PDF/A (ISO 19005)

$Revision: 389563 $

by Jeremias Märki

Table of contents

1. Overview

> **Warning:**
> Support for PDF/A is available beginning with version 0.92.

PDF/A is a standard which turns PDF into an "electronic document file format for long-term preservation". PDF/A-1 is the first part of the standard and is documented in ISO 19005-1:2005(E). Work on PDF/A-2 is in progress at AIIM.

Design documentation on PDF/A can be found on FOP's Wiki on the PDFA1ConformanceNotes page.

2. Implementation Status

PDF/A-1b is implemented to the degree that FOP supports the creation of the elements described in ISO 19005-1.

Tests have been performed against jHove and Adobe Acrobat 7.0.7 (Preflight function). FOP does not validate completely against Apago's PDF Appraiser. Reasons unknown due to lack of a full license to get a detailed error protocol.

PDF/A-1a is not implemented, yet. This is mostly because of the requirement for tagged PDF which is not available in FOP, yet.

3. Usage (command line)

To activate PDF/A-1b from the command-line, specify "-pdfprofile PDF/A-1b" as a parameter. If there is a violation of one of the validation rules for PDF/A, an error message is presented and the processing stops.

4. Usage (embedded)

When FOP is embedded in another Java application you can set a special option on the renderer options in the user agent to activate the PDF/A-1b profile. Here's an example:

```
userAgent.getRendererOptions().put("pdf-a-mode", "PDF/A-1b");
Fop fop = fopFactory.newFop(MimeConstants.MIME_PDF, userAgent);
[..]
```

If one of the validation rules of PDF/A is violated, an PDFConformanceException (descendant of RuntimeException) is thrown.

5. PDF/A in Action

There are a number of things that must be looked after if you activate a PDF/A profile. If you receive a PDFConformanceException, have a look at the following list (not necessarily comprehensive):

- Make sure all (!) fonts are embedded. If you use base 14 fonts (like Helvetica) you need to obtain a license for them and embed them like any other font.
- Don't use PDF encryption. PDF/A doesn't allow it.
- Don't use CMYK images without an ICC color profile. PDF/A doesn't allow mixing color spaces and FOP currently only properly supports the sRGB color space. Please note that FOP embeds a standard sRGB ICC profile (sRGB IEC61966-2.1) as the primary output intent for the PDF if no other output intent has been specified in the configuration.
- Don't use non-RGB colors in SVG images. Same issue as with CMYK images.
- Don't use EPS graphics with fo:external-graphic. Embedding EPS graphics in PDF is deprecated since PDF 1.4 and prohibited by PDF/A.
- PDF is forced to version 1.4 if PDF/A-1 is activated.
- No filter must be specified explicitly for metadata objects. Metadata must be embedded in clear text so non-PDF-aware applications can extract the XMP metadata.

6. PDF profile compatibility

The PDF profiles "PDF/X-3:2003" and "PDF/A-1b" are compatible and can both be activated at the same time.