

The transparent package

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Abstract

Since version 1.40 pdfTeX supports several color stacks. This package shows, how a separate color stack can be used for transparency, a property besides color.

Contents

1	User interface	1
2	Implementation	2
2.1	Identification	2
2.2	Initial checks	2
2.2.1	Check for pdfTeX in PDF mode	2
2.2.2	Check pdfTeX or LuaTeX version	2
2.3	Compatibility with pgf	3
2.4	Transparency	3
3	Installation	5
3.1	Download	5
3.2	Bundle installation	5
3.3	Package installation	5
3.4	Refresh file name databases	6
3.5	Some details for the interested	6
4	History	6
	[2007/01/08 v1.0]	6
	[2016/05/16 v1.1]	6
	[2018/09/10 v1.2]	6
	[2018/11/18 v1.3]	6

1 User interface

The package transparent defines `\transparent` and `\texttransparent`. They are used like `\color` and `\textcolor`. The first argument is the transparency value between 0 and 1.

Because of the poor interface for page resources, there can be problems with packages that also use `\pdfpageresources`.

Example for usage:

```
1 \(*example)
```

*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

```

2 \documentclass[12pt]{article}
3
4 \usepackage{color}
5 \usepackage{transparent}
6
7 \begin{document}
8 \colorbox{yellow}{%
9   \bfseries
10  \color{blue}%
11  Blue and %
12  \transparent{0.6}%
13  transparent blue%
14 }
15
16 \bigskip
17 Hello World
18 \texttransparent{0.5}{Hello\newpage World}
19 Hello World
20 \end{document}
21 \example

```

2 Implementation

2.1 Identification

```

22 \*package
23 \NeedsTeXFormat{LaTeX2e}
24 \ProvidesPackage{transparent}%
25 [2018/11/18 v1.3 Transparency via pdfTeX's color stack (H0)]%

```

2.2 Initial checks

2.2.1 Check for pdfTeX in PDF mode

```

26 \RequirePackage{ifpdf}
27 \ifpdf
28 \else
29   \PackageWarningNoLine{transparent}{%
30     Loading aborted, because pdfTeX is not running in PDF mode%
31   }%
32 \expandafter\endinput
33 \fi

```

2.2.2 Check pdfTeX or LuaTeX version

```

34 \ifx\pdfextension\@undefined
35   \let\TRP@pdfcolorstackinit\pdfcolorstackinit
36   \let\TRP@pdfpageresources\pdfpageresources
37   \let\TRP@pdfcolorstack\pdfcolorstack
38 \else
39   \def\TRP@pdfcolorstackinit      {\pdffeedback colorstackinit}
40   \protected\edef\TRP@pdfpageresources {\pdfvariable pageresources}
41   \protected\def\TRP@pdfcolorstack  {\pdfextension colorstack}
42 \fi

43 \ifcsname TRP@pdfcolorstackinit\endcsname\else
44   \PackageWarningNoLine{transparent}{%
45     Your pdfTeX version does not support color stacks%
46   }%
47 \expandafter\endinput

```

48 \fi

2.3 Compatibility with pgf

<https://github.com/ho-tex/oberdiek/issues/19>

```

49 \AtBeginDocument
50 {%
51   \ifcsname pgfutil@addpdfresource@extgs\endcsname
52     \let\TRP@addresource\relax
53     \pgfutil@addpdfresource@extgs{\TRP@list}%
54   \fi
55 }
```

2.4 Transparency

The setting for the different transparency values must be added to the page resources. In the first run the values are recorded in the `.aux` file. In the second run the values are set and transparency is available.

```

56 \RequirePackage{auxhook}
57 \AddLineBeginAux{%
58   \string\providecommand{\string\transparent@use}[1]{}%
59 }
60 \gdef\TRP@list{/TRP1<</ca 1/CA 1>>}
61 \def\transparent@use#1{%
62   \ifundefined{TRP#1}{%
63     \g@addto@macro\TRP@list{%
64       /TRP#1<</ca #1/CA #1>>%
65     }%
66     \expandafter\gdef\csname TRP#1\endcsname{/TRP#1 gs}%
67   }{%
68     % #1 is already known, nothing to do
69   }%
70 }
71 \AtBeginDocument{%
72   \TRP@addresource
73   \let\transparent@use\@gobble
74 }
```

Unhappily the interface setting page resources is very poor, only a token register `\pdfpageresources`. Thus this package tries to be cooperative in the way that it embeds the previous contents of `\pdfpageresources`. However it does not solve the problem, if several packages want to set `/ExtGState`.

```

75 \def\TRP@addresource{%
76   \begingroup
77   \edef\x{\endgroup
78     \TRP@pdfpageresources{%
79       \the\TRP@pdfpageresources
80       /ExtGState<<\TRP@list>>%
81     }%
82   }%
83   \x
84 }
85 \newif\ifTRP@rerun
86 \xdef\TRP@colorstack{%
87   \TRP@pdfcolorstackinit page direct{/TRP1 gs}%
88 }
```

