LibreOffice now uses pdfium to render inserted PDF images

Posted Monday, 20 March 2017 by Miklos
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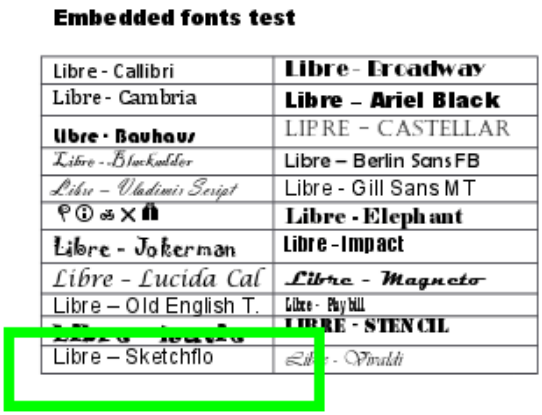
pdfium is the rendering library used in Chromium's pdf viewer. It's based on the foxit pdf renderer and its rendering quality is much better compared to the pre-existing "convert PDF to ODG, then to an image" code when it comes to just viewing a PDF file. First, thanks to PMG who made this work possible.

Let's look at a few samples that compare the old pdfimport rendering result and the new pdfium-based one. One important feature is that embedded fonts are handled. This is how this inserted PDF looked like previously:



Compare it with the new result:

Embedded fonts test

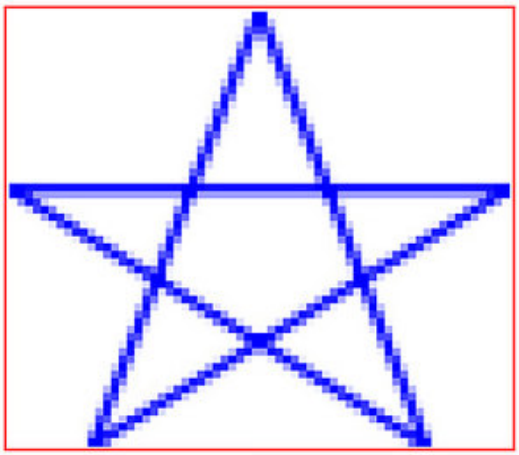
Libre - Calibri	Libre - Broadway
Libre - Cambria	Libre – Ariel Black
Libre - Bauhaus	LIBRE – CASTELLAR
Libre - Blackadder	Libre – Berlin Sans FB
Libre – Vladimir Script	Libre - Gill Sans MT
☤ ⓘ ✂ ✕	Libre - Elephant
Libre - Jokerman	Libre - Impact
Libre - Lucida Cal	Libre - Magneto
Libre – Old English T.	Libre - Playbill
Libre - Ravie	LIBRE - STENCIL
Libre – Sketchflow	Libre - Vivaldi

Now let's see the front page of a magazine, you can see 4 unexpected artifacts:

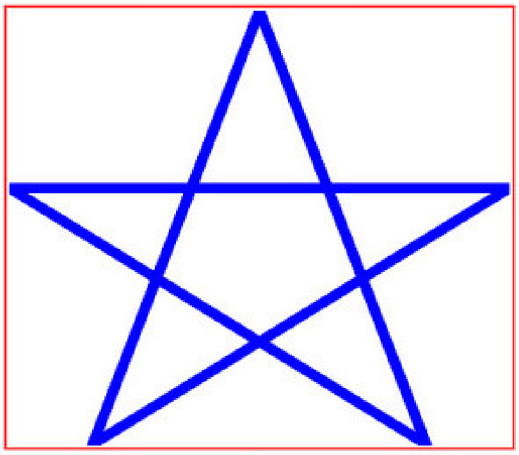
New result:

Finally a problem with pdfium was that LibreOffice got bitmaps from it, so in case you re-exported to PDF, the quality of these PDF images were worse than in the original PDF file. The PDF specification has a *reference XObject* feature that helps in this case: it allows the PDF export to still write the bitmap to the exported PDF, but in case the reader supports this feature, the vector-based original file will be shown, not the bitmap.

Here is a simple hand-crafted star in a PDF file, as it looked initially:



This is how it looks after LibreOffice's PDF export learned to emit reference XObjects:



All this is available in LibreOffice master, towards 5.4.

Comments

Franck • 10 months ago

Wonderful job !!! Thank you so much !

Reply • Share ›

Uwe Stöhr • 10 months ago

Dear Mr. Miklos,

I have seen your work in many LibreOffice releases and I just want to say thank you.
Thanks to people like you LibreOffice is in my experience mature enough to collaborate with people using Word or another office software. The import works with every release better and now with the import of PDF images one can even collaborate with people working with pdfLaTeX / LyX.

Keep up your impressive work and please also regards to your colleagues.

Reply • Share ›

Frank Lehmann • a year ago

Awesome work; big thumbs up!!!

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