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The **fontsize** package

v0.2 – 2020/05/24

Legalese

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Feedback

If you have any questions, feedback or requests please email me at ivan dot valbusa at gmail dot com. If you need specific features not already implemented, remember to attach the example files.

User's Guide to `fontsize`

A small package to change the font size

v0.2 – 2020/05/24

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Abstract

The `fontsize` package allows you to set arbitrary sizes for the main font of the document and to adjust the line spacing accordingly. You can also generate your own `.clo` file for better tuning.

Contents

1 Usage	3	2 An example of font settings	5
1.1 Options	3		
1.2 Commands	4	3 The Code	9

Credits

The code is an excerpt of the `scrextend` and `scrfontsizes` packages (see [1]), with few minor changes to make it completely independent of the Koma bundle and with a couple of new features.

Caveat

Although effective with any value for the `\begin{fontspec}` (as long as the font is scalable!), the package is meant for small font size changes. For truly optimal results you should (re)define your own `.clo` file. Indeed note that the file generated with `\generateclofile`, as well as the macros redefined via `\changefontsize`, are a subset of the standard `bk11.clo` file and some lengths such as `\smallskipamount`, `\medskipamount`, `\bigskipamount`, `\headsep` are not defined by the package. Up to now!

1 Usage

The package can be loaded, as usual, with:

```
\usepackage[<options>]{fontsize}
```

1.1 Options

`fontsize=<fontsize>` default: 10pt | 10

The `<fontsize>` can be given in any unit recognized by TeX (for example: 6mm, 1ex, 11.5pt). If the unit is not declared it defaults to pt. If a file named `custom<fontsize>.clo` exists it is used to setup the font sizes. To generate this file see the `\generateclofile` command below.

`cloname=<name>` default: custom

Sets to `<name>` the name prefix of the .clo file to be used to setup the font sizes. In this way, if a file named `<name><fontsize>.clo` exists it is used to setup the font sizes. To generate this file see the `\generateclofile` command below.

1.2 Commands

`\changefontsize[<baselineskip>]{<fontsize>}` iff $\langle baselineskip \rangle \geq \langle fontsize \rangle$

Changes the font size and the line spacing of the normal size and of the other sizes consistently. If the first optional argument is omitted the command has the same effect of the `fontsize` option. You can use any unit recognized by TeX and you can omit the unit as well. For example:

```
\changefontsize[13.5pt]{11.5pt}  
\changefontsize[13]{11}
```

`\printfontsize[<baselineskip>]{<fontsize>}` iff $\langle baselineskip \rangle \geq \langle fontsize \rangle$

A command thought to test the `fontsize` settings. It prints a section with the value of the font size and line spacing for all the font size changing commands. The section 2 below is generated by this command.

`\generateclofile{<name>}[<baselineskip>]{<fontsize>}` iff $\langle baselineskip \rangle \geq \langle fontsize \rangle$

Generates a file named `<name><fontsize>.clo` in which the normal line spacing is `<baselineskip>` and the other sizes and line spacings are adjusted consistently. If `cloname=<name>` and `fontsize=<fontsize>` the generated file will be automatically use to setup the main font sizes. You can use any unit recognized by TeX and you can omit the unit as well.

In fact this file is only needed if you intend to modify it. In this case remember to comment the command, otherwise the edited file will be overwritten.

(a) Using the the default `custom` name:

```
1  \usepackage[fontsize=11.5]{fontsize}          % loads custom11.5.clo  
2  \generateclofile{custom}[13.5]{11.5}        % generates custom11.5.clo  
  
1  \usepackage[fontsize=11.5pt]{fontsize}         % loads custom11.5pt.clo
```

```
2 \generateclofile{custom}[13.5pt]{11.5pt} % generates custom11.5pt.clo
```

(b) Using the `cloname` option:

```
1 \usepackage[fontsize=11.5,cloname=fs]{fontsize} % loads fs11.5.clo
2 \generateclofile{fs}[13.5]{11.5} % generates fs11.5.clo
```

```
1 \usepackage[fontsize=11.5pt,cloname=fs]{fontsize} % loads fs11.5pt.clo
2 \generateclofile{fs}[13.5pt]{11.5pt} % generates fs11.5pt.clo
```

2 An example of font settings

The following framed example is generated by `\printfontsize[13]{11}`.