`\transparent`

```

89 \newcommand*{\transparent}[1]{%
90   \begingroup
91     \dimen@=#1\p@ \relax
92     \ifdim\dimen@>\p@
93       \dimen@=\p@
94     \fi
95     \ifdim\dimen@<\z@
96       \dimen@=\z@
97     \fi
98     \ifdim\dimen@=\p@
99       \def\x{1}%
100    \else
101      \ifdim\dimen@=\z@
102        \def\x{0}%
103      \else
104        \edef\x{\strip@pt\dimen@}%
105        \edef\x{\expandafter\@gobble\x}%
106      \fi
107    \fi
108    \if@files
109      \immediate\write\@auxout{%
110        \string\transparent@use{\x}%
111      }%
112    \fi
113    \edef\x{\endgroup
114      \def\noexpand\transparent@current{\x}%
115    }%
116    \x
117    \transparent@set
118  }

119 \AtEndDocument{%
120   \ifTRP@rerun
121     \PackageWarningNoLine{transparent}{%
122       Rerun to get transparencies right%
123     }%
124   \fi
125 }
126 \def\transparent@current{/TRP1 gs}
127 \def\transparent@set{%
128   \@ifundefined{TRP\transparent@current}{%
129     \global\TRP@reruntrue
130   }{%
131     \TRP@pdfcolorstack\TRP@colorstack push{%
132       \csname TRP\transparent@current\endcsname
133     }%
134     \aftergroup\transparent@reset
135   }%
136 }
137 \def\transparent@reset{%
138   \TRP@pdfcolorstack\TRP@colorstack pop \relax
139 }

```

\texttransparent

```

140 \newcommand*{\texttransparent}[2]{%
141   \protect\leavevmode
142   \begingroup
143     \transparent{#1}%
144     #2%

```

```

145 \endgroup
146 }
147 </package>

```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

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

[CTAN:macros/latex/contrib/oberdiek/transparent.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.

3.2 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/

```

3.3 Package installation

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

```
tex transparent.dtx
```

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

<code>transparent.sty</code>	→ <code>tex/latex/oberdiek/transparent.sty</code>
<code>transparent.pdf</code>	→ <code>doc/latex/oberdiek/transparent.pdf</code>
<code>transparent-example.tex</code>	→ <code>doc/latex/oberdiek/transparent-example.tex</code>
<code>transparent.dtx</code>	→ <code>source/latex/oberdiek/transparent.dtx</code>

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`.

¹[CTAN:pkg/transparent](#)

3.4 Refresh file name databases

If your $\text{T}_{\text{E}}\text{X}$ distribution (te $\text{T}_{\text{E}}\text{X}$, mik $\text{T}_{\text{E}}\text{X}$, ...) relies on file name databases, you must refresh these. For example, te $\text{T}_{\text{E}}\text{X}$ users run `texhash` or `mktextlsr`.

3.5 Some details for the interested

Unpacking with $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$. The `.dtx` chooses its action depending on the format:

plain $\text{T}_{\text{E}}\text{X}$: Run `docstrip` and extract the files.

$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$: Generate the documentation.

If you insist on using $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ for `docstrip` (really, `docstrip` does not need $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$), then inform the `autodetect` routine about your intention:

```
latex \let\install=y\input{transparent.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 $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$:

```
pdflatex transparent.dtx
makeindex_s_gind.ist transparent.idx
pdflatex transparent.dtx
makeindex_s_gind.ist transparent.idx
pdflatex transparent.dtx
```

4 History

[2007/01/08 v1.0]

- First version.

[2016/05/16 v1.1]

- Documentation updates.

[2018/09/10 v1.2]

- Update for Lua $\text{T}_{\text{E}}\text{X}$, remove dependency on Pdf $\text{T}_{\text{E}}\text{X}$ command names.

[2018/11/18 v1.3]

- Added code for pgf compatibility, see <https://github.com/ho-tex/oberdiek/issues/19>

5 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.

Symbols			
\@auxout	109	\newpage	18
\@gobble	73, 105	P	
\@ifundefined	62, 128	\p@	91, 92, 93, 98
\@undefined	34	\PackageWarningNoLine	29, 44, 121
A		\pdfcolorstack	37
\AddLineBeginAux	57	\pdfcolorstackinit	35
\aftergroup	134	\pdfextension	34, 41
\AtBeginDocument	49, 71	\pdffeedback	39
\AtEndDocument	119	\pdfpageresources	36
B		\pdfvariable	40
\begin	7	\pgfutil@addpdfresource@extgs	53
\bfseries	9	\protect	141
\bigskip	16	\protected	40, 41
C		\providecommand	58
\color	10	\ProvidesPackage	24
\colorbox	8	R	
\csname	66, 132	\RequirePackage	26, 56
D		S	
\dimen@	91, 92, 93, 95, 96, 98, 101, 104	\strip@pt	104
\documentclass	2	T	
E		\texttransparent	18, 140
\end	20	\the	79
\endcsname	43, 51, 66, 132	\transparent	12, 89, 143
\endinput	32, 47	\transparent@current	114, 126, 128, 132
G		\transparent@reset	134, 137
\g@addto@macro	63	\transparent@set	117, 127
\gdef	60, 66	\transparent@use	58, 61, 73, 110
I		\TRP@addresource	52, 72, 75
\if@filesw	108	\TRP@colorstack	86, 131, 138
\ifcsname	43, 51	\TRP@list	53, 60, 63, 80
\ifdim	92, 95, 98, 101	\TRP@pdfcolorstack	37, 41, 131, 138
\ifpdf	27	\TRP@pdfcolorstackinit	35, 39, 87
\ifTRP@rerun	85, 120	\TRP@pdfpageresources	36, 40, 78, 79
\ifx	34	\TRP@reruntrue	129
\immediate	109	U	
L		\usepackage	4, 5
\leavevmode	141	W	
N		\write	109
\NeedsTeXFormat	23	X	
\newcommand	89, 140	\x	77, 83, 99, 102, 104, 105, 110, 113, 114, 116
\newif	85	Z	
		\z@	95, 96, 101