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

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⟩
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    [2007/01/08 v1.0 Using a pdfTeX's color stack for transparency (HO)]%
```

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 version

```
34  \begingroup\expandafter\expandafter\expandafter\endgroup
35  \expandafter\ifx\csname pdfcolorstackinit\endcsname\relax
36    \PackageWarningNoLine{transparent}{%
37      Your pdfTeX version does not support color stacks%
38    }%
39    \expandafter\endinput
40  \fi
```

2.3 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.

```
41  \RequirePackage{auxhook}
42  \AddLineBeginAux{%
43    \string\providecommand{\string\transparent@use}[1]{}%
44  }
45  \gdef\TRP@list{/TRP1<</ca 1/CA 1>>}
46  \def\transparent@use#1{%
47    \@ifundefined{TRP#1}{%
48      \g@addto@macro\TRP@list{%
49        /TRP#1<</ca #1/CA #1>>%
50      }%
51      \expandafter\gdef\csname TRP#1\endcsname{/TRP#1 gs}%
52    }{%
53      % #1 is already known, nothing to do
54    }%
```

```
55 }
56 \AtBeginDocument{%
57    \TRP@addresource
58    \let\transparent@use\@gobble
59 }
```

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.

```
60 \def\TRP@addresource{%
61    \begingroup
62    \edef\x{\endgroup
63      \pdfpageresources{%
64        \the\pdfpageresources
65        /ExtGState<<\TRP@list>>%
66      }%
67    }%
68    \x
69 }
70 \newif\ifTRP@rerun
71 \xdef\TRP@colorstack{%
72    \pdfcolorstackinit page direct{/TRP1 gs}%
73 }
```

\transparent
```
74 \newcommand*{\transparent}[1]{%
75    \begingroup
76      \dimen@=#1\p@\relax
77      \ifdim\dimen@>\p@
78        \dimen@=\p@
79      \fi
80      \ifdim\dimen@<\z@
81        \dimen@=\z@
82      \fi
83      \ifdim\dimen@=\p@
84        \def\x{1}%
85      \else
86        \ifdim\dimen@=\z@
87          \def\x{0}%
88        \else
89          \edef\x{\strip@pt\dimen@}%
90          \edef\x{\expandafter\@gobble\x}%
91        \fi
92      \fi
93      \if@filesw
94        \immediate\write\@auxout{%
95          \string\transparent@use{\x}%
96        }%
97      \fi
98      \edef\x{\endgroup
99        \def\noexpand\transparent@current{\x}%
100     }%
101   \x
102   \transparent@set
103 }
```

```
104 \AtEndDocument{%
105    \ifTRP@rerun
106      \PackageWarningNoLine{transparent}{%
107        Rerun to get transparencies right%
108      }%
109    \fi
```

```
110 }
111 \def\transparent@current{/TRP1 gs}
112 \def\transparent@set{%
113   \@ifundefined{TRP\transparent@current}{%
114     \global\TRP@reruntrue
115   }{%
116     \pdfcolorstack\TRP@colorstack push{%
117       \csname TRP\transparent@current\endcsname
118     }%
119     \aftergroup\transparent@reset
120   }%
121 }
122 \def\transparent@reset{%
123   \pdfcolorstack\TRP@colorstack pop\relax
124 }
```

\texttransparent

```
125 \newcommand*{\texttransparent}[2]{%
126   \protect\leavevmode
127   \begingroup
128     \transparent{#1}%
129     #2%
130   \endgroup
131 }
```

```
132 ⟨/package⟩
```

3 Installation

3.1 Download

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

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/

---

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

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):

```
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 TeX distribution (teTeX, mikTeX, . . .) relies on file name databases, you must refresh these. For example, teTeX users run `texhash` or `mktexlsr`.

3.5 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 transparent.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{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 pdfLaTeX:

```
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.

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; numbers in roman refer to the code lines where the entry is used.