Settings with `\changefontsize[13]{11}`

The `\tiny` size is: **5.5 pt**.
The `\baselineskip` is 6.48996pt

The `\scriptsize` size is: **7.33339 pt**.
The `\baselineskip` is 8.65334pt

The `\footnotesize` size is: **9.16678 pt**.
The `\baselineskip` is 10.81673pt

The `\small` size is: **10.03757 pt**.
The `\baselineskip` is 11.84425pt

The `\normalsize` size is: **11 pt**.
The `\baselineskip` is 13.0pt

The `\large` size is: **13.19997 pt**.
The `\baselineskip` is 15.57585pt

The `\Large` size is: **15.84003 pt**.
The `\baselineskip` is 18.6911pt

The `\LARGE` size is: **19.00797 pt**.
The `\baselineskip` is 22.42924pt

The `\huge` size is: **22.81406 pt**.

The `\baselineskip` is 26.92041pt

The `\Huge` size is: 27.36807 pt.

The `\baselineskip` is 32.29411pt

`\tiny` 5.5pt on 6.48996pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\scriptsize` 7.33339pt on 8.65334pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\footnotesize` 9.16678pt on 10.81673pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\small` 10.03757pt on 11.84425pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\normalsize` 11pt on 13.0pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\large` 13.19997pt on 15.57585pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

`\Large` 15.84003pt on 18.6911pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

\LARGE 19.00797pt on 22.42924pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

\huge 22.81406pt on 26.92041pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

\Huge 27.36807pt on 32.29411pt

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena

should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason.

References

- [1] Frank Neukam, Markus Kohm, Axel Kielhorn, *KOMA – Script. A versatile L^AT_EX 2_ε bundle.* <https://www.ctan.org/pkg/koma-script>
- [2] Hendri Adriaens, *The xkeyval package*, <https://www.ctan.org/pkg/xkeyval>.
- [3] Philipp Lehman, Joseph Wright, *The etoolbox Package. An e-T_EX Toolbox for Class and Package Authors*, <https://www.ctan.org/pkg/etoolbox>.

3 The Code

The options of the package are defined via `xkeyval`, while `etoolbox` is required to execute `\AtEndOfPackage`. It is probably not necessary but for the moment I prefer to take advantage of it.

```
1 \@ifpackageloaded{xkeyval}{}{\RequirePackage{xkeyval}}
2 \@ifpackageloaded{etoolbox}{}{\RequirePackage{etoolbox}}
```

[*addition begins...*

New options

```
3 \DeclareOptionX{cloname}[custom]{\def\@fontsizefilebase{\#1}}
```

[... *addition ends*]

[*excerpt from scrextend.sty begins*

Here the `scrextend` code begins. Only a few names have been changed. The value of `\@fontsizefilebase` is set to `custom` instead of `scrsizes`.

```
4 \DeclareOptionX{fontsize}[10]{%
5   \expandafter\@defaultunits\expandafter\@tempdima#1 pt\relax\@nnil
6   \edef\@tempa{\#1}%
7   \setlength{\@tempdimb}{\@tempdima}%
8   \edef\@tempb{\strip@pt\@tempdimb}%
9   \addtolength{\@tempdimb}{-10\p@}%
10  \edef\@ptsize{\strip@pt\@tempdimb}%
11  \edef\@tempa{%
12    \noexpand\makeatletter
13    \noexpand\InputIfFileExists{\@fontsizefilebase\@tempa.clo}{%
14      \noexpand\PackageInfo{fontsize}{%
15        File '\@fontsizefilebase\@tempa.clo' used to setup font sizes}%
16    }%
17    \noexpand\InputIfFileExists{\@fontsizefilebase\@tempb pt.clo}{%
18      \noexpand\PackageInfo{fontsize}{%
19        File '\@fontsizefilebase\@tempb pt.clo' used instead of%
20      \noexpand\MessageBreak
21        file '\@fontsizefilebase\@tempa.clo' to setup font sizes}%
22    }%
23    \noexpand\changefontsize{\#1}%
24  }%
25 }%
26 }%
27 \expandafter\AtEndOfPackage\expandafter{\@tempa}%
28 }
```

[*addition begins...*

Execute and process options

Now we can execute and process the options. As `cloname` is responsible for defining `\@fontsizefilebase` it must precede `fontsize` which uses this command.

```
29 \ExecuteOptionsX{cloname,fontsize}
30 \ProcessOptionsX*\relax
```

... addition ends]

