DK).



Installing PDF Accessibility Checker (PAC)

System requirements

To install and use PAC 2021, you must have Microsoft® .NET version 4.8 installed on the system.

For information about the system requirements of Microsoft® .NET, go to [.NET Framework system requirements](#).¹

Downloading and installing PAC

To install the current version of PAC:

1. Go to the [PDF/UA Foundation website](#)² and download the ZIP file.
Note: You do not need administrator rights to install PAC.
2. Extract the ZIP file to your preferred directory.

¹ <https://docs.microsoft.com/en-us/dotnet/framework/get-started/system-requirements>
² Homepage - PDF/UA Foundation - PDF/UA Foundation (pdfua.foundation)



Getting familiar with the user interface

The following screenshot shows the layout of the user interface as it appears when you start PAC and test a PDF document.

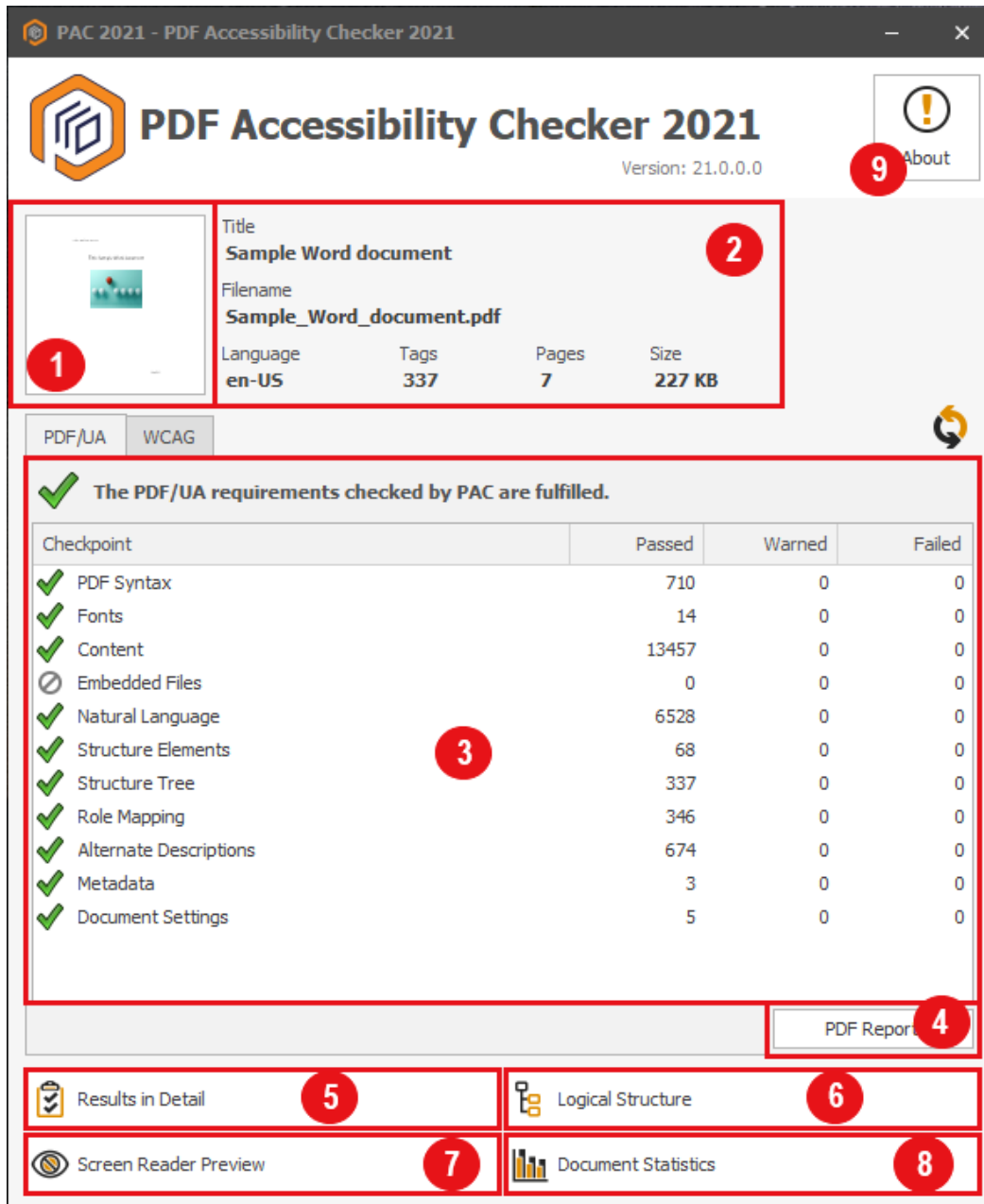


Figure 2: The PDF Accessibility Checker user interface, with key areas highlighted



1 - Drag & Drop Area

You can quickly start a PDF validation by dragging a PDF file into the Drag & Drop area.

You can also click the Drag & Drop area and, in the File Explorer, select a PDF file.

2 - Document properties for the selected PDF document

This area of the PAC user interface displays additional information about the PDF document that you are checking. These details include the title, file name, main language, number of tags, number of pages, and the file size.

3 - Summary Report

The summary report shows an overview of the validation results for each checkpoint, with the associated results organized into Passed, Warned, or Failed.

You can choose to view the results for either the PDF/UA validation or the WCAG validation.

4 - PDF Report

