The \texttt{pdfcolfoot} package

Heiko Oberdiek*

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Abstract

Since version 1.40 pdf\TeX{} 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 \url{https://github.com/ho-tex/oberdiek/issues}
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

```
1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolfoot}[
4 [2016/05/16 v1.3 Color stack for footnotes with pdfTeX (HO)]
```

3.2 Load package `pdfcol`

```
5 \ RequirePackage{pdfcol}[2007/09/09]
6 \ifpdfcolAvailable
7 \else
8 \PackageInfo{pdfcolfoot}{%
9 Loading aborted, because color stacks are not available%
10 }%
11 \expandafter\endinput
12 \fi
```

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.

```
13 \pdfcolInitStack{foot}
```

3.4 Patch `\@makefntext`

```
\pdfcolfoot@switch  Macro `\pdfcolfoot@switch` switches the color stack. Subsequent color calls uses the color stack for footnotes.
14 \newcommand*{\pdfcolfoot@switch}{%
15 \pdfcolSwitchStack{foot}%
16 }
17 \AtBeginDocument{%
18 \newcommand*{\pdfcolfoot@switch}{%}
19 \let\pdfcolfoot@makefntext=\@makefntext
20 \renewcommand{\@makefntext}{%
21 \pdfcolfoot@makefntext{%
22 \if@minipage
23 \else
24 \pdfcolfoot@switch
25 \fi
26 #1%
27 }%
28 }%
29 }
```
3.5 Patch \@makecol

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.

\newcommand*{\pdfcolfoot@current}{%
\pdfcolSetCurrent{foot}%
}

For convenience we use \detokenize for patching \@makecol and related macros.

\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\space is already patched}%
\else
\expandafter\PCF@CanPatch\detokenize{%
\setbox\@outputbox\vbox{\footnoterule}%
\@nil
\ifPCF@result
\PackageInfo{pdfcolfoot}{\string#1 is being patched}%
\expandafter\PCF@PatchA#1\PCF@nil#1%
\else
\PackageInfo{pdfcolfoot}{\string#1\space cannot be patched}%
\fi
\fi
\fi
\expandafter\endgroup
\the\toks@
\fi
\fi
\fi
\expandafter\def\expandafter\PCF@CheckPatched\expandafter#1\expandafter\PCF@CheckPatched{%
\ifx\string#1\relax
\PCF@resultfalse
\else
\PCF@resulttrue
\fi
\expandafter\PCF@PatchA
\expandafter\PCF@nil
\ifPCF@resultfalse
\PackageInfo{pdfcolfoot}{\string#1\space cannot be patched}%
\else
\PackageInfo{pdfcolfoot}{\string#1\space is already patched}%
\fi
\fi
\expandafter\endgroup
\expandafter\def\expandafter\PCF@PatchA\expandafter#1\expandafter\PCF@PatchA{%
\setbox\@outputbox\vbox{\footnoterule}%
\@nil
\ifPCF@resultfalse
\PackageInfo{pdfcolfoot}{\string#1\space cannot be patched}%
\else
\PackageInfo{pdfcolfoot}{\string#1\space is already patched}%
\fi
\fi
\expandafter\endgroup
\expandafter\expandafter\expandafter\endgroup
\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}
\x#4\@nil{%
\ifx\#2#3#4\%
\PCF@resultfalse
\else
\PCF@resulttrue
\fi}
\def\PCF@PatchA#1\setbox\@outputbox\vbox#2#3\PCF@nil#4{%
\PCF@PatchB{#1}#2\PCF@nil{#3}#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%
}
#5}
}
\def\pdfcolfoot@all#1{%
\begingroup
\let\on@line\@empty
\PackageInfo{pdfcolfoot}{Patching \string\@makecol\space macros (#1)}%
\endgroup
\endgroup
\LaTeX\ base macro:
\pdfcolfoot@patch\@makecol
Class aastex:
\pdfcolfoot@patch\@makecol\@pptt
Class memoir:
\pdfcolfoot@patch\mem@makecol
\pdfcolfoot@patch\mem@makecolbf
\pdfcolfoot@patch\m@opfootnote
Class revtex4:
\pdfcolfoot@patch\@combineinserts
Package changebar:
\pdfcolfoot@patch\ltx@makecol
Package dblfnote:
\pdfcolfoot@patch\dfn@latex@makecol
4 Installation

4.1 Download

Package. This package is available on CTAN:\footnote{CTAN:pkg/pdfcolfoot}


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.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

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

4.2 Bundle installation

Unpacking. Unpack the oberdiek.tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

unzip oberdiek.tds.zip -d ~/texmf

4.3 Package installation

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

\textverbatim{tex pdfcolfoot.dtx}
TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as \texttt{texmf} tree):

- \texttt{pdfcolfoot.sty} → \texttt{tex/latex/oberdiek/pdfcolfoot.sty}
- \texttt{pdfcolfoot.pdf} → \texttt{doc/latex/oberdiek/pdfcolfoot.pdf}
- \texttt{pdfcolfoot.dtx} → \texttt{source/latex/oberdiek/pdfcolfoot.dtx}

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

4.4 Refresh file name databases
If your \TeX\ distribution (\TeX\ Live, MiKTeX, …) relies on file name databases, you must refresh these. For example, \TeX\ Live users run \texttt{texhash} or \texttt{mktexlsr}.

4.5 Some details for the interested

\textbf{Unpacking with L\TeX}. The \texttt{.dtx} chooses its action depending on the format:

- \texttt{plain \TeX}: Run \texttt{docstrip} and extract the files.
- \texttt{L\TeX}: Generate the documentation.

If you insist on using \texttt{L\TeX} for \texttt{docstrip} (really, \texttt{docstrip} does not need \texttt{L\TeX}), then inform the autodetect routine about your intention:

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

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

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

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

An example follows how to generate the documentation with \texttt{pdfL\TeX}:

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

5 References


6 History

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

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