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## PDF Accessibility Overview

Combine PDF file format features with the functionality found in Adobe® Acrobat® and Adobe Reader® to provide access to documents all can use

A document or application is accessible if it can be used by people with disabilities—such as mobility impairments, blindness, and low vision—and not just by people who can see well and use a mouse. Accessibility features in Adobe Acrobat, Adobe Reader, and Adobe Portable Document Format (PDF) make it easier for people with disabilities to use PDF documents and forms, with or without the aid of assistive software and devices such as screen readers, screen magnifiers, and braille printers.

Making PDFs accessible tends to benefit all users. For example, the underlying document structure that makes it possible for a screen reader to properly read a PDF out loud also makes it possible for a mobile device to correctly reflow and display the document on a small screen. Similarly, the preset tab order of an accessible PDF form helps all users—not just users with mobility impairments—fill the form more easily.

## Each PDF File is Different

Not all PDFs are the same. PDF files are created in a variety of ways, from a variety of applications, and for a variety of purposes. In addition to applying the proper accessibility enhancements to PDF documents, achieving your accessibility goals for an individual PDF file requires understanding the nature of the PDF and the uses for which it is intended.

Using the guide Adobe® Acrobat® X Pro Accessibility Guide: PDF Accessibility Repair Workflow, you will learn how to assess existing PDF files for certain characteristics which influence their accessibility. The order in which this assessment is conducted is important. By following these procedures in the recommended order, users can efficiently proceed through the analysis of a PDF file in a systematic fashion. Systematically ruling out or confirming certain characteristics which a PDF file may possess will guide you to the most appropriate next step for making an individual PDF accessible.

This series also discusses techniques for converting source files to accessible PDF. Using the Adobe PDFMaker with Microsoft Word as an example, this guide provides best practices for designing your source document with accessibility in mind so that the original document can be efficiently transformed into an accessible PDF version. Refer to the guide entitled Adobe® Acrobat® X Pro Accessibility Guide: Creating Accessible PDF from Microsoft® Word for complete information.

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**Note:** These Best Practices techniques assume the user has access to Adobe Acrobat Pro X or Adobe Acrobat X Pro Extended for Windows. Adobe Reader X and Adobe Acrobat X Standard do not have the complete set of tools needed to create and validate PDF documents for accessibility.

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## Two Workflows for Creating Accessible PDF Files

The PDF format is a destination file format. PDF files are typically created in some other application. What this means is that the author who is concerned with PDF accessibility will be confronted with one of two situations:

- Individuals working with an existing PDF file will want to know how to edit/update it to be an accessible PDF file.
- Authors will want to know how to use some other software application, such as a word processing or desktop publishing application, to generate an accessible PDF file from that application if possible.

## Characteristics of Accessible PDF files

The Adobe Portable Document Format (PDF) is the native file format of the Adobe® Acrobat® family of products. The goal of these products is to enable users to exchange and view electronic documents easily and reliably, independently of the environment in which they were created. PDF relies on the same imaging model as the PostScript® page description language to describe text and graphics in a device-independent and resolution-independent manner. To improve performance for interactive viewing, PDF defines a more structured format than that used by most PostScript language programs. PDF also includes objects, such as annotations and hypertext links, that are not part of the page itself but are useful for interactive viewing and document interchange.

Accessible PDFs have the following characteristics:

### Searchable text

A document that consists of scanned images of text is inherently inaccessible because the content of the document is a graphic representing the letters on the page, not searchable text. Assistive software cannot read or extract the words in a graphic representation, users cannot select or edit the text, and you cannot manipulate the PDF for accessibility. You must convert the scanned images of text to searchable text using optical character recognition (OCR) before you can use other accessibility features with the document.

### Fonts that allow characters to be extracted to text

The fonts in an accessible PDF must contain enough information for Acrobat to correctly extract all of the characters to text for purposes other than displaying text on the screen. Acrobat extracts characters to Unicode text when you read a PDF with a screen reader or the Read Out Loud tool, or when you save as text for a braille printer. This extraction fails if Acrobat cannot determine how to map the font to Unicode characters.