You can export the summary test report as a barrier-free PDF as proof of quality.

5 - Results in Detail

Using the detailed report, you can analyze and locate the individual errors (checkpoints) in the document. You can expand items in the Title list to view details about subitems.

When you click an error in the list, details about the error are displayed in the top-right pane, and the location of the error in the document is displayed in the lower-right pane.

6 - Logical Structure

Using the views in the Logical Structure window, you can view the entire tag tree for the PDF document. You can also view the properties for each tag, the associated role maps, or the associated page with the selected content highlighted.

7 - Screen Reader Preview

You can view a simplified structure of the PDF to quickly assess the quality of the assigned tags and to review the logical reading order of the document.



8 - Document Statistics

You can review a list of the tags that are used in the PDF document, as well as the count for each type of tag. This information helps you evaluate the document semantics.

9 - About

You can see the version number of PAC that you are using and get access to additional information.

The More Information button opens the PDF/UA Foundation website where you can find information about the PDF/UA Standard.

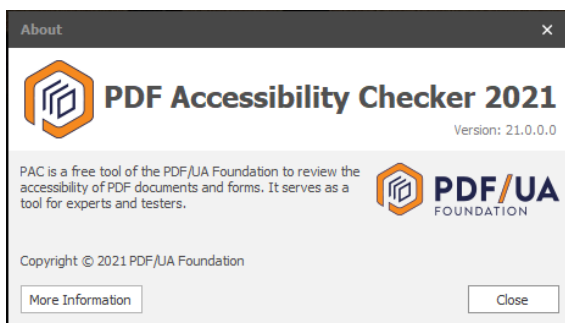


Figure 3: The About window, showing the version number and a link to get more information



Checking your PDF document

With PAC, it's quick and easy to check your PDF documents for compliance with the accessibility standards.

Open your PDF document by dragging the file into the Drag & Drop area. The test starts automatically.

You can also click the Drag & Drop area and select a PDF file.

