

The transparent package

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2018/11/18 v1.3

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.

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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 T_EX 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.

3.3 Package installation

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

```
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):

```

transparent.sty      → tex/latex/oberdiek/transparent.sty
transparent.pdf      → doc/latex/oberdiek/transparent.pdf
transparent-example.tex → doc/latex/oberdiek/transparent-example.tex
transparent.dtx      → source/latex/oberdiek/transparent.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`.

3.4 Refresh file name databases

If your T_EX distribution (teT_EX, mikT_EX, ...) relies on file name databases, you must refresh these. For example, teT_EX users run `texhash` or `mktextlsr`.

¹[CTAN:pkg/transparent](#)

3.5 Some details for the interested

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{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 pdfL^AT_EX:

```
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 LuaTeX, remove dependency on PdfT_EX command names.

[2018/11/18 v1.3]

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

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