

The pdfcolfoot package

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2007/01/08 v1.0

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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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 \@makefnfoot. 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 `\@makefnintext` 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 `\@makefnintext` 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 [2007/01/08 v1.0 pdfTeX's color stack for footnotes (H0)]
```

3.2 Initial checks

3.2.1 Check for pdf \TeX in PDF mode

```

5 \RequirePackage{ifpdf}
6 \ifpdf
7 \else
8   \PackageWarningNoLine{pdfcolfoot}{%
9     Loading aborted, because pdfTeX is not running in PDF mode%
10  }%
11  \expandafter\endinput
12 \fi

```

3.2.2 Check pdfTeX version

```

13 \begingroup\expandafter\expandafter\expandafter\endgroup
14 \expandafter\ifx\csname pdfcolorstackinit\endcsname\relax
15   \PackageWarningNoLine{pdfcolfoot}{%
16     Your pdfTeX version does not support color stacks%
17   }%
18   \expandafter\endinput
19 \fi

```

3.2.3 Check pdftex.def version

Force loading of package color with pdftex.def, if this is not already done.

```

20 \@ifpackageloaded{color}{\RequirePackage[pdftex]{color}}

```

Now we can check the minimal version requirement of pdftex.def.

```

21 \begingroup\expandafter\expandafter\expandafter\endgroup
22 \expandafter\ifx\csname @pdfcolorstack\endcsname\relax
23   \PackageWarningNoLine{pdfcolfoot}{%
24     Your pdftex.def is too old, you need at least 2007/01/02 v0.04b%
25   }%
26   \expandafter\endinput
27 \fi

```

3.3 Color stack for footnotes

I do not know, why pdftex.def (or other drivers do not define \default@color. Instead they are defining \current@color. Therefore it is assumed that in the preamble this color for black is still valid.

```

28 \newcommand{\pdfcolfoot@stack}{}
29 \edef\pdfcolfoot@stack{%
30   \pdfcolorstackinit direct{\current@color}%
31 }
32 \begingroup
33   \let\on@line\@empty
34   \PackageInfo{pdfcolfoot}{%
35     Color stack number: \pdfcolfoot@stack
36   }%
37 \endgroup

```

3.4 Patch \@makefntext

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

```

38 \newcommand*{\pdfcolfoot@switch}{%
39   \let\@pdfcolorstack\pdfcolfoot@stack
40 }

41 \AtBeginDocument{%
42   \newcommand*{\pdfcolfoot@makefntext}{}%
43   \let\pdfcolfoot@makefntext\@makefntext
44   \renewcommand{\@makefntext}[1]{%
45     \pdfcolfoot@makefntext{%
46       \if@minipage

```

```

47     \else
48     \pdfcolfoot@switch
49     \fi
50     #1%
51   }%
52 }%
53 }

```

3.5 Patch \@makecol

`\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.

```

54 \newcommand*{\pdfcolfoot@current}{%
55   \pdfcolorstack\pdfcolfoot@stack current\relax
56 }

```

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

```

57 \begingroup\expandafter\expandafter\expandafter\endgroup
58 \expandafter\ifx\csname detokenize\endcsname\relax
59   \PackageWarningNoLine{pdfcolfoot}{%
60     Missing e-TeX for patching \string\@makecol
61   }%
62 \expandafter\endinput
63 \fi

64 \newif\ifPCF@result
65 \def\pdfcolfoot@patch#1{%
66   \ifx#1\@undefined
67   \else
68     \ifx#1\relax
69     \else
70       \begingroup
71       \toks@{}%
72       \let\on@line\@empty
73       \expandafter\PCF@CheckPatched
74       \detokenize\expandafter{#1pdfcolfoot@current}\@nil
75       \ifPCF@result
76       \PackageInfo{pdfcolfoot}{\string#1\space is already patched}%
77       \else
78       \expandafter\PCF@CanPatch
79       \detokenize\expandafter{%
80         #1\setbox\@outputbox\vbox{\footnoterule}%
81       }%
82       \@nil
83       \ifPCF@result
84       \PackageInfo{pdfcolfoot}{\string#1 is being patched}%
85       \expandafter\PCF@PatchA#1\PCF@nil#1%
86       \else
87       \PackageInfo{pdfcolfoot}{%
88         \string#1\space cannot be patched%
89       }%
90       \fi
91     \fi
92   \expandafter\endgroup
93   \the\toks@
94 \fi
95 \fi
96 }