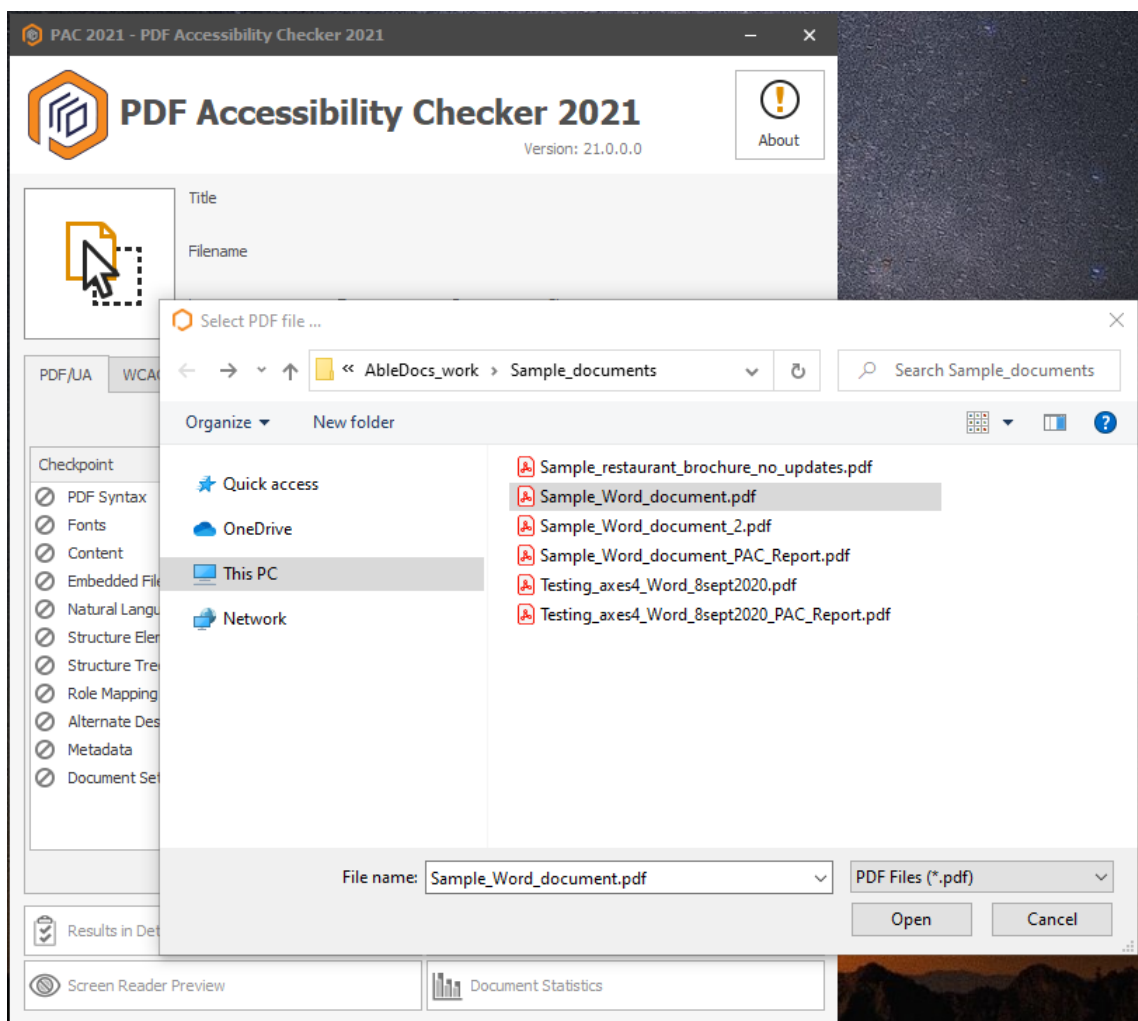


Figure 4: Choose a PDF file



Evaluating the results

When PDF Accessibility Checker is finished testing your file, you can review the results in several ways:

- Summary report
- Detailed report
- Screen reader preview
- Document statistics
- Logical structure – Structure elements
- Logical structure – Decorative elements

When reviewing the results, it is important to remember that PAC focuses on the technical aspects of the PDF document. This applies to both the PDF/UA validation and the WCAG validation.




Many of the WCAG checkpoints require additional visual or manual inspection to ensure that the content and layout of the document is compliant.

Review the Summary report

The Summary report is automatically displayed when the PDF Accessibility Checker test is finished. In this report, you can see an overview of the results.

Click **PDF/UA** or **WCAG** to see the corresponding test results.

You can quickly see the results for each checkpoint in the list. There are 3 possible results:

-  Pass = OK
-  Warning = Possible issue. Review the content and make any necessary corrections.
-  Failed =Error. You must correct the issue.

This compact overview makes it easier for you to quickly assess the quality of the PDF file.

The following screenshots show examples of the PDF/UA and the WCAG validation results in the Summary report area.