### Interactive form fields

Some PDFs contain forms that a person is to fill out using a computer. To be accessible, form fields must be interactive—meaning that a user must be able to enter values into the form fields. Interactive PDF forms also have a defined tab order allowing users of assistive technology to use the tab key in order to progress from one form field or interactive control in a logical manner. Refer to the document Adobe® Acrobat® X Pro Accessibility Guide: Creating Accessible Forms for complete details.

### Other Interactive Features: Buttons, hyperlinks, and navigational aids

Navigational aids in a PDF—such as links, bookmarks, headings, a table of contents, and a preset tab order for form fields—assist all users in using the document without having to read through the entire document, word by word. Bookmarks are especially useful and can be created from document headings. Many of these aids can be accessed using the keyboard without relying on the mouse.

## Document language

Specifying the document language in a PDF enables some screen readers to switch to the appropriate language.

## Security that will not interfere with assistive technology

Some authors of PDFs restrict users from printing, copying, extracting, adding comments to, or editing text. The text of an accessible PDF must be available to a screen reader. You can use Acrobat to ensure that security settings don't interfere with a screen reader's ability to convert the on-screen text to speech.

## Document structure tags and proper read order

To read a document's text and present it in a way that makes sense to the user, a screen reader or other text- to-speech tool requires that the document be structured. Document structure tags in a PDF define the reading order and identify headings, paragraphs, sections, tables, and other page elements.

## Alternative text descriptions

Document features such as images and interactive form fields can't be read by a screen reader unless they have associated alternative text. Though web links are read by screen readers, you can provide more meaningful descriptions as alternative text. Alternative text and tool tips can aid many users, including those with learning disabilities.

## Adobe Acrobat and Adobe Reader Accessibility Features

Accessibility features in Adobe Acrobat X and Adobe Reader X fall into two broad categories: features to make the reading of PDF documents more accessible and features to create accessible PDF documents. To create accessible PDF documents, you must use Acrobat, not Reader.

### Features for Accessible Reading of PDFs

All versions of Adobe Acrobat X, Adobe Reader X, Acrobat X Standard, Acrobat X Pro, and Acrobat X Suite provide support for the accessible reading of PDF files by persons with disabilities.

- Preferences and commands to optimize output for assistive software and devices, such as saving as accessible text for a Braille printer
- Preferences and commands to make navigation of PDFs more accessible, such as automatic scrolling and opening PDFs to the last page read
- An Accessibility Setup Assistant Wizard for easy setting of most preferences related to accessibility
- Keyboard alternates to mouse actions
- Reflow capability to temporarily present the text of a PDF in a single easy-to-read column
- Read Out Loud text-to-speech conversion.
- Support for screen readers and screen magnifiers

## Features for Creating Accessible PDFs

- Creation of tagged PDFs from authoring applications
- Conversion of untagged PDFs to tagged PDFs from within Acrobat
- Security setting that allows screen readers to access text while preventing users from copying, printing, editing, and extracting text
- Ability to add text to scanned pages to improve accessibility
- Tools for editing reading order and document structure
- Tools for creating accessible PDF forms

Though Acrobat Standard provides some functionality for making existing PDFs accessible, you must use Acrobat Pro (also included as part of Acrobat X Suite) to perform certain tasks—such as editing reading order or editing document structure tags—that may be necessary to make some PDF documents and forms accessible (See “Table 1: Features for Creating Accessible PDF Files by Product” on page 3).

