What's new in the pdfTEX world?

Martin Schröder

pdfTEX Team

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Looking back: pdfTEX 1.40

- PDF 1.5 compressed object streams
- smaller PDFs
- PDF-X/3
- A new graphic format: JBIG2
- Colour stacks
- Draft mode
- Shell escape
- Better support for unicode fonts
- Highly improved font expansion in autoexpand mode

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- Page groups and transparent pngs
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- Font flags is a bitset that controls the replacement of non-embedded fonts, telling the renderer certain properties of the font (serif/sans serif, symbol, italic, script, fixed, . . .)
- Font flags can be set in the map lines, but nobody does that
- pdfTEX tried to use a (mostly wrong) default, which you couldn't set if you wanted to
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- Old operating or file systems limit the file size to 2 GiB (31 bit)
- A unix standard for larger files exists since 1996 (when 64 bit machines came into use): you normally need only some compiler flags, have to use `off_t` instead of `int` and you have to change some function calls
- PDFs $>$ 2 GiB really exist. pdfTEX created them on 64 bit platforms seemingly without any problems, but because it used only `int` instead of `off_t` these were broken
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- `tangle` saves the text constants of a Web program in a separate file, the pool file
- The pool file must match the program (and the program the format)
- In theory one can use the pool file to change the messages of the program without recompiling the program and the format, but nobody (but some polish guys?) really does that
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Page diversions: The idea

- In PDF the logical order of the pages of a document is not given by the sequence in the file, but through a tree on the page objects
- This tree can be rearranged
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Page diversions: How it works

- Pages are added to a list, and these lists are selected by positive integers. The default list is 0, and with `\pagedivert` <number> one switches to the list <number>
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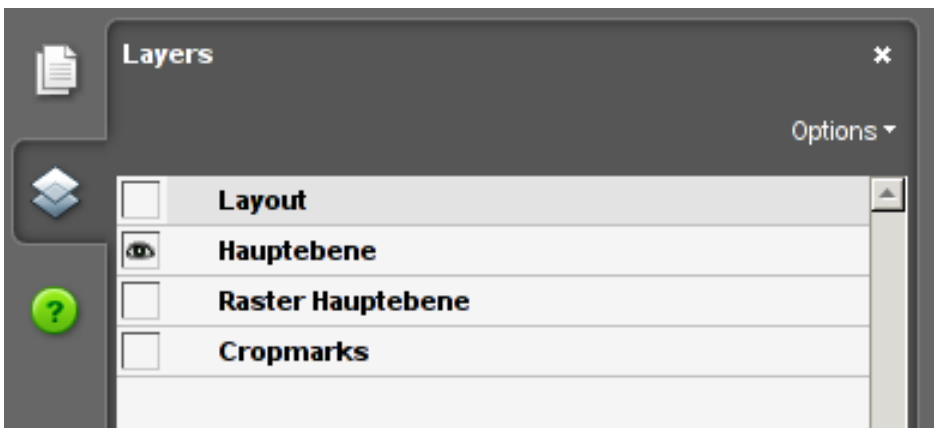
- This is a GUI in AR8:



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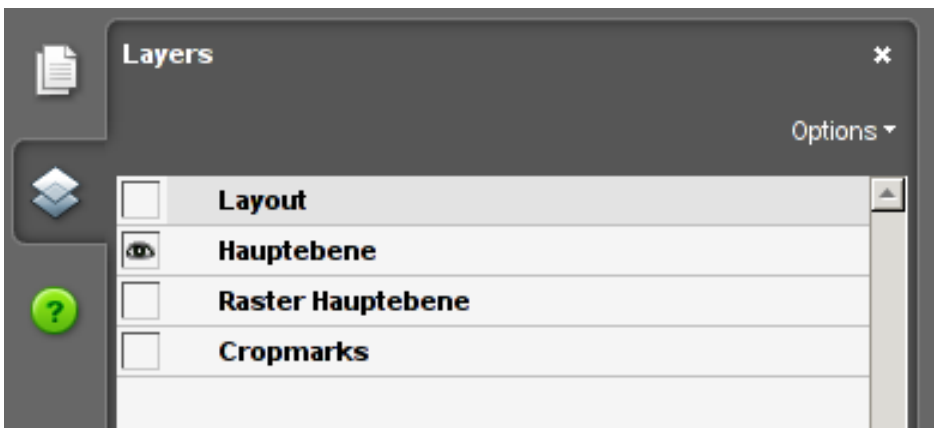

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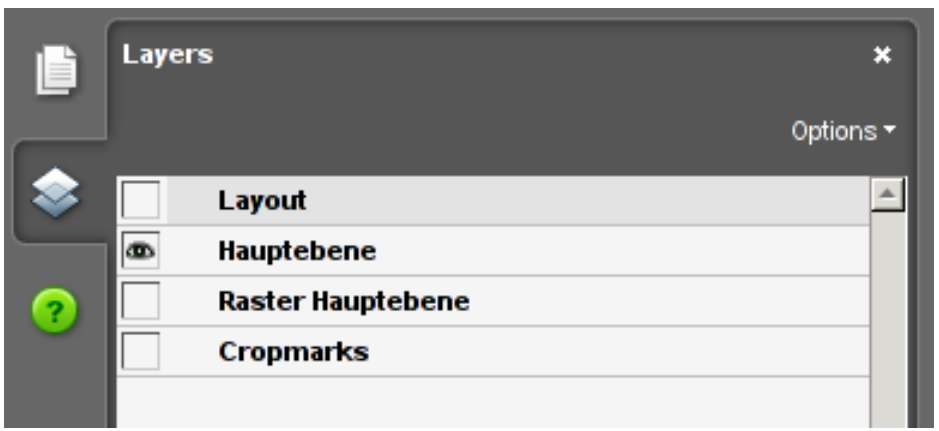

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- Most PDF libraries only support writing PFDs; some support reading and very few support reading and writing (manipulating)
- poppler is a fork of XPDF focused on providing a shared library; recently some support for writing PDFs has been added
- podofo is a C++ library for manipulating PDFs that offers the podofobrowser, a very useful tool for analyzing PDFs
- GNU PDF has recently been started to create a free C library for manipulating PDF; development is still in the very early stages
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