PDF/UA WCAG

✓ The PDF/UA requirements checked by PAC are fulfilled.

Checkpoint	Passed	Warned	Failed
✓ PDF Syntax	710	0	0
✓ Fonts	14	0	0
✓ Content	13457	0	0
⊗ Embedded Files	0	0	0
✓ Natural Language	6528	0	0
✓ Structure Elements	68	0	0
✓ Structure Tree	337	0	0
✓ Role Mapping	346	0	0
✓ Alternate Descriptions	674	0	0
✓ Metadata	3	0	0
✓ Document Settings	5	0	0

Figure 5: PDF/UA test results

PDF/UA WCAG

✓ The WCAG 2.1 requirements checked by PAC are fulfilled.

Checkpoint	Passed	Warned	Failed
✓ 1.1 Text Alternatives	674	0	0
⊗ 1.2 Time-based Media	0	0	0
✓ 1.3 Adaptable	13822	0	0
✓ 1.4 Distinguishable	5380	0	0
⊗ 2.1 Keyboard Accessible	0	0	0
⊗ 2.2 Enough Time	0	0	0
⊗ 2.3 Seizures and Physical Reactions	0	0	0
✓ 2.4 Navigable	5	0	0
⊗ 2.5 Input Modalities	0	0	0
✓ 3.1 Readable	6528	0	0
⊗ 3.2 Predictable	0	0	0
⊗ 3.3 Input Assistance	0	0	0
✓ 4.1 Compatible	716	0	0

Figure 6: WCAG test results



Examine the detailed results

1. To see a detailed validation report, click **Report in Detail**.

A **Report** window opens and displays a list of the PDF/UA and WCAG checkpoints.

The screenshot shows a window titled 'Report' with a table of checkpoints and a detailed view of an error. The table has two columns: 'Title' and 'Count'.

Title	Count
✗ PDF/UA	44
✗ Basic requirements	1
> ✓ ISO 32000-1	0
✗ Fonts	1
✓ "Registry" entries in Type 0 fonts	0
✓ "Ordering" entries in Type 0 fonts	0
✓ "Supplement" entries in Type 0 fonts	0
✓ "CID" to "GID" mapping of Type 2 CID fonts	0
✓ Predefined or embedded CMaps	0
✓ "WMode" entry in CMap definition and CMap ...	0
✓ References inside CMaps to other CMaps	0
✗ Font embedding	1
✗ Font not embedded	1
✓ Encoding entry in non-symbolic TrueType font	0
✓ Encoding of symbolic TrueType fonts	0
✓ Glyph names in non-symbolic TrueType font	0
> ✓ Content	0
> ✓ Embedded Files	0
> ✓ Natural language	0
> ✗ Logical Structure	42
> ✗ Metadata and Settings	1
> ✗ WCAG	55

The detailed view shows the error message 'Font not embedded' in blue text. Below it, a screenshot of a document page (Page 3) is shown with a red box highlighting a specific area and green lines connecting it to the error message.

For each item in the list, you can see the corresponding status and item count.

2. Click an error in the list in the left pane.

The detailed error message is displayed in the top-right pane, and the associated page is displayed in the bottom-right.

You can use this detailed report to locate and analyze each error in the document.

Visually check the document structure

PAC includes a Screen Reader Preview that you can use to view a simplified structure of the document. This preview is a visual representation of the structure that a screen reader will "see" as it reads the page.

To check the structure of your document, click **Screen Reader Preview**.