`\ctm@setlength` The comamnd `\ctm@setlength` is simply a new name for `\scr@setlength` of `scrextend`.

```
31 \newcommand*\ctm@setlength[4]{%
32   \ifdim #2<\ifdim #2=\z@ \z@ \else \p@\fi
33   \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
34   \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
35   \setlength{\#1}{\p@ \@plus\p@ \@minus\p@}%
36   \else
37   \setlength{\#1}{\p@ \@plus\p@ \@minus#4}%
38   \fi
39   \else
40   \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
41   \setlength{\#1}{\p@ \@plus#3 \@minus\p@}%
42   \else
43   \setlength{\#1}{\p@ \@plus#3 \@minus#4}%
44   \fi
45   \fi
46   \else
47   \ifdim #3<\ifdim #3=\z@ \z@ \else \p@\fi
48   \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
49   \setlength{\#1}{\#2 \@plus\p@ \@minus\p@}%
50   \else
51   \setlength{\#1}{\#2 \@plus\p@ \@minus#4}%
52   \fi
53   \else
54   \ifdim #4<\ifdim #4=\z@ \z@ \else \p@\fi
55   \setlength{\#1}{\#2 \@plus#3 \@minus\p@}%
56   \else
57   \setlength{\#1}{\#2 \@plus#3 \@minus#4}%
58   \fi
59   \fi
60   \fi
61 }
```

`\changefontsize` The comamnd `\changefontsize` is simply a new name for `\changefontsizes` of `scrextend`.

```
62 \providetcommand*\changefontsize}[2][1.2\@tempdima]{%
63   \@defaultunits\@tempdima#2pt\relax\@nnil
64   \setlength{\@tempdimc}{\@tempdima}%
65   \addtolength{\@tempdimc}{-10\p@}%
66   \edef\@ptsize{\strip@pt\@tempdimc}%
```

```

67  \@defaultunits\@tempdimb#1pt\relax\@nnil
68  \setlength{\@tempdimc}{\dimexpr (100\@tempdimb / \@tempdima * \p@) }%
69  \edef\@tempb{\the\@tempdimc}%
70  \setlength{\@tempdimc}{\@tempdima}%
71  \def\@tempa##1##2##3##4##5\@nnil{\def##1{##2.##3##4})}%

```

[addition begins...]

New lengths

The Koma code does not define `\parindent` and other lengths related to the page dimensions (`\textheight`, `\headheight`, `\headsep`, etc.) Anyway I think that some of these lengths are strictly linked to the font rather than to the page and text dimensions. Particularly `\parindent` and `\headheight` (the value of the last one could cause a well known warning if `fancyhdr` is loaded). The default value of `\parindent` is `\baselineskip` and the value of `\headheight` is set normal size plus 2.5 pt.

```

72 \setlength\parindent{\the\@tempdimb}
73 \setlength\headheight{\dimexpr(\@tempdima+2.5pt)}%

```

[... addition ends]

```

74  \expandafter\@tempa\expandafter\@tempb\@tempb\@nnil%
75  \ctm@setlength{\abovedisplayskip}%
76  {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
77  \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
78  \ctm@setlength{\belowdisplayshortskip}%
79  {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
80  \setlength{\belowdisplayskip}{\abovedisplayskip}%
81  \edef\normalsize{%
82    \noexpand\@setfontsize\noexpand\normalsize
83    {\the\@tempdima}{\the\@tempdimb}%
84    \abovedisplayskip \the\abovedisplayskip
85    \abovedisplayshortskip \the\abovedisplayshortskip
86    \belowdisplayskip \the\belowdisplayskip
87    \belowdisplayshortskip \the\belowdisplayshortskip
88    \let\noexpand\@listi\noexpand\@listI
89  }%
90  \setlength{\@tempdima}{0.9125\@tempdimc}%
91  \setlength{\@tempdimb}{\@tempb\@tempdima}%
92  \ctm@setlength{\abovedisplayskip}%
93  {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
94  \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
95  \ctm@setlength{\belowdisplayshortskip}%
96  {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
97  \setlength{\belowdisplayskip}{\abovedisplayskip}%
98  \edef\small{%
99    \noexpand\@setfontsize\noexpand\small
100   {\the\@tempdima}{\the\@tempdimb}%
101   \abovedisplayskip \the\abovedisplayskip
102   \abovedisplayshortskip \the\abovedisplayshortskip

