the gradientframe package[*]

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(after being exposed to gravity)

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Abstract

The gradientframe package provides a command, \gradientframe, for simple and discreet rectangular grayscale gradient frames around objects, such as figures or tables, to set them apart from the surrounding text.

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[*]This document corresponds to gradientframe v0.2, dated 2011/02/13.

1 Introduction

The gradientframe package is loaded in the usual way, i.e. by putting the line

        \usepackage{gradientframe}

in the document's preamble. The gradientframe package depends on the color package which is loaded by the gradientframe package if not already done so far in the document's preamble.

2 Usage

\gradientframe To frame an object, such as figure, table, etc., use the \gradientframe{⟨*object*⟩} command. By using \gradientframe[⟨*name=value,...*⟩]{⟨*object*⟩}, the result can be influenced by providing the following options by name:
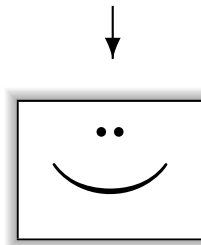
- linewidth (default value: 0.3px)
  defines each color's line width

- padding (default value: 0mm)
  defines space between the object and the frame (applies to all four sides)

Also take a look at the following examples.

3 Examples
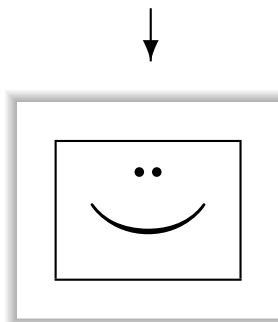
3.1 Frame surrounding a figure

```
1    \begin{center}
2        \gradientframe{\includegraphics{image.jpg}}
3    \end{center}
```
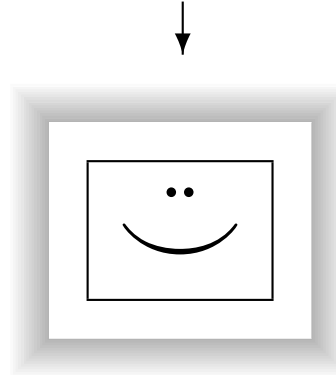
3.2 Frame surrounding a figure with additional space

```
1    \begin{center}
2        \gradientframe[padding=5mm]{\includegraphics{image.jpg}}
3    \end{center}
```

2

3.3 Frame surrounding a figure with thicker frame lines and additional space

```
1    \begin{center}
2        \gradientframe[linewidth=1px,padding=5mm]{\includegraphics{image.jpg}}
3    \end{center}
```


3.4 Frame surrounding a table

```
1    \begin{center}
2        \gradientframe{%
3            \begin{tabular}{r|l}
4                \textbf{column A}    & \textbf{column B} \\\hline
5                cell 1A             & cell 1B           \\\hline
6                cell 2A             & cell 2B           \\\hline
7                cell 3A             & cell 3B           \\
8            \end{tabular}%
9        }
10   \end{center}
```
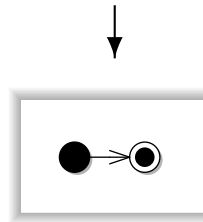

Be careful not to produce unintentional space when breaking lines. Add comments at line endings if needed to prevent this, as shown in lines 2 and 8. Otherwise the result will look like this:

3.5 Frame surrounding a MetaPost figure

If you want to draw a frame around a MetaPost (or in the case of this example, MetaUML) generated figure, use the \empuse command.

```
1    \begin{center}
2        \begin{empfile}
3            \begin{empcmds}
4                input metauml;
5            \end{empcmds}
6            \begin{empdef}[unique_name](0,0)
7                save start, end;
8                Begin.start;
9                End.end;
10               leftToRight(15)(start, end);
11               drawObjects(start, end);
12               clink(transition)(start, end);
13           \end{empdef}
14           \gradientframe[padding=5mm]{\empuse{unique_name}}
15       \end{empfile}
16   \end{center}
```


Alternatively, you could outsource both, the empdef environment and the \empuse command to a separate file, and use \input{⟨*filename*⟩} as argument to the \gradientframe command.