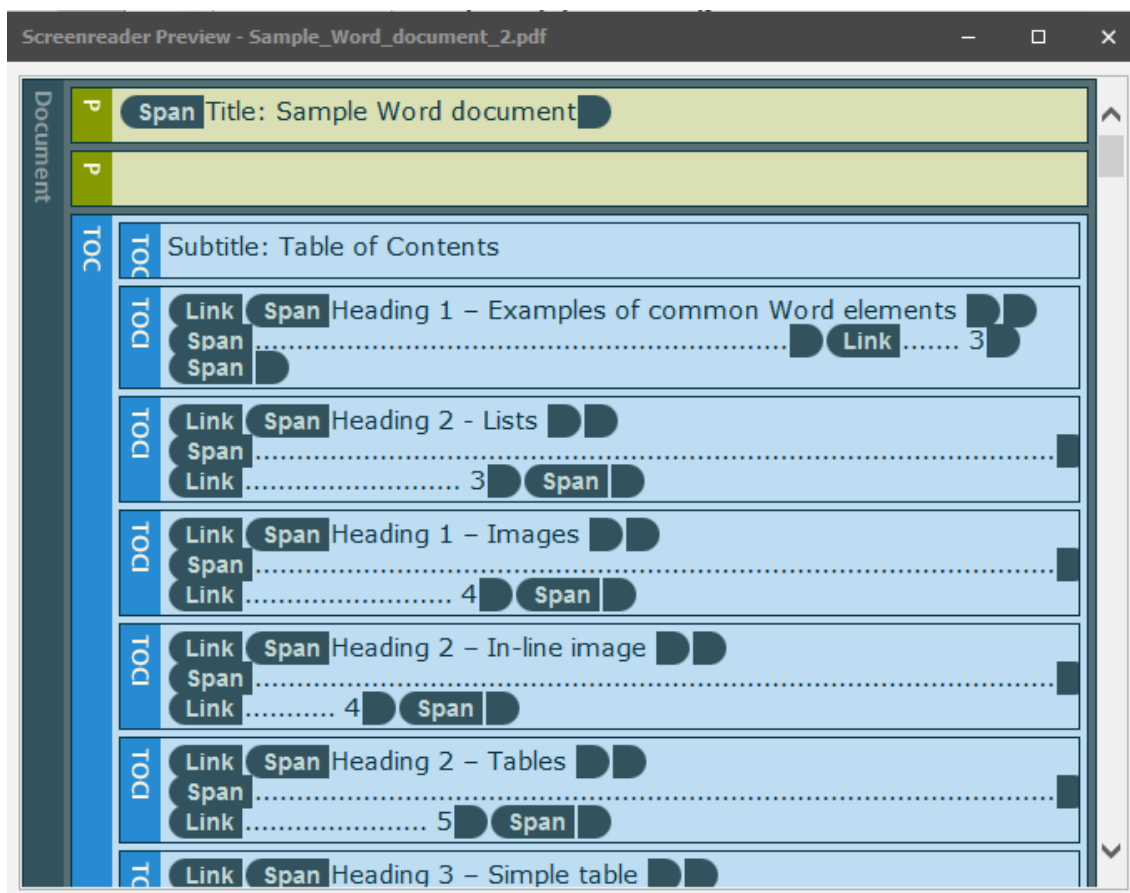


Figure 7: Screen Reader Preview of the Sample document

You can use this preview feature to perform a quick, visual check of the structure of your PDF document.

View document statistics

You can use these statistics to an overview of the structure elements (tags) used and get an impression of the semantic diversity in your document.

1. To see a list of the elements (tags) that are used in your PDF document, click **Document Statistics**.

The list opens in a separate window and shows the count for each type of element.

2. To filter the items in the list, hover over the **Count** heading and click the **Filter** icon.
3. In the **Numeric Filters** dialog box, specify the **From** and **To** values, then click **Close**.

The list is updated to include only those items within the specified count range.



4. To clear the filters, in the **Numeric Filters** dialog box, click **Clear Filter**.

Element	Count
Structure Elements	
Document	
Figure	
H1	
H2	
H3	
L	
LBody	
LI	
Link	
Note	
P	
Sect	
Span	68
Table	3
TBody	3
TD	64
TH	12
THead	2
TOC	1
TOCI	18
TR	19
Form Fields	0
Annotations	20
Link	20

Examine the detailed structure

You can use the Logical Structure view in PAC to perform more a detailed analysis of the document structure.

1. To see the complete structure of the PDF document in the form of a tag tree, click **Logical Structure**.

The Logical Structure window opens. The tag tree is displayed in the left pane.

2. To view the properties for a specific tag, in the left pane, navigate to and click the tag.



3. In the right pane, click **Properties**.

You can use this view to ensure that the properties are correct.

