PAC 2021
User Guide

PDF Accessibility Checker

PDF

PDF/UA

WCAG

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PDF/UA FOUNDATION

www.pdfua.foundation
Content

Introducing PDF Accessibility Checker 2021 ......................................................... 5

Understanding the basics .......................................................................................... 6

What’s new in PDF Accessibility Checker (PAC) ....................................................... 7

Installing PDF Accessibility Checker (PAC) ............................................................. 8

  System requirements ............................................................................................... 8

  Downloading and installing PAC ........................................................................... 8

Getting familiar with the user interface ..................................................................... 9

  1 - Drag & Drop Area ............................................................................................. 10

  2 - Document properties for the selected PDF document ......................................... 10

  3 - Summary Report ............................................................................................... 10

  4 - PDF Report ........................................................................................................ 10

  5 - Results in Detail ................................................................................................ 10

  6 - Logical Structure ............................................................................................. 10

  7 - Screen Reader Preview ...................................................................................... 10

  8 - Document Statistics ......................................................................................... 11

  9 - About ................................................................................................................ 11

Checking your PDF document ................................................................................... 12

Evaluating the results ............................................................................................... 13

  Review the Summary report .................................................................................... 13

  Examine the detailed results ................................................................................... 15

  Visually check the document structure ................................................................... 15

  View document statistics ....................................................................................... 16
Examine the detailed structure ................................................................. 17

View the decorative elements .................................................................. 19

Exporting the PAC test results .................................................................. 20

Keyboard shortcuts for navigating the tags ................................................. 21

Want to learn more? .................................................................................. 21
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.

Downloading and installing PAC

To install the current version of PAC:

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

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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 test results

<table>
<thead>
<tr>
<th>Checkpoint</th>
<th>Passed</th>
<th>Warned</th>
<th>Failed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF Syntax</td>
<td>710</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fonts</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Content</td>
<td>13457</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Embedded Files</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Natural Language</td>
<td>6528</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Structure Elements</td>
<td>68</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Structure Tree</td>
<td>337</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Role Mapping</td>
<td>346</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alternate Descriptions</td>
<td>674</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Metadata</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Document Settings</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 5: PDF/UA test results

### WCAG test results

<table>
<thead>
<tr>
<th>Checkpoint</th>
<th>Passed</th>
<th>Warned</th>
<th>Failed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Text Alternatives</td>
<td>674</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.2 Time-based Media</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.3 Adeptible</td>
<td>13832</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.4 Distinguishable</td>
<td>5380</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.1 Keyboard Accessible</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.2 Enough Time</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.3 Seizures and Physical Reactions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.4 Navigable</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.5 Input Modalities</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3.1 Readable</td>
<td>6528</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3.2 Predictable</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3.3 Input Assistance</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.1 Compatible</td>
<td>716</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

   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.
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**.

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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.

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

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

![Rolemap screenshot](image)

**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.

![Artifacts screenshot](image)
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:

![PAC Test Report Example](image)

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).

<table>
<thead>
<tr>
<th>Shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page up</td>
<td>Scroll up the page</td>
</tr>
<tr>
<td>Page down</td>
<td>Scroll down the page</td>
</tr>
<tr>
<td>Down arrow</td>
<td>Next item</td>
</tr>
<tr>
<td>Up arrow</td>
<td>Previous item</td>
</tr>
<tr>
<td>Right arrow</td>
<td>Expand the tag tree</td>
</tr>
<tr>
<td>Left arrow</td>
<td>Collapse the tag tree</td>
</tr>
<tr>
<td>Ctrl + Down arrow</td>
<td>Next child element</td>
</tr>
<tr>
<td>Ctrl + Up arrow</td>
<td>Previous child element</td>
</tr>
<tr>
<td>F3</td>
<td>Next element of the same type</td>
</tr>
</tbody>
</table>

Want to learn more?

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

PDF/UA Standard

- [Why PDF/UA? 11 benefits of this global accessibility for PDF documents](https://pdfua.foundation/en/why-pdf-ua)

Web Content Accessibility Guidelines (WCAG)

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

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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/