```

```

103      \belowdisplayskip \the\belowdisplayskip
104      \belowdisplayshortskip \the\belowdisplayshortskip
105      \let\noexpand@listi\noexpand@listi@small
106  }%
107  \setlength{\@tempdima}{.83334\@tempdimc}%
108  \setlength{\@tempdimb}{\@tempb\@tempdima}%
109  \ctm@setlength{\abovedisplayskip}%
110  {.8333\@tempdimb}{.1667\@tempdimb}{.5\@tempdimb}%
111  \ctm@setlength{\abovedisplayshortskip}{\z@}{.25\@tempdimb}{\z@}%
112  \ctm@setlength{\belowdisplayshortskip}%
113  {.5\@tempdimb}{.25\@tempdimb}{.25\@tempdimb}%
114  \setlength{\belowdisplayskip}{\abovedisplayskip}%
115 \edef\footnotesize{%
116     \noexpand\@setfontsize\noexpand\footnotesize
117     {\the\@tempdima}{\the\@tempdimb}%
118     \abovedisplayskip \the\abovedisplayskip
119     \abovedisplayshortskip \the\abovedisplayshortskip
120     \belowdisplayskip \the\belowdisplayskip
121     \belowdisplayshortskip \the\belowdisplayshortskip
122     \let\noexpand@listi\noexpand@listi@footnotesize
123  }%
124  \setlength{\@tempdima}{.66667\@tempdimc}%
125  \setlength{\@tempdimb}{\@tempb\@tempdima}%
126 \edef\scriptsize{%
127     \noexpand\@setfontsize\noexpand\scriptsize
128     {\the\@tempdima}{\the\@tempdimb}%
129  }%
130  \setlength{\@tempdima}{.5\@tempdimc}%
131  \setlength{\@tempdimb}{\@tempb\@tempdima}%
132 \edef\tiny{%
133     \noexpand\@setfontsize\noexpand\tiny
134     {\the\@tempdima}{\the\@tempdimb}%
135  }%
136  \setlength{\@tempdima}{1.2\@tempdimc}%
137  \setlength{\@tempdimb}{\@tempb\@tempdima}%
138 \edef\large{%
139     \noexpand\@setfontsize\noexpand\large
140     {\the\@tempdima}{\the\@tempdimb}%
141  }%
142  \setlength{\@tempdima}{1.44\@tempdimc}%
143  \setlength{\@tempdimb}{\@tempb\@tempdima}%
144 \edef\Large{%
145     \noexpand\@setfontsize\noexpand\Large
146     {\the\@tempdima}{\the\@tempdimb}%
147  }%
148  \setlength{\@tempdima}{1.728\@tempdimc}%
149  \setlength{\@tempdimb}{\@tempb\@tempdima}%
150 \edef\LARGE{%
151     \noexpand\@setfontsize\noexpand\LARGE
152     {\the\@tempdima}{\the\@tempdimb}%
153  }%

```

```

154 \setlength{\@tempdima}{2.074\@tempdimc}%
155 \setlength{\@tempdimb}{\@tempb\@tempdima}%
156 \edef\huge{%
157   \noexpand\@setfontsize\noexpand\huge
158   {\the\@tempdima}{\the\@tempdimb}%
159 }%
160 \setlength{\@tempdima}{2.488\@tempdimc}%
161 \setlength{\@tempdimb}{\@tempb\@tempdima}%
162 \edef\Huge{%
163   \noexpand\@setfontsize\noexpand\Huge
164   {\the\@tempdima}{\the\@tempdimb}%
165 }%
166 \normalsize
167 \setlength{\@tempdimb}{\f@baselineskip}%
168 \ctm@setlength{\parsep}%
169 {.3333\@tempdimb}{.1667\@tempdimb}{.0833\@tempdimb}%
170 \ctm@setlength{\topsep}%
171 {.6667\@tempdimb}{.1667\@tempdimb}{.3333\@tempdimb}%
172 \@tempswafalse
173 \begingroup
174 \def\@list@extra{\aftergroup\@tempswatrue}%
175 \csname @listi\endcsname
176 \endgroup
177 \edef\@listi{\leftmargin\leftmargini
178   \topsep \the\topsep
179   \parsep \the\parsep
180   \itemsep \parsep
181   \if@tempswa\noexpand\@list@extra\fi
182 }%
183 \let\@listI\@listi
184 \ctm@setlength{\parsep}%
185 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
186 \ctm@setlength{\topsep}%
187 {.3333\@tempdimb}{.1667\@tempdimb}{.1667\@tempdimb}%
188 \@tempswafalse
189 \begingroup
190 \def\@list@extra{\aftergroup\@tempswatrue}%
191 \csname @listi\endcsname
192 \endgroup
193 \edef\@listi@small{\leftmargin\leftmargini
194   \topsep \the\topsep
195   \parsep \the\parsep
196   \itemsep \parsep
197   \if@tempswa\noexpand\@list@extra\fi
198 }%
199 \ctm@setlength{\parsep}%
200 {.125\@tempdimb}{.0625\@tempdimb}{.0625\@tempdimb}%
201 \ctm@setlength{\topsep}%
202 {.25\@tempdimb}{.125\@tempdimb}{.125\@tempdimb}%
203 \@tempswafalse
204 \begingroup

