The pdfcolfoot package
Heiko Oberdiek*
2023-01-10 v1.4

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 ............................................. 1
  1.1 Other packages or classes .......................... 2
2 Interface for package or class writers .............. 2
  2.1 Macro \pdfcolfoot@switch ......................... 2
  2.2 Macro \pdfcolfoot@current ....................... 2
3 Implementation ......................................... 2
  3.1 Identification .................................. 2
  3.2 Load package pdfcol ............................ 3
  3.3 Color stack for footnotes ..................... 3
  3.4 Patch \makefntext .............................. 3
  3.5 Patch \makecol ................................. 3
4 Installation ............................................ 5
  4.1 Download ....................................... 5
  4.2 Package installation ........................... 6
  4.3 Refresh file name databases .................. 6
  4.4 Some details for the interested .............. 6
5 References ............................................. 7
6 History .................................................. 7
   [2007/01/08 v1.0] .................................. 7
   [2007/09/09 v1.1] .................................. 7
   [2012/01/02 v1.2] .................................. 7
   [2016/05/16 v1.3] .................................. 7
   [2023-01-10 v1.4] .................................. 7
7 Index .................................................... 7

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.

*Please report any issues at https://github.com/ho-tex/pdfcolfoot/issues
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 \makecol 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):

\begin{verbatim}
\def\makcol{%
  ...
  \setbox\@outputbox\vbox{% or similar
    ...
    \color@begingroup
    \normalcolor
    \footnoterule % using normal color (black)
    \csname pdfcolfoot@current\endcsname
    \unvbox\footins
    \color@endgroup
  }
}
\end{verbatim}

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
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{pdfcolfoot} % [2023-01-10 v1.4 Color stack for footnotes with pdfTeX (HO)]

\PackageInfo{pdfcolfoot}{\NeedsTeXFormat{LaTeX2e} \ProvidesPackage{pdfcolfoot} \[2023-01-10 v1.4 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 \texttt{\current@color} as initial color stack value, since version 1.1 package pdfcol with its default setting is used.
\pdfcolInitStack{foot}

3.4 Patch \texttt{@makefntext}

\pdfcolfoot@switch Macro \texttt{\pdfcolfoot@switch} switches the color stack. Subsequent color calls uses the color stack for footnotes.
\newcommand*{\pdfcolfoot@switch}{\pdfcolSwitchStack{foot}}
\AtBeginDocument{\newcommand*{\pdfcolfoot@makefntext}{\pdfcolfoot@switch\if@minipage\else\pdfcolfoot@current\fi\color@begingroup#1\color@endgroup}}

3.5 Patch \texttt{@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 \texttt{\detokenize} for patching \texttt{@makecol} and related macros.
\expandafter\endinput
\fi
\newif\ifPCF@result
\def\pdfcolfoot@patch#1{\if\expandafter\@undefined#1\else\if\expandafter\relax#1\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{\setbox\@outputbox\vbox\footnoterule}\@nil\ifPCF@result\PackageInfo{pdfcolfoot}{\string#1 is being patched}\expandafter\PCF@PatchA\setbox\@outputbox\vbox\footnoterule\else\PackageInfo{pdfcolfoot}{\string#1 space cannot be patched}\fi\fi\expandafter\endgroup\the\toks\fi\fi\fi\fi\fi\fi
\expandafter\def\expandafter\PCF@CheckPatched\expandafter#1\detokenize\expandafter{pdfcolfoot@current}\@nil{\if\expandafter\@undefined#1\else\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\%\fi\fi\expandafter\def\expandafter\PCF@PatchA\expandafter#1\setbox\@outputbox\vbox\footnoterule\setbox\@outputbox\vbox\PCF@BraceLeft\setbox\@outputbox\vbox\footnoterule\PCF@BraceRight\%\fi\fi\expandafter\def\expandafter\PCF@PatchB\expandafter#1\PCF@nil\expandafter{\PCF@PatchB\PCF@BraceLeft\setbox\@outputbox\vbox\footnoterule\PCF@BraceRight\%\fi\fi\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\%\fi\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\%\fi\fi
\def\pdfcolfoot@all#1{\begingroup\let\on@line\@empty\PackageInfo{pdfcolfoot}{Patching \string\@makecol\space macros (#1)}\endgroup}

\AtBeginDocument{\pdfcolfoot@all{AtBeginDocument}}
\pdfcolfoot@all{AtEndOfPackage}

\input{pdfcolfoot}

\section{Installation}

\subsection{Download}

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

The package should be installed with the package manager of your TeX system. If for some reason a manual installation is needed follow the following instructions.

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/pdfcolfoot/pdfcolfoot.sty
pdfcolfoot.pdf → doc/latex/pdfcolfoot/pdfcolfoot.pdf
pdfcolfoot.dtx → source/latex/pdfcolfoot/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.

4.3 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 texhash or mktexlsr.

4.4 Some details for the interested

Unpacking with \texttt{\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 \texttt{\LaTeX} for docstrip (really, docstrip does not need \texttt{\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 pdf\texttt{\LaTeX}:

```
pdf\LaTeX{} pdfcolfoot.dtx
makeindex -s gind.ist pdfcolfoot.idx
pdf\LaTeX{} pdfcolfoot.dtx
makeindex -s gind.ist pdfcolfoot.idx
pdf\LaTeX{} pdfcolfoot.dtx
```
5 References


6 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.

[2023-01-10 v1.4]
- Added a group to avoid that the wrong color stack is reset after the footnote.

7 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.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>E</th>
<th>F</th>
<th>I</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>@LN@orig@makecol</td>
<td>132</td>
<td>\endcsname</td>
<td>36</td>
<td>\endinput</td>
</tr>
<tr>
<td>@combineinserts</td>
<td>127</td>
<td>\endinput</td>
<td>11, 40</td>
<td>\latex@makecol</td>
</tr>
<tr>
<td>\empty</td>
<td>50, 117</td>
<td>\makecol</td>
<td>38, 119, 122</td>
<td></td>
</tr>
<tr>
<td>@makecol</td>
<td>38</td>
<td>@makecol@pptt</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>@makefntext</td>
<td>19, 20</td>
<td>\fn@makecol</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>@nil</td>
<td>52, 60, 76, 91</td>
<td>\footnoterule</td>
<td>58, 89, 101, 107</td>
<td></td>
</tr>
<tr>
<td>@outputbox</td>
<td>58, 88, 98, 105</td>
<td>\ls@makecol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@undefined</td>
<td>44</td>
<td>\if@minipage</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>\textrm</td>
<td>77, 92</td>
<td>\ifPCF@result</td>
<td>42, 53, 61</td>
<td></td>
</tr>
<tr>
<td>@undefined</td>
<td>52, 57, 76, 88, 89</td>
<td>\ifpdfcolAvailable</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>@m@makecol</td>
<td>17</td>
<td>\ifx</td>
<td>36, 44, 46, 77, 92</td>
<td></td>
</tr>
<tr>
<td>\AtBeginDocument</td>
<td>136</td>
<td>\ls@makecol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>\color@begingroup</td>
<td>26</td>
<td>\ls@makecol</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td>\color@endgroup</td>
<td>28</td>
<td>\ltx@makecol</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>\csname</td>
<td>36</td>
<td>\m@mopfootnote</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>\detokenize</td>
<td>52</td>
<td>\mem@makecol</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>\dfn@latex@makecol</td>
<td>129</td>
<td>\mem@makecolbf</td>
<td>125</td>
<td></td>
</tr>
</tbody>
</table>