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.

Contents

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

```
⟨*package⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{pdfcolfoot}%
  [2012/01/02 v1.2 Color stack for footnotes with pdfTeX (HO)]%
```

3.2 Load package pdfcol

```
\RequirePackage{pdfcol}[2007/09/09]
\ifpdfcolAvailable
\else
  \PackageInfo{pdfcolfoot}{%
    Loading aborted, because color stacks are not available%
  }%
  \expandafter\endinput
\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.

```
\pdfcolInitStack{foot}
```

3.4 Patch `\@makefntext`

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

```
\newcommand*{\pdfcolfoot@switch}{%
  \pdfcolSwitchStack{foot}%
}

\AtBeginDocument{%
  \newcommand*{\pdfcolfoot@makefntext}{}%
  \let\pdfcolfoot@makefntext\@makefntext
  \renewcommand{\@makefntext}[1]{%
    \pdfcolfoot@makefntext{%
      \if@minipage
      \else
        \pdfcolfoot@switch
      \fi
      #1%
    }%
  }%
}
```

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.

```
\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\expandafter{%
              #1\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
      \expandafter\endgroup
      \the\toks@
    \fi
  \fi
}
\expandafter\def\expandafter\PCF@CheckPatched
    \expandafter#\expandafter1\detokenize{pdfcolfoot@current}#2\@nil{%
  \ifx\\#2\\%
    \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
  }%
\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%
    }%
  }%
}
\def\pdfcolfoot@all#1{%
  \begingroup
    \let\on@line\@empty
    \PackageInfo{pdfcolfoot}{%
      Patching \string\@makecol\space macros (#1)%
    }%
  \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@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}
```

⟨/package⟩

4 Test

```
⟨*test1⟩
\NeedsTeXFormat{LaTeX2e}
\AtEndDocument{%
  \typeout{}%
```

```
  \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}[2012/01/02]
\dimen\footins=\baselineskip % for testing
\begin{document}
  Black\footnote{Black \textcolor{blue}{Blue\\Blue} Black} %
  \textcolor{red}{Red\newpage Red} Black%
\end{document}
```
⟨/test1⟩

5 Installation

5.1 Download

Package. This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/pdfcolfoot.pdf Documentation.

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:tds/tds.pdf). Directories with `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 `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package attachfile2 comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

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
```

[1] ftp://ftp.ctan.org/tex-archive/

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

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 .
```

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`.

```
159 ⟨*catalogue⟩
160 <?xml version='1.0' encoding='us-ascii'?>
161 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
162 <entry datestamp='$Date$' modifier='$Author$' id='pdfcolfoot'>
```

```
  <name>pdfcolfoot</name>
  <caption>Separate color stack for footnotes with pdfTeX.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2007,2012'/>
  <license type='lppl1.3'/>
  <version number='1.2'/>
  <description>
    Since version 1.40 <xref refid='pdftex'>pdfTeX</xref> supports
    several colour stacks. This package uses a separate colour stack
    for footnotes that can break across pages.
    <p/>
    The package is part of the <xref refid='oberdiek'>oberdiek</xref>
    bundle.
  </description>
  <documentation details='Package documentation'
      href='ctan:/macros/latex/contrib/oberdiek/pdfcolfoot.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/pdfcolfoot.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='oberdiek'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
⟨/catalogue⟩
```

7 References

[1] Heiko Oberdiek: *The pdfcol package*; 2007/09/09; CTAN:macros/latex/contrib/oberdiek/pdfcol.pdf.

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.)

9 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; plain numbers refer to the code lines where the entry is used.