**Table 1. Features for Creating Accessible PDF Files by Product**

	Adobe Reader X	Acrobat X Standard	Acrobat X Pro	Acrobat X Suite
Create PDF documents from any application that prints		•	•	•
Convert Microsoft Word, Excel, PowerPoint, Publisher, and Access files to PDF with one-button ease*		•	•	•
Capture web pages from Microsoft Internet Explorer and Mozilla Firefox as rich, dynamic PDF files for review and archiving with one-button ease*		•	•	•
Scan paper documents to PDF and automatically recognize text with optical character recognition (OCR)		•	•	•
Save PDF files as Microsoft Word documents, retaining the layout, fonts, formatting, and tables, to facilitate reuse of content*		•	•	•
Easily create fillable PDF forms from paper or existing files using the Form Wizard		•	•	•
Enable users of Adobe Reader* (version 8 or later) to fill in and save PDF forms locally		•	•	•
Customize Accessibility Preferences with an easy-to-use wizard	•	•	•	•

	Adobe Reader X	Acrobat X Standard	Acrobat X Pro	Acrobat X Suite
Set high contrast colors for better visibility	•	•	•	•
Enable large type display by setting text to reflow through pages	•	•	•	•
Listen to the text in a PDF file as it is read aloud	•	•	•	•
Make PDF documents more accessible by adding tags to control reading order and improve navigation		•	•	•
Create dynamic XML forms with Adobe LiveCycle® Designer ES2 (included)*			•	•
Specify a reading order for pages or columns of text			•	•
Validate accessible PDF documents and check for possible accessibility issues			•	•

## The Acrobat X Pro Accessibility Guide Series

To assist those who use Adobe Acrobat X Pro to create PDF files with the production of content that is accessible to people with disabilities, Adobe Systems has created a series of accessibility guides for Adobe Acrobat X Pro.

### PDF Accessibility Overview (this document)

The *Adobe® Acrobat® X Pro Accessibility Guide: PDF Accessibility Overview* details what is meant by accessibility when considering the PDF file format. It distinguishes between the accessibility features of the the file format and the accessibility features of the Adobe Acrobat X and Adobe Reader application and how the features of the software and the file format interact to achieve accessibility for people with disabilities.

### Creating Accessible PDF Documents from Microsoft® Word

The *Adobe® Acrobat® X Pro Accessibility Guide: Creating Accessible PDF Documents from Microsoft® Word* provides an example using Microsoft Word of how to use Acrobat's PDFMaker to make accessible PDF files from the popular word processing application. Some of the techniques apply to the Microsoft Office productivity suite as well, such as PowerPoint® presentation graphics program.

### Acrobat X Pro PDF Accessibility Repair Workflow

The *Adobe® Acrobat® X Pro Accessibility Guide: PDF Accessibility Repair Workflow* provides a step-by-step method for analyzing existing PDF files and making them accessible based upon that analysis.

## Using the Accessibility Checker in Acrobat X Pro

The *Adobe® Acrobat® X Pro Accessibility Guide: Using the Accessibility Checker* describes the accessibility checkers for PDF files that are included in Adobe Acrobat X Pro. Even if you generate an accessible PDF file from an authoring application such as a word processing application or desktop publishing program, you should then follow the steps in this guide in order to identify any items that may have been missed in the initial conversion or to add PDF accessibility features that are not provided by the authoring tool.

## Creating Accessible PDF Forms with Acrobat X Pro

The guide entitled *Adobe® Acrobat® X Pro Accessibility Guide: Creating Accessible Forms* describes how to use the forms tools within Adobe Acrobat X Pro to add descriptions to form fields, tag untagged forms, set the tab order, manipulate tags, and perform other PDF accessibility tasks. These techniques do not apply to PDF forms from Adobe LiveCycle Designer.

## Acrobat X Pro Complete Best Practices for Accessibility

The complete content of the individual guides is also available as a single, comprehensive document entitled *Adobe® Acrobat® X Pro Accessibility Guide: Best Practices for Accessibility*.

### For more information

Solution details: [www.adobe.com/accessibility/products/acrobat/](http://www.adobe.com/accessibility/products/acrobat/)

Program details: [www.adobe.com/accessibility](http://www.adobe.com/accessibility)

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