```

```

205 \def\@list@extra{\aftergroup\@tempswatrue}%
206 \csname @listi\endcsname
207 \endgroup
208 \edef\@listi@footnotesize{\leftmargin\leftmargini
209   \topsep \the\topsep
210   \parsep \the\parsep
211   \itemsep \parsep
212   \if@tempswa\noexpand\@list@extra\fi
213 }%
214 \ctm@setlength{\parsep}%
215 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
216 \ctm@setlength{\topsep}%
217 {.3333\@tempdimb}{.1667\@tempdimb}{.0833\@tempdimb}%
218 \atempswafalse
219 \begingroup
220 \def\@list@extra{\aftergroup\@tempswatrue}%
221 \csname @listii\endcsname
222 \endgroup
223 \edef\@listii{\leftmargin\leftmarginii
224   \labelwidth=\dimexpr \leftmargin-\labelsep
225   \topsep \the\topsep
226   \parsep \the\parsep
227   \itemsep \parsep
228   \if@tempswa\noexpand\@list@extra\fi
229 }%
230 \ctm@setlength{\topsep}%
231 {.1667\@tempdimb}{.0833\@tempdimb}{.0833\@tempdimb}%
232 \setlength{\partopsep}{\z@\plus\z@\minus\p@}%
233 \atempswafalse
234 \begingroup
235 \def\@list@extra{\aftergroup\@tempswatrue}%
236 \csname @listiii\endcsname
237 \endgroup
238 \edef\@listiii{\leftmargin\leftmarginiii
239   \labelwidth=\dimexpr \leftmargin-\labelsep
240   \topsep \the\topsep
241   \parsep \z@
242   \partopsep \the\partopsep
243   \itemsep \topsep
244   \if@tempswa\noexpand\@list@extra\fi
245 }%
246 \atempswafalse
247 \begingroup
248 \def\@list@extra{\aftergroup\@tempswatrue}%
249 \csname @listiv\endcsname
250 \endgroup
251 \edef\@listiv{\leftmargin\leftmarginiv
252   \labelwidth=\dimexpr \leftmargin-\labelsep\relax
253   \if@tempswa\noexpand\@list@extra\fi
254 }%
255 \atempswafalse

```

```

256 \begingroup
257 \def\@list@extra{\aftergroup\@tempswattrue}%
258 \csname @listv\endcsname
259 \endgroup
260 \edef\@listv{\leftmargin\leftmarginv
261   \labelwidth=\dimexpr \leftmargin-\labelsep\relax
262   \if@tempswa\noexpand\@list@extra\fi
263 }%
264 \atempswafalse
265 \begingroup
266 \def\@list@extra{\aftergroup\@tempswattrue}%
267 \csname @listvi\endcsname
268 \endgroup
269 \edef\@listvi{\leftmargin\leftmarginvi
270   \labelwidth=\dimexpr \leftmargin-\labelsep\relax
271   \if@tempswa\noexpand\@list@extra\fi
272 }%
273 \@listi
274 \setlength{\tempdimb}{\f@baselineskip}%
275 \setlength{\footnotesep}{.555\tempdimb}%
276 \ctm@setlength{\skip\footins}%
277 {.75\tempdimb}{.3333\tempdimb}{.1667\tempdimb}%
278 \ctm@setlength{\floatsep}%
279 {\@tempdimb}{.1667\tempdimb}{.1667\tempdimb}%
280 \ctm@setlength{\textfloatsep}%
281 {1.6667\tempdimb}{.1667\tempdimb}{.3333\tempdimb}%
282 \setlength{\intextsep}{\floatsep}%
283 \setlength{\dblfloatsep}{\floatsep}%
284 \setlength{\dbltextfloatsep}{\textfloatsep}%
285 \setlength{\@fptop}{\z@ \plus 1fil}%
286 \setlength{\@fpsep}{.6667\tempdimb \plus 2fil}%
287 \setlength{\@fpbot}{\@fptop}%
288 \setlength{\@dblfpptop}{\@fptop}%
289 \setlength{\@dblfpsep}{\@fpsep}%
290 \setlength{\@dblfpbot}{\@fptop}%
291 \ctm@setlength{\partopsep}{.2\tempdimb}{.1\tempdimb}{.1\tempdimb}%
292 }

