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Best Practice - Scholars' Mine Producing Quality PDF Files

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Best Practice - Scholars' Mine Producing Quality PDF Files

Introduction

Adobe's Portable Document Format (PDF) is a popular means of sharing documents, especially those formatted for print. PDF files — when prepared properly — is an excellent archival file format.

The two most common ways to begin creating PDF files are with applications like Microsoft Word and by a scanning process that starts with printed materials. This document contains recommendations for producing high quality PDF files using each of these methods, using Adobe Acrobat Professional.

General guidelines for creating high quality documents

Enhancing the usability and appearance of your document will do two important things: It will produce a more attractive print version and it will make your document easier to use for everyone, including those with disabilities. These instructions assume you're using Microsoft Word; the same principles apply regardless of the program you use, though, and following these guidelines will help you create more usable and accessible web pages if you're converting from Word to HTML.

- Use Word's "Styles" to identify headers, paragraphs, lists, and other structural elements. Create your own styles to add special formatting, rather than simply using the formatting toolbar to e.g. change fonts or italicize blocks of text.
- Include alternative text for all images and links, and place labels (such as "Figure 1.") near the images they refer to. You can do this in either Word or Acrobat when using Windows.
- If you use a multi-columned layout, use the Format → Columns... feature in Word. Do not create 'virtual' columns using tabs, spaces, or tables.
- Create tables using either Word's Insert → Table... feature to create a proper table. Do not "nest" data tables by putting one table inside another. Use a distinctive cell for each data entry.
- If your document includes images, use the following resolutions.
 - Color and grayscale: 400 pixels per inch minimum, JPEG compression w/Maximum image quality.
 - Monochrome: 600 pixels per inch, CCITT Group 4 compression or ZIP.
- Place any header and footer information (e.g., page numbers, notes, citations) in header and footer windows/areas rather than manually inserting them at the top or bottom of each page.
- For long documents, include a table of contents or other document guides with in-document links (bookmarks or anchors) that jump to specific sections of the text.
- For file names:
 - Use ASCII letters (a-z, A-Z), digits (0-9), underscores and hyphens ("_" and "-").
 - Do not use spaces, quotation marks, diacritic marks or other special/non-printing characters.
 - Reserve the period (".", full stop) for the file extension at the end of the filename.

Creating PDF files from a MS Word Document using Adobe Acrobat Professional

You can create PDF files from a Microsoft Word documents when you have the Adobe Professional software. Note that Acrobat Professional is not the same as Acrobat Reader, the latter being a free product with limited capabilities. When configured properly, the resulting PDF files will be of high quality and suitable for deposit in Scholars' Mine.

Fortunately, if you make sure your images are of the appropriate resolution then Microsoft Word and Acrobat take care of most of the rest for you automatically. So, be sure to use the following settings for your images.

You can also use the Microsoft Word Save as PDF function to save and your Word document as a PDF. You will still need Adobe Acrobat to optimize the file size and create an archival version for Submission to Scholars' Mine. If you do not have access to Adobe Acrobat please contact the Library

Use the following steps to configure Adobe Acrobat and create PDF files from within a supported application such as Microsoft Word. (Note that these instructions are using Acrobat DC. The step may be different for other versions.)

Configuration Settings in Adobe Professional

1. *Select* **Edit** → **Preferences**
2. *Select* **Convert to PDF** and **Microsoft Office Word** from the Categories boxes
3. *Click* the **Edit Settings** button
 - a. *Select* **Standard** for the Adobe PDF Settings
 - b. *Select* **None** from Adobe PDF Security
 - c. *Check* **Add bookmarks** to Adobe PDF file
 - d. *Check* **Add links** to Adobe PDF file
 - e. *Check* **Enable accessibility and reflow**
4. *Click* the **OK** button to accept you changes
5. *Select* **Accessibility** from Categories
 - a. Under Other Accessibility Options
 - i. *Check* **Use document structure for tab order when no explicit tab order is specified**
 - ii. *Check* **Enable assistive technology support**
 - b. *Click* OK button to accept you changes
6. *Click* **OK** button on Preferences window to exit and save your changes

Open Word Document in Adobe Professional

1. *Select* **Create** → **PDF from File** from the File menu
2. *Select* your Word Document in the File Open dialog
3. *Click* the **Open** button
4. The file will be converted to a PDF and opened
5. Make any necessary changes to the document.

Improve Usability and Accessibility in Adobe Professional

1. *Select* the **Tools** tab

2. *Select* the **Action Wizard**
3. *Select* **Accessibility**
4. *Click* the **Start** button
5. In the Accessibility *Checker* Options Window
6. *Check* **Create accessibility report**
7. *Do Not Check* **Attach report to document**
8. *Click* **All pages in document**
9. *Set* **Category to Document**
10. *Click* **Select All** button
11. *Check* **Start Checking**
12. The Accessibility *Checker* report will display in the left panel.
13. Review the report and make any necessary changes
14. You can also add bookmarks to further aid in navigation. These don't fully substitute for tags, or for structuring the document so that there's a clear, logical reading order. But they will assist all readers in getting to the information they want and need faster.