97 \expandafter\def\expandafter\PCF@CheckPatched
98   \expandafter#\expandafter1\detokenize{pdfcolfoot@current}#2\@nil{%

```

```

99  \ifx\#2\%
100  \PCF@resultfalse
101  \else
102  \PCF@resulttrue
103  \fi
104 }
105 \edef\PCF@BraceLeft{\string{}}
106 \edef\PCF@BraceRight{\string{}}
107 \begingroup
108  \edef\x{\endgroup
109    \def\noexpand\PCF@CanPatch
110      #1\detokenize{\setbox\@outputbox\vbox}\PCF@BraceLeft
111      #2\detokenize{\footnoterule}##3\PCF@BraceRight
112    }%
113  \x#4\@nil{%
114    \ifx\#2#3#4\%
115    \PCF@resultfalse
116    \else
117    \PCF@resulttrue
118    \fi
119  }
120 \def\PCF@PatchA#1\setbox\@outputbox\vbox#2#3\PCF@nil#4{%
121  \PCF@PatchB{#1}#2\PCF@nil{#3}#4%
122 }
123 \def\PCF@PatchB#1#2\footnoterule#3\PCF@nil#4#5{%
124  \toks@{%
125    \def#5{%
126      #1%
127      \setbox\@outputbox\vbox{%
128        #2%
129        \footnoterule
130        \pdfcolfoot@current
131        #3%
132      }%
133      #4%
134    }%
135  }%
136 }
137 \def\pdfcolfoot@all#1{%
138  \begingroup
139  \let\on@line\@empty
140  \PackageInfo{pdfcolfoot}{%
141    Patching \string\@makecol\space macros (#1)%
142  }%
143  \endgroup

```

\LaTeX base macro:

```

144  \pdfcolfoot@patch\@makecol

```

Class aastex:

```

145  \pdfcolfoot@patch\@makecol@pptt

```

Class memoir:

```

146  \pdfcolfoot@patch\mem@makecol
147  \pdfcolfoot@patch\mem@makecolbf

```

Class revtex4:

```

148  \pdfcolfoot@patch\@combineinserts

```

Package changebar:

```

149  \pdfcolfoot@patch\ltx@makecol

```

Package dblfnote:

```

150  \pdfcolfoot@patch\dfn@latex@makecol

```

```

Package fancyhdr:
151 \pdfcolfoot@patch\latex@makecol
Package lscap:
152 \pdfcolfoot@patch\LS@makecol
Package lineno:
153 \pdfcolfoot@patch\LN@orig@makecol
Package stfloats:
154 \pdfcolfoot@patch\org@makecol
155 \pdfcolfoot@patch\fn@makecol
156 }
157 \AtBeginDocument{\pdfcolfoot@all{AtBeginDocument}}
158 \pdfcolfoot@all{AtEndOfPackage}
159 \end{package}

```

4 Installation

CTAN. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.pdf](#) Documentation.

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
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.

Refresh file databases. If your TeX distribution (TeX, MikTeX, ...) rely on file databases, you must refresh these. For example, TeX users run `texhash` or `mktextlsr`.

4.1 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk pdfcolfoot.pdf unpack_files output .
```

¹<http://ftp.ctan.org/tex-archive/>

Unpacking with L^AT_EX. The .dtx chooses its action depending on the format:

plain-T_EX: Run docstrip and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), 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 pdfL^AT_EX:

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

5 History

[2007/01/08 v1.0]

- First version.

6 Index

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

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