```

...excerpt from scrextend.sty ends]

[excerpt from scrfontsizes.sty begins

- \generateclofile Here is a portion of the `scrfontsizes` package. It simply provides the `\generateclofile` command, without the Koma-related definitions. There are no reserved names for the `.clo` files. The command name is a new name for the Koma `\generatefontfile`. In fact, what the command generates, is a `.clo` file.

```

293 \newcommand*{\generateclofile}[1]{%
294 \kernel@ifnextchar [{\@generatefontfile{#1}}{\@@generatefontfile{#1}}%
295 }

```

```

296 \newcommand*{\@generatefontfile}{}%
297 \def\@generatefontfile#1[#2]#3{%
298   \begingroup

```

Here we use [#2] in place of [{#2}] of the `scrfontsizes` code.

```

299  \changefontsize[#2]{#3}%
300  \generate@fontfile{#1}{#3}%
301  \endgroup
302 }
303 \newcommand\@@generatefontfile[2]{%
304   \begingroup
305   \changefontsize{#2}%
306   \generate@fontfile{#1}{#2}%
307   \endgroup
308 }
309 \newcommand*{\@@@generatefontfile}[2][]{}%
310 \newcommand*{\@fontfile}{}%
311 \let\@fontfile\@mainaux
312 \newcommand*{\generate@fontfile}[2]{%
313   \def\@ind{\space\space}%
314   \immediate\openout\@fontfile #1#2.clo
315   \immediate\write\@fontfile{\@percentchar^{^J}%
316     \@percentchar\space This is file '#1#2.clo', generated with^{^J}%
317     \@percentchar\space font size
318     \csname ver@\fontsize.\@pkext\endcsname,^{^J}%
319     \@percentchar\space Copyright (c) Ivan Valbusa.^{^J}%
320     \@percentchar^{^J}%
321     \string\ProvidesFile{#1#2.clo}[%%
322       \the\year/\ifnum\month<10 0\fi\the\month/\ifnum\day<10 0\fi\the\day%
323       \space generated font size class option (#2)]}%

```

[addition begins...]

New lengths in the .clo file.

```

324 \immediate\write\@fontfile{%
325   \string\setlength{\string\parindent}{\f@baselineskip}^{^J}%
326   \string\setlength{\string\headheight}{\dimexpr(\f@size+2.5pt)}^{^J}%
327 }%

```

[... addition ends]

```

328 \immediate\write\@fontfile{%
329   \string\def\string\normalsize{\@percentchar^{^J}%
330     \@ind\string\@setfontsize\string\normalsize{\f@size}{\f@baselineskip}%
331     \@percentchar^{^J}%
332     \@ind\string\abovedisplayskip\space \the\abovedisplayskip^{^J}%
333     \@ind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^{^J}%
334     \@ind\string\belowdisplayskip\space \the\belowdisplayskip^{^J}%
335     \@ind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^{^J}%

