The pdfcolfoot package

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Abstract

Since version 1.40 pdfTeX supports several color stacks. This package uses a separate color stack for footnotes that can break across pages.

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∗Please report any issues at https://github.com/ho-tex/oberdiek/issues

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1 User interface

Just load the package:

\usepackage{pdfcolfoot}

The package assigns a color stack for footnotes and patches the appropriate internal macros to support this color stack.

1.1 Other packages or classes

This package pdfcolfoot redefines \@makecol and \@makefntext. This can cause conflicts if other packages or classes also change these macro in an incompatible way. Sometimes it can help to change the package order.

2 Interface for package or class writers

Two macros \pdfcolfoot@switch and \pdfcolfoot@current need to be added to get support of the color stack for footnotes. This package pdfcolfoot already patches many macros to add these two macros. If a package or class that deals with \@makefntext or \@makecol is not recognized by this package, the package/class author can add these two macros in his package/class.

2.1 Macro \pdfcolfoot@switch

Color commands inside footnotes should use the special color stack for footnotes. Macro \pdfcolfoot@switch sets this special color stack. (It can be called several times). But caution, footnotes for minipages should not be affected. This package patches \@makefntext for this purpose.

2.2 Macro \pdfcolfoot@current

In LATEX the footnote stuff goes into box \footins that is placed on the page (\@makecol). Two things need consideration:

- The footnote area should not interfere with the normal color stack. Macro \normalcolor inside a group helps it stores the current color of the normal stack and restores it after the group.

- If a footnote is broken across a page boundary, we need the latest color of the footnote area in the previous page. This is set by macro \pdfcolfoot@current.

As example the changes for \@makecol are shown (however this macro is already patched by this package):

\gdef\makcol{%
... 
\setbox\@outputbox\vbox{% or similar
... 
\color@begingroup
\normalcolor
\footnoterule \% using normal color (black)
\csname pdfcolfoot@current\endcsname
\unvbox\footins
\color@endgroup
}\%
... 
}
We use `\csname` to call macro `\pdfcolfoot@current`. If package `pdfcolfoot` is not loaded, `\pdfcolfoot@current` is not defined. In this case `\csname` defines the undefined macro with meaning `\relax` and we do not get an error because of undefined command.

3 Implementation

3.1 Identification

```latex
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{pdfcolfoot}% [2016/05/16 v1.3 Color stack for footnotes with pdfTeX (HO)]%
```

3.2 Load package `pdfcol`

```latex
\RequirePackage{pdfcol}[2007/09/09]
```

3.3 Color stack for footnotes

Version 1.0 has used `\current@color` as initial color stack value, since version 1.1 package `pdfcol` with its default setting is used.

```latex
\pdfcolInitStack{foot}
```

3.4 Patch `\makefntext`

```latex
\pdfcolfoot@switch
```

Macro `\pdfcolfoot@switch` switches the color stack. Subsequent color calls uses the color stack for footnotes.

```latex
\pdfcolfoot@switch{\%}
```