The screenshot shows the 'Logical Structure - Sample_Word_document_2.pdf' window. The 'Structure Elements' pane on the left shows a tree view with 'Document' expanded, containing several 'P' (Paragraph) and 'TOC' (Table of Contents) elements, followed by an 'H1' (Section Header) element which is expanded to show a 'Marked Content (Span)' element. The 'Properties' pane on the right is active, showing a table with the following data:

Caption	Value
Tag	"Span"
Actual Text	
Alternate Text	
Expansion Text	
Language	"en-US"

4. In the right pane, click **Page View**.

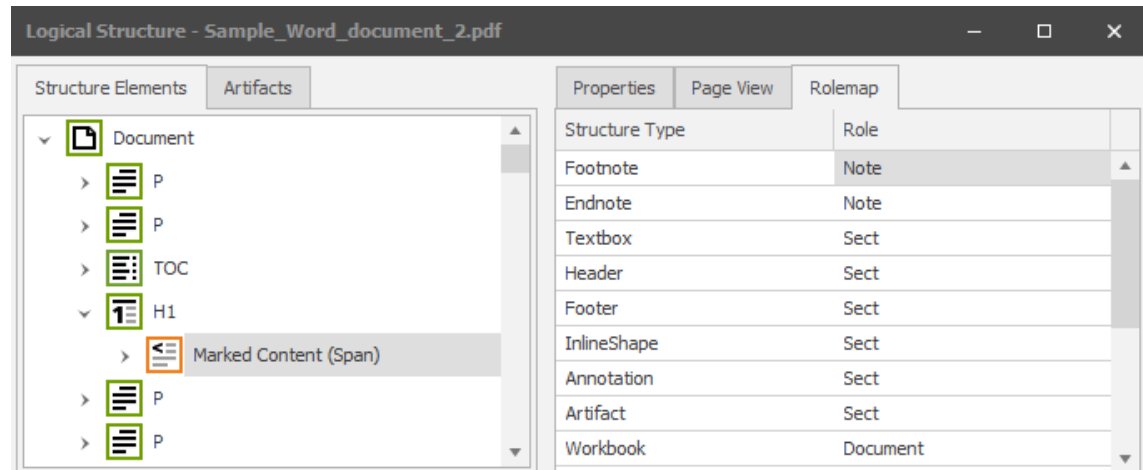
You can use this view to determine if the structural elements in the tag tree and the visual logical reading order match.

The screenshot shows the 'Logical Structure - Sample_Word_document_2.pdf' window. The 'Structure Elements' pane on the left is the same as in the previous screenshot, with 'Marked Content (Span)' selected. The 'Page View' pane on the right is active, displaying a preview of the document page. The page content includes a heading 'Heading 1: Example of Content Structure', a list of items, and a table. The page is labeled 'Page 3' at the bottom.



5. In the right pane, click **Rolemap**.

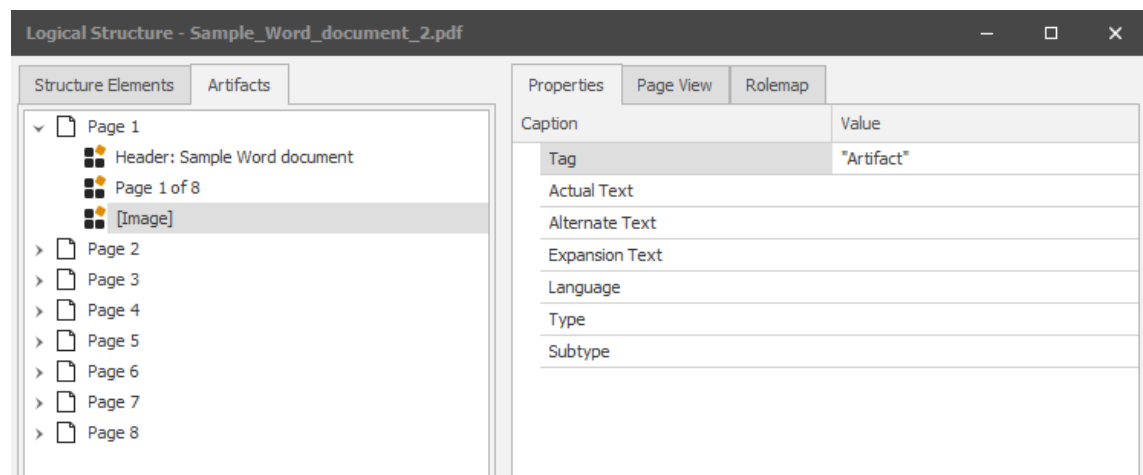
You can use this view to ensure that the role assignments in the document are correct.