```

```

336  \@ind\string\let\string@listi\string@listI^^J%
337  }@\percentchar%
338 }%
339 \begingroup\small@listi
340 \immediate\write\@fontfile{%
341  \string\def\string\small{@percentchar^^J%
342  \atind\string\@setfontsize\string\small{\f@size}{\f@baselineskip}%
343  }@\percentchar^^J%
344  \atind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
345  \atind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
346  \atind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
347  \atind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
348  \atind\string\def\string@listi{@percentchar^^J%
349  \atind\atind\string\leftmargin\string\leftmargini^^J%
350  \atind\atind\string\topsep \the\topsep^^J%
351  \atind\atind\string\parsep \the\parsep^^J%
352  \atind\atind\string\itemsep \string\parsep^^J%
353  }@\ind}@\percentchar^^J%
354 }@\percentchar%
355 }%
356 \endgroup
357 \begingroup\footnotesize@listi
358 \immediate\write\@fontfile{%
359  \string\def\string\footnotesize{@percentchar^^J%
360  \atind\string\@setfontsize\string\footnotesize{\f@size}{\f@baselineskip}%
361  }@\percentchar^^J%
362  \atind\string\abovedisplayskip\space \the\abovedisplayskip^^J%
363  \atind\string\abovedisplayshortskip\space \the\abovedisplayshortskip^^J%
364  \atind\string\belowdisplayskip\space \the\belowdisplayskip^^J%
365  \atind\string\belowdisplayshortskip\space \the\belowdisplayshortskip^^J%
366  \atind\string\def\string@listi{@percentchar^^J%
367  \atind\atind\string\leftmargin\string\leftmargini^^J%
368  \atind\atind\string\topsep \the\topsep^^J%
369  \atind\atind\string\parsep \the\parsep^^J%
370  \atind\atind\string\itemsep \string\parsep^^J%
371  }@\ind}@\percentchar^^J%
372 }@\percentchar%
373 }%
374 \endgroup
375 \begingroup\scriptsize
376 \immediate\write\@fontfile{%
377  \string\def\string\scriptsize{%
378  \string\@setfontsize\string\scriptsize{\f@size}{\f@baselineskip}%
379  }@\percentchar%
380 }%
381 \endgroup
382 \begingroup\tiny
383 \immediate\write\@fontfile{%
384  \string\def\string\tiny{%
385  \string\@setfontsize\string\tiny{\f@size}{\f@baselineskip}%
386  }@\percentchar%

```

```

387 }%
388 \endgroup
389 \begingroup\large
390 \immediate\write\@fontfile{%
391   \string\def\string\large{%
392     \string\@setfontsize\string\large{\f@size}{\f@baselineskip}%
393   }\@percentchar%
394 }%
395 \endgroup
396 \begingroup\Large
397 \immediate\write\@fontfile{%
398   \string\def\string\Large{%
399     \string\@setfontsize\string\Large{\f@size}{\f@baselineskip}%
400   }\@percentchar%
401 }%
402 \endgroup
403 \begingroup\LARGE
404 \immediate\write\@fontfile{%
405   \string\def\string\LARGE{%
406     \string\@setfontsize\string\LARGE{\f@size}{\f@baselineskip}%
407   }\@percentchar%
408 }%
409 \endgroup
410 \begingroup\huge
411 \immediate\write\@fontfile{%
412   \string\def\string\huge{%
413     \string\@setfontsize\string\huge{\f@size}{\f@baselineskip}%
414   }\@percentchar%
415 }%
416 \endgroup
417 \begingroup\Huge
418 \immediate\write\@fontfile{%
419   \string\def\string\Huge{%
420     \string\@setfontsize\string\Huge{\f@size}{\f@baselineskip}%
421   }\@percentchar%
422 }%
423 \endgroup
424 \immediate\write\@fontfile{\string\normalsize}%
425 \immediate\write\@fontfile{%
426   \string\setlength{\string\footnotesep}{\the\footnotesep}\@percentchar%
427 }%
428 \immediate\write\@fontfile{%
429   \string\setlength{\string\skip\string\footins}{\the\skip\footins}\@percentchar%
430 }%
431 \immediate\write\@fontfile{%
432   \string\setlength{\string\floatsep}{\the\floatsep}\@percentchar%
433 }%
434 \immediate\write\@fontfile{%
435   \string\setlength{\string\textfloatsep}{\the\textfloatsep}\@percentchar%
436 }%
437 \immediate\write\@fontfile{%

```

```

438 \string\setlength{\string\intextsep}{\the\intextsep}\@percentchar
439 }%
440 \immediate\write\@fontfile{%
441 \string\setlength{\string\dblfloatsep}{\the\dblfloatsep}\@percentchar
442 }%
443 \immediate\write\@fontfile{%
444 \string\setlength{\string\dbltextfloatsep}{\the\dbltextfloatsep}\@percentchar
445 }%
446 \immediate\write\@fontfile{%
447 \string\setlength{\string@\fptop}{\the\fptop}\@percentchar
448 }%
449 \immediate\write\@fontfile{%
450 \string\setlength{\string@\fpsep}{\the\fpsep}\@percentchar
451 }%
452 \immediate\write\@fontfile{%
453 \string\setlength{\string@\fpbot}{\the\fpbot}\@percentchar
454 }%
455 \immediate\write\@fontfile{%
456 \string\setlength{\string@\dblftop}{\the\dblftop}\@percentchar
457 }%
458 \immediate\write\@fontfile{%
459 \string\setlength{\string@\dblpsep}{\the\dblpsep}\@percentchar
460 }%
461 \immediate\write\@fontfile{%
462 \string\setlength{\string@\dblpbot}{\the\dblpbot}\@percentchar
463 }%
464 \immediate\write\@fontfile{%
465 \string\setlength{\string\partopsep}{\the\partopsep}\@percentchar
466 }%
467 \begingroup
468 \@listi
469 \immediate\write\@fontfile{%
470 \string\def\string@\listi{\@percentchar^J%
471 \string\leftmargin\string\leftmargini^J%
472 \string\topsep\string\topsep^J%
473 \string\parsep\string\parsep^J%
474 \string\itemsep\string\itemsep^J%
475 }\@percentchar
476 }%
477 \endgroup
478 \immediate\write\@fontfile{%
479 \string\let\string@\listI\string@\listi
480 }%
481 \begingroup
482 \@listii
483 \immediate\write\@fontfile{%
484 \string\def\string@\listii{\@percentchar^J%
485 \string\leftmargin\string\leftmarginii^J%
486 \string\labelwidth\string\labelwidth^J%
487 \string\advance\string\labelwidth-\string\labelsep^J%
488 \string\topsep\string\topsep^J%