3.5 Patch `\makecol`

```latex
\pdfcolfoot@current
```

When the footnote area starts, the color should continue with the latest color value of the previous footnote area. This color is available on the current top of the color stack.

```latex
\pdfcolSetCurrent{foot}{}%```
For convenience we use \texttt{\detokenize} for patching \texttt{\@makecol} and related macros.

\begin{verbatim}
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname detokenize\endcsname\relax
\PackageWarningNoLine{pdfcolfoot}{%
 Missing e-\TeX for patching \string\@makecol
}%
\expandafter\endinput
\fi
\newif\ifPCF@result
\def\pdfcolfoot@patch#1{%
\ifx#1\@undefined
\else
\ifx#1\relax
\else
\begingroup
\toks@{}%
\let\on@line\@empty
\expandafter\PCF@CheckPatched
\detokenize\expandafter{#1pdfcolfoot@current}\@nil
\ifPCF@result
\PackageInfo{pdfcolfoot}{\string#1 \ is already patched}%
\else
\expandafter\PCF@CanPatch
\detokenize{#1\setbox@outputbox\vbox}\@nil
\ifPCF@result
\PackageInfo{pdfcolfoot}{\string#1 \ is being patched}%
\expandafter\PCF@PatchA#1\PCF@nil#1%
\else
\PackageInfo{pdfcolfoot}{\string#1 \ cannot be patched}%
\fi
\fi
\fi
\expandafter\endgroup
\the	oks@
\fi
\fi}
\expandafter\def\expandafter\PCF@CheckPatched
\expandafter#1\expandafter\detokenize{pdfcolfoot@current}\@nil{%
\ifx\#1\relax
\PCF@resultfalse
\else
\PCF@resulttrue
\fi}
\edef\PCF@BraceLeft{\string{}
\edef\PCF@BraceRight{\string} }
\begingroup
\edef\x{\endgroup
\def\noexpand\PCF@CanPatch
\##1\detokenize{\setbox@outputbox\vbox}\PCF@BraceLeft
\##2\detokenize{\footnoterule}##3\PCF@BraceRight
\}%
\\PCF@resultfalse
\else
\PackageInfo{pdfcolfoot}{\string#1 \ is being patched}%
\\PCF@PatchA#1\PCF@nil#1%
\else
\PackageInfo{pdfcolfoot}{\string#1 \ cannot be patched}%
\fi
\fi
\\PCF@resulttrue
\\PCF@resultfalse
\}\}
\expandafter\def\expandafter\PCF@CheckPatched
\expandafter#1\expandafter\detokenize{pdfcolfoot@current}\@nil{%
\ifx\#1\relax
\PCF@resultfalse
\else
\PCF@resulttrue
\fi}
\edef\PCF@BraceLeft{\string{}
\edef\PCF@BraceRight{\string} }
\begingroup
\edef\x{\endgroup
\def\noexpand\PCF@CanPatch
\##1\detokenize{\setbox@outputbox\vbox}\PCF@BraceLeft
\##2\detokenize{\footnoterule}##3\PCF@BraceRight
\}%
\\PCF@resultfalse
\else
\PackageInfo{pdfcolfoot}{\string#1 \ cannot be patched}%
\\PCF@resulttrue
\\PCF@resultfalse
\}\}
\edef\PCF@BraceLeft{\string{}
\edef\PCF@BraceRight{\string} }
\begingroup
\edef\x{\endgroup
\def\noexpand\PCF@CanPatch
\##1\detokenize{\setbox@outputbox\vbox}\PCF@BraceLeft
\##2\detokenize{\footnoterule}##3\PCF@BraceRight
\}%
\\PCF@resultfalse
\else
\PackageInfo{pdfcolfoot}{\string#1 \ cannot be patched}%
\\PCF@resulttrue
\\PCF@resultfalse
\}\}
\edef\PCF@BraceLeft{\string{}}
\edef\PCF@BraceRight{\string}}
\begingroup
\edef\x{\endgroup
\def\noexpand\PCF@CanPatch
\##1\detokenize{\setbox@outputbox\vbox}\PCF@BraceLeft
\##2\detokenize{\footnoterule}##3\PCF@BraceRight
\}%
\\PCF@resultfalse
\else
\PackageInfo{pdfcolfoot}{\string#1 \ cannot be patched}%
\\PCF@resulttrue
\\PCF@resultfalse
\}\}
\edef\PCF@BraceLeft{\string{}}
\edef\PCF@BraceRight{\string}}
\end{verbatim}
\PCF@resulttrue
\fi
}
\def\PCF@PatchA#1\setbox\@outputbox\vbox\PCF@nil#2\PCF@nil#3\PCF@nil#4{% 
\PCF@PatchB#1#2\PCF@nil#3\PCF@nil#4%
}
\def\PCF@PatchB#1#2\footnoterule#3\PCF@nil#4#5{% 
\toks@{% 
\def#5{#1} 
\setbox\@outputbox\vbox{#2} 
\footnoterule 
\pdfcolfoot@current 
\#3} 
\#4} 
}\% 
}\% 
}
\def\pdfcolfoot@all#1{% 
\begingroup 
\let\on@line\@empty 
\PackageInfo{pdfcolfoot}{Patching \string\@makecol macros (#1)} 
\endgroup 
L\TeX base macro: 
\pdfcolfoot@patch\@makecol 
Class aastex: 
\pdfcolfoot@patch\@makecol@pptt 
Class memoir: 
\pdfcolfoot@patch\mem@makecol 
\pdfcolfoot@patch\mem@makecolbf 
\pdfcolfoot@patch\m@mopfootnote 
Class revtex4: 
\pdfcolfoot@patch\@combineinserts 
Package changebar: 
\pdfcolfoot@patch\ltx@makecol 
Package dblfnote: 
\pdfcolfoot@patch\dfn@latex@makecol 
Package fancyhdr: 
\pdfcolfoot@patch\latex@makecol 
Package lscape: 
\pdfcolfoot@patch\LS@makecol 
Package lineno: 
\pdfcolfoot@patch\@LN@orig@makecol 
Package stfloats: 
\pdfcolfoot@patch\org@makecol 
\pdfcolfoot@patch\fn@makecol 
}\% 
\AtBeginDocument{\pdfcolfoot@all{AtBeginDocument}} 
\pdfcolfoot@all{AtEndOfPackage} 
\endgroup
4 Test

\NeedsTeXFormat{LaTeX2e}\AtEndDocument{\typeout{}\typeout{**************************************}*** \space Check the PDF file manually! \space ***\typeout{**************************************}\typeout{}\begingroup\expandafter\expandafter\expandafter\endgroup\expandafter\ifx\csname pdfcompresslevel\endcsname\relax\else\pdfcompresslevel=0 %\fi\documentclass[12pt,a5paper]{article}\usepackage{pdfcolfoot}[2016/05/16]\dimen\footins=\baselineskip % for testing\begin{document}Black\footnote{Black \textcolor{blue}{Blue\Blue} Black} \textcolor{red}{Red\newpage Red} Black\end{document}

5 Installation

5.1 Download

Package. This package is available on CTAN\footnote{http://ctan.org/pkg/pdfcolfoot}:\par
CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.dtx The source file.\par
CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.pdf Documentation.\par

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.\par
CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard “A Directory Structure for \TeX Files” (CTAN:tds/tds.pdf). Directories with \texttt{texmf} in their name are usually organized this way.

5.2 Bundle installation

Unpacking. Unpack the oberdiek.tds.zip in the TDS tree (also known as \texttt{texmf} tree) of your choice. Example (linux):\par
\begin{verbatim}
unzip oberdiek.tds.zip -d ~/texmf
\end{verbatim}

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package \texttt{attachfile2} comes with the Perl script \texttt{pdfatfi.pl} that should be installed in such a way that it can be called as \texttt{pdfatfi}. Example (linux):\par
\begin{verbatim}
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
\end{verbatim}
5.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain TeX:

```
tex pdfcolfoot.dtx
```

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
pdfcolfoot.sty   →  tex/latex/oberdiek/pdfcolfoot.sty
pdfcolfoot.pdf   →  doc/latex/oberdiek/pdfcolfoot.pdf
test/pdfcolfoot-test1.tex  →  doc/latex/oberdiek/test/pdfcolfoot-test1.tex
pdfcolfoot.dtx   →  source/latex/oberdiek/pdfcolfoot.dtx
```

If you have a `docstrip.cfg` that configures and enables docstrip’s TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

5.4 Refresh file name databases

If your TeX distribution (teTeX, mikTeX, ...) relies on file name databases, you must refresh these. For example, teTeX users run `texhash` or `mktexlsr`.

5.5 Some details for the interested

**Unpacking with `lATeX`.** The `.dtx` chooses its action depending on the format:

plain TeX: Run `docstrip` and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for `docstrip` (really, `docstrip` does not need LATEX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{pdfcolfoot.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

**Generating the documentation.** You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfLATEX:

```
pdflatex pdfcolfoot.dtx
makeindex -s gind.ist pdfcolfoot.idx
pdflatex pdfcolfoot.dtx
makeindex -s gind.ist pdfcolfoot.idx
pdflatex pdfcolfoot.dtx
```

6 Catalogue

The following XML file can be used as source for the TeX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `pdfcolfoot.xml`. 

```xml
<?xml version="1.0" encoding="us-ascii"?>
<DOCTYPE entry SYSTEM 'catalogue.dtd'>
```
Since version 1.40 \rref{id='pdftex'}pdfTeX\rref{id='pdftex'} supports several colour stacks. This package uses a separate colour stack for footnotes that can break across pages.

The package is part of the \rref{id='oberdiek'}oberdiek\rref{id='oberdiek'} bundle.

7 References


8 History

[2007/01/08 v1.0]
  - First version.

[2007/09/09 v1.1]
  - Use of package pdfcol.
  - Test file added.

[2012/01/02 v1.2]
  - Support updated for memoir 2011/03/06 v3.6j. (Thanks Bob for the bug report.)

[2016/05/16 v1.3]
  - Documentation updates.

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

<table>
<thead>
<tr>
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