4 Known issues

\pagecolor When using a page color different than white in combination with a (partially) transparent object, the transparent area inside the frame will be white. To avoid this, a \colorbox has to be drawn around the object. So instead of

```
\pagecolor{⟨color⟩}
\gradientframe{⟨object⟩}
```

one should use

```
\pagecolor{⟨color⟩}
\gradientframe{\colorbox{⟨color⟩}{⟨object⟩}}
```

This issue will hopefully be addressed in a future version.

5 Implementation

5.1 Package header

```
1 \NeedsTeXFormat{LaTeX2e}[1999/12/01]
2 \ProvidesPackage{gradientframe}[2011/02/13 v0.2 simple gradient frames around objects]
3 \RequirePackage{color}
4 \RequirePackage{keyval}
```

5.2 Options for the \gradientframe command

The keyval package is used to handle options given to the \gradientframe command by name. These options are:

- linewidth – defines each color's line width

```
5     \define@key{gradientframe}{linewidth}{%
6     \newdimen\gradientframe@linewidth%
7     \setlength{\gradientframe@linewidth}{#1}%
8     }%
```

- padding – defines space between the object and the innermost frame line

```
9     \define@key{gradientframe}{padding}{%
10    \newdimen\gradientframe@padding%
11    \setlength{\gradientframe@padding}{#1}%
12    }%
```

\gradientframe@defaults   The default values for these options are defined as follows:

```
13 \newcommand{\gradientframe@defaults}{%
14 \setkeys{gradientframe}{%
15 linewidth=0.3px,%
16 padding=0mm%
17 }%
18 }%
```

5.3 Commands

\gradientframe@origlinewidth   This dimension is used internally to preserve the original line width defined by \fboxrule.

```
19 \newdimen\gradientframe@origlinewidth%
```

\gradientframe@drawbox   This command uses two colors, for border and background, and draws one frame line.

```
20 \newcommand{\gradientframe@drawbox}[3]{%
21 \fcolorbox[gray]{#1}{#2}{%
22 #3%
23 }%
24 }%
```

\gradientframe   This command draws the grayscale gradient frame around objects. This is achieved by drawing multiple frame lines side by side, each with a slightly different color.

```
25 \newcommand{\gradientframe}[2][]{%
26 \gradientframe@defaults% apply defaults
27 \setkeys{gradientframe}{#1}%
28 %
29 \begingroup% limit redefinitions to this block
30 % backup original \fboxrule value
31 \setlength{\gradientframe@origlinewidth}{\fboxrule}%
32 %
33 \setlength{\fboxrule}{\gradientframe@linewidth}%
34 \setlength{\fboxsep}{\gradientframe@linewidth}% space between frame and object
35 \gradientframe@drawbox{.98}{.96}{%
36 \gradientframe@drawbox{.94}{.92}{%
```

```
37 \gradientframe@drawbox{.90}{.88}{%
38 \gradientframe@drawbox{.86}{.84}{%
39 \gradientframe@drawbox{.82}{.80}{%
40 \gradientframe@drawbox{.78}{.76}{%
41 \gradientframe@drawbox{.74}{.72}{%
42 \setlength{\fboxrule}{\gradientframe@origlinewidth}% restore original \fboxrule value
43 \setlength{\fboxsep}{\gradientframe@padding}%
44 \gradientframe@drawbox{.70}{1}{#2}%
45 }%
46 }%
47 }%
48 }%
49 }%
50 }%
51 }%
52 \endgroup%
53 }%
```

6 Change history

v0.1	2011/02/10	Initial version.
v0.1a	2011/02/10	Changed file encoding to ISO-8859-1 due to issues on CTAN.
v0.2	2011/02/13	Applied several code improvements.
		Added key/value options for more flexibility.
		Note: This breaks backward compatibility, so change calls in the form
		`\gradientframe[`$\langle width \rangle$`]{`$\langle object \rangle$`}`
		to
		`\gradientframe[padding=`$\langle width \rangle$`]{`$\langle object \rangle$`}`
		in case of an update from previous versions.