View the decorative elements

In an accessible PDF document, images and graphics that add no detail to the information are typically marked as decorative. In the document structure, these elements are marked as Artifacts.

1. To do a quick visual check of all the elements in your document that are marked as decorative, click **Logical Structure**.
2. In the **Logical Structure** window, in the left pane, click **Artifacts**.
3. In the **Artifacts** list, expand a page and click an artifact.
4. Information about the properties is displayed in the right pane. You also view the associated page in the Page View or view the role mapping.





Exporting the PAC test results

You can export the PAC test results as proof of the quality of the PDF document.

To export the Summary test report:

1. Click **PDF Report**.
2. In the **Export PDF report** dialog box, enter a file name and choose the location where you want to save the file.
3. Click **Save**.

An accessible PDF file of the test results is generated and opens in your default PDF reader. Here's an example:

The screenshot displays a 'PAC Test Report' for a document titled 'Sample Word document'. The report includes a thumbnail of the document, its filename 'Sample_Word_document.pdf', and metadata: Language (en-US), Tags (337), Pages (7), and Size (227 KB). A green checkmark icon indicates that the PDF/UA requirements checked by PAC are fulfilled. Below this, the report specifies the Date/Time (2021-07-26 21:29) and Standard (PDF/UA-1). A table summarizes the test results, showing that all 'Basic Requirements' (PDF Syntax, Fonts, Content, Embedded Files, Natural Language) were passed with zero warnings or failures.

CHECKPOINT	PASSED	WARNED	FAILED
Basic Requirements			
PDF Syntax	710	0	0
Fonts	14	0	0
Content	13 457	0	0
Embedded Files	0	0	0
Natural Language	6 528	0	0

Logical Structure

Figure 8: Exported PAC Test Report – Sample

The PDF export feature is particularly useful for service providers; they can generate the report as proof that their work is compliant with the standards.



Keyboard shortcuts for navigating the tags

You can use the following keyboard shortcuts to quickly navigate within the structural elements (tags).

Shortcut	Description
Page up	Scroll up the page
Page down	Scroll down the page
Down arrow	Next item
Up arrow	Previous item
Right arrow	Expand the tag tree
Left arrow	Collapse the tag tree
Ctrl + Down arrow	Next child element
Ctrl + Up arrow	Previous child element
F3	Next element of the same type

Want to learn more?

For more information about the PDF accessibility standards, check out the following resources.

PDF/UA Standard

- The official document for [PDF/UA ISO Standard 14289-1:2014-12](https://www.iso.org/standard/64599.html)³
- [The Matterhorn Protocol 1.1 \(2021\)](https://www.pdfa.org/resource/the-matterhorn-protocol/)⁴ Web Content Accessibility Guidelines (WCAG)
- [Why PDF/UA? 11 benefits of this global accessibility for PDF documents](https://pdfua.foundation/en/why-pdf-ua)⁵

Web Content Accessibility Guidelines (WCAG)

- [WCAG 2.1](https://www.w3.org/TR/WCAG21/)⁶
- [How to meet WCAG \(Quick Reference\)](https://www.w3.org/WAI/WCAG21/quickref/)⁷

³ <https://www.iso.org/standard/64599.html>

⁴ <https://www.pdfa.org/resource/the-matterhorn-protocol/>

⁵ <https://pdfua.foundation/en/why-pdf-ua>

⁶ <https://www.w3.org/TR/WCAG21/>

⁷ <https://www.w3.org/WAI/WCAG21/quickref/>