Optimize for Web

1. *Select* the **Action Wizard**
 - a. *Select* **Optimize for Web**
 - i. Optimize for Web resamples and recompresses images, removes embedded Base-14 fonts, and subset-embeds fonts that were left embedded. It also compresses document structure and cleans up elements such as invalid bookmarks. If the file size is already as small as possible, this command has no effect.
 - ii. Optimize for Web improves their performance—particularly when they're being opened on the web—without altering their appearance.
 - b. *Click* the **Start** button
 - c. *Complete* the Save As dialog and *Click* **Save**
2. *Close* the **Optimize for Web Action**

Create Archive Document

1. *Select* the **Action Wizard**
 - a. *Select* **Archive Documents**
 - i. Archive Documents ensures that the document conforms to the PDF/A-1b standard
 - b. *Click* the **Start** button
 - c. *Complete* the Save as dialog and *Click* **Save**
 - i. This is the version of file to be submitted to Scholars' Mine
2. *Close* the **Archive Documents Action**

General Principles for Creating PDF files by Scanning Print Material

PDF files may also be created by scanning print materials. From almost every perspective, such methods are less preferable than creating PDF files directly from an application as described above due to

increased file size and compromised viewing, printing, and usability characteristics. Nevertheless, PDF files created from scanning are a reliable way to preserve materials when no other options are available. Regardless of the method, the produced PDF file should have the following properties:

- All materials should be scanned at 100% scale to the dimensions of the original.
- Pages containing text and/or line art should be monochrome (black and white), 600dpi (or 300dpi for oversized materials greater than 11x16 in/28x41 cm), and be compressed using ITU Group IV compression.
- Pages containing photographs and/or illustrations should be 24-bit color using the sRGB color space or 8-bit grayscale, 400dpi (or 300dpi for oversized materials greater than 11x16 in/28x41 cm), and be compressed with JPEG compression using the highest quality setting.
- Missing or blank pages should be represented as blank images of the same size as the original.
- The PDF file should be optimized and should be in (“Searchable Image (Exact)”/“Image+Text”) format.
- If your process creates intermediate files (TIFF, PostScript, etc.), it must not change the resolution of the original scans (down sampling) or use lossy compression such as JPEG. (These methods, although they do reduce file size, will cause irreversible quality loss.) TIFF is an excellent choice for an intermediate file format, and acceptable compression schemes (which can all be used in combination with TIFF) are ITU Group 4 (for black and white material only), LZW, and Flate (Zip).
- If possible, embed OCR (optical character recognition) generated text in the document.
- The PDF should have tags and bookmarks as described elsewhere in this document.

Creating PDF files by Scanning Print Materials using Adobe Acrobat Professional

Adobe Acrobat Professional has built-in scanning capabilities that can be used to create PDF files using printed materials. Note that Acrobat Professional is not the same as Acrobat Reader or Acrobat Standard; only Acrobat Professional has support for scanning. Use the following steps to create PDF files using a scanner with Adobe Acrobat Professional:

1. *Select **Create →PDF from Scanner*** from the File menu
2. *Select your scanner device*
3. *Click the Cog to edit the Default Settings*
 - a. *Chose Front Side or Both Sides* as appropriate for Pages
 - b. *Set **Prompt to scan more pages*** as appropriate to your scanner
 - c. *Chose **Autodetect*** for Color Mode
 - d. *Set the Resolution* according to the general principles outlined above
 - e. *Set an appropriate paper Size*
 - f. *Check **Quality*** and *Click the Cog to edit settings*
 - i. *Check **Apply Adaptive Compression***
 1. *Set **Color Scans*** to JPEG
 2. *Set **Monochrome Scans*** to CCITT Group 4
 - ii. *Check all remaining Filters*

- iii. *Set all slide bars* to Low
- g. *Click OK*
- h. *Set **Output*** to Create New PDF
- i. *Check **Recognize Text (OCR)*** and *Click* the Cog to edit settings
 - i. *Set **Document Language*** to English (US)
 - ii. *Set **Output*** to Searchable Image
- j. *Click OK*
- k. *Check **Make PDF/A-1b compliant***
- l. *Click Scan*

Creating PDF files on a Large Scale

If you need to create a large number of PDF files, these approaches will not be efficient for you. The principles outlined here apply equally to a large-volume operation, but processing and methodology are not the same. Before starting a large project, contact Scholars' Mine. We can perform the scanning for you or provide advice to your staff.

Questions

If you have questions please contact us at scholarsmine@mst.edu and we will be happy to assist you.

Bibliography

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Acrobat users Guide, available at <https://helpx.adobe.com/acrobat/user-guide.html>.