

# The pax package<sup>\*</sup>

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## A. Project pax

If PDF files are included using pdfT<sub>E</sub>X, PDF annotations are stripped. This project tries a solution without altering pdfT<sub>E</sub>X. A Java program (`pax.jar`) parses the PDF file that will later be included. It writes the data of the annotations in a file that can be read by T<sub>E</sub>X. Then a L<sup>A</sup>T<sub>E</sub>X package (`pax.sty`) extends the graphics package. If a PDF file is included, the package looks for the file with the annotation data, reads them and puts the annotations in the right place.

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<sup>\*</sup>This manual corresponds to `pax.sty` v0.1h, dated 2007/07/19

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Project status: experimental

## B. Copyright, License

Copyright © 2006–2008 Heiko Oberdiek.

The project consists of two parts:

- The Java program `pax.jar` with sources.  
The Perl wrapper `pdfannotextractor.pl`.  
License is GPL, see `license/gpl.txt`.
- The  $\text{\LaTeX}$  package `pax.sty`. License is LPPL 1.3.

The file `README` belongs to both parts.

The Java program uses the PDF library PDFBox, see <http://www.pdfbox.org/>.

## C. Files

The project is available in CTAN (<ftp.ctan.org>):

`CTAN:macros/latex/contrib/pax/`

There are the following files:

- `README`  
This file.
- `pax-tds.zip`  
The whole project, ready to unpack in a TDS (`texmf`) tree.

The files inside `pax-tds.zip`:

- `doc/latex/pax/README`  
This file.
- `scripts/pax/pax.jar`  
The Java program.
- `scripts/pax/pdfannotextractor.pl`  
Perl wrapper for calling the Java program in `pax.jar`.
- `source/latex/pax/license/LaTeX/lppl.txt`  
License (LPPL) for the  $\text{\LaTeX}$  package.
- `source/latex/pax/license/PDFAnnotExtractor/gpl.txt`  
License (GPL) for the Java program.

- `source/latex/pax/src/Constants.java`  
`source/latex/pax/src/Entry.java`  
`source/latex/pax/src/EntryWriteException.java`  
`source/latex/pax/src/PDFAnnotExtractor.java`  
`source/latex/pax/src/StringVisitor.java`  
Java source files.
- `source/latex/pax/src/MANIFEST.MF`  
Manifest file for the JAR file.
- `source/latex/pax/src/build.xml`  
Ant build file for generating the JAR file.
- `tex/latex/pax/pax.sty`  
The  $\text{\LaTeX}$  package.

## D. Author

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## E. Requirements

- Java 1.4+.
- PDFBox 0.7.2+.
- The Perl wrapper (optional) needs:
  - Perl
  - `kpsewhich`
  - `java` in `PATH`
- The option `--install` also requires:
  - `wget` or `curl`
  - `unzip`
  - `texhash` or `mktexlsr`

## F. Download

1. Download `pax-tds.zip` from CTAN:  
`ftp://ftp.ctan.org/tex-archive/macros/latex/contrib/pax/pax-tds.zip`
2. Download `PDFBox-0.7.3.jar` from `http://www.pdfbox.org/` (22 MB)  
`http://prdownloads.sourceforge.net/pdfbox/PDFBox-0.7.3.zip?download`  
Or install PDFBox as RPM package or whatever.

## G. Installation

Examples are given for linux.

3. Install PDFBox (from its home page, RPM package, ...).  
The wrapper `pdfannotextractor.pl` looks for the JAR file in directories:  
`/usr/share/java/`  
`/usr/local/share/java/`  
`TDS:scripts/pax/lib/` (`TDS:scripts//`)  
assuming one of the following names:  
`pdfbox.jar`  
`PDFBox.jar`  
`pdfbox-0.7.3.jar`  
`PDFBox-0.7.3.jar`  
`pdfbox-0.7.2.jar`  
`PDFBox-0.7.2.jar`

### Alternative for 2. and 3.

- Continue with 4. and 5.a).
  - Call `'pdfannotextractor --install'` (or with option `--debug`).  
It downloads PDFBox from its homepage and installs it in `TEXMFVAR(VARTEXMF)` below `TDS:scripts/pax/`
4. Unzip `pax-tds.zip` inside the TDS tree, where you want to put this project, e.g.:  

```
unzip pax-tds -d /usr/local/share/texmf
```

  
Don't forget to update the database (`texhash`, `mktextlsr`, ...).
  5. a) Install the wrapper Perl script `pdfannotextractor.pl` as `'pdfannotextractor'` somewhere in your `PATH` (`/usr/local/bin`, `/usr/bin`, ...).  
b) Or write a wrapper script or whatever to ease the call of the Java program, e.g.:  

```
#!/bin/sh
java -cp pax.jar:pdfbox.jar pax.PDFAnnotExtractor "$@"
```

## G.1. Version of PDFBox

Developing the `pax` project I have used and tested version 0.7.2, also the current version 0.7.3 seems to be fine. Older versions are not supported at all, they may work or do not.

## H. Use

As example I am using `usrguide.pdf` (with links from project `latex-tds`) that will be included in `test.tex`:

```
1  %%% cut %%% test.tex %%% cut %%%
2  \documentclass[a4paper,12pt,landscape]{article}
3  \usepackage[
4    hmargin=1in,
5    vmargin=1in,
6  ]{geometry}
7
8  \usepackage{pdfpages}
9  % pdfpages loads graphicx
10
11 \usepackage{pax}
12
13 \iffalse
14   \usepackage{hyperref}
15   \hypersetup{
16     filebordercolor={1 1 0},
17   }
18 \fi
19
20 \begin{document}
21   \includepdf[pages=--,nup=2x1]{usrguide}
22 \end{document}
23 %%% cut %%% test.tex %%% cut %%%
```

First run the Java program on `usrguide.pdf`:

```
$ java -jar pax.jar usrguide.pdf
```

It generates `usrguide.pax`. Next run `pdflatex` on `test.tex` twice at least:

```
$ pdflatex test
$ pdflatex test
```

Then the links should work.

Additionally package `hyperref` can be used (replace `\iffase` by `\iftrue`). Then the links can be configured using `hyperref` settings. (But keep in mind, the colored links by option `colorlinks` can't be changed in included documents.

## I. History

2006/08/24 v0.1a

- First release.

2006/09/04 v0.1b

- Bug fix in `PDFAnnotExtractor.add_dest()/named destinations`.

2007/06/29 v0.1c

- `\l@addto@macro` renamed to `\PAX@l@addto@macro` to avoid collision with classes of KOMA-Script.

2007/06/30 v0.1d

- Use of package `'etexmcds'`.

2007/07/12 v0.1e

- The Java program can be called with several files.

2007/07/16 v0.1f

- PDF files are explicitly closed to avoid warnings.

2007/07/18 v0.1g

- Compiled for Java 1.4.

2007/07/19 v0.1h

- JAR file without TDS tree.

2008/10/01 v0.1i

- Perl wrapper `'pdfannotextractor.pl'` added.
- Section `'Installation'` from `README` rewritten.
- Class-Path removed from `MANIFEST.MF`.