```

```

489  \@ind\string\parsep \the\parsep^^J%
490  \@ind\string\itemsep \string\parsep^^J%
491  }\@percentchar
492  }%
493 \endgroup
494 \begingroup
495 \@listiii
496 \immediate\write\@fontfile{%
497  \string\def\string@\listiii{\@percentchar^^J%
498  \@ind\string\leftmargin\string\leftmarginiii^^J%
499  \@ind\string\labelwidth\string\leftmarginiii^^J%
500  \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
501  \@ind\string\topsep \the\topsep^^J%
502  \@ind\string\parsep \the\parsep^^J%
503  \@ind\string\partopsep \the\partopsep^^J%
504  \@ind\string\itemsep \string\topsep^^J%
505  }\@percentchar
506  }%
507 \endgroup
508 \begingroup
509 \@listiv
510 \immediate\write\@fontfile{%
511  \string\def\string@\listiv{\@percentchar^^J%
512  \@ind\string\leftmargin\string\leftmarginiv^^J%
513  \@ind\string\labelwidth\string\leftmarginiv^^J%
514  \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
515  }\@percentchar
516  }%
517 \endgroup
518 \begingroup
519 \@listv
520 \immediate\write\@fontfile{%
521  \string\def\string@\listv{\@percentchar^^J%
522  \@ind\string\leftmargin\string\leftmarginv^^J%
523  \@ind\string\labelwidth\string\leftmarginv^^J%
524  \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
525  }\@percentchar
526  }%
527 \endgroup
528 \begingroup
529 \@listvi
530 \immediate\write\@fontfile{%
531  \string\def\string@\listvi{\@percentchar^^J%
532  \@ind\string\leftmargin\string\leftmarginvi^^J%
533  \@ind\string\labelwidth\string\leftmarginvi^^J%
534  \@ind\string\advance\string\labelwidth-\string\labelsep^^J%
535  }\@percentchar
536  }%
537 \endgroup
538 \immediate\write\@fontfile{%
539  \string\@ifundefined{@list@extra}{}{\@percentchar^^J%

```

```

540 \string\expandafter\string\ifnum\string\scr@v@is@ge{3.17}%
541 \string\par@updaterelative\string\fi^^J%
542 \l@addto@macro{\string@\listi}{\string@\list@extra}%
543 \percentchar^^J%
544 \l@addto@macro{\string@\listI=\string@\listi^^J}%
545 \l@addto@macro{\string@\listii}{\string@\list@extra}%
546 \percentchar^^J%
547 \l@addto@macro{\string@\listiii}{\string@\list@extra}%
548 \percentchar^^J%
549 \l@addto@macro{\string\footnotesize}{\string\protect
550 \string\add@extra@listi{ftns}}\percentchar^^J%
551 \l@addto@macro{\string\small}{\string\protect
552 \string\add@extra@listi{sml}}\percentchar^^J%
553 }\percentchar^^J%
554 \listi^^J%
555 \endinput^^J%
556 \percentchar^^J%
557 \percentchar\space End of file '#1#2.clo'.
558 }
559 \immediate\closeout\fntfile
560 }
561 \onlypreamble\generateclofile

```

...excerpt from scrfontsizes.sty ends]

[addition begins...

New commands

We will now define some internal commands to test the package functions.

```

562 \def\fs@extext{As any dedicated reader can clearly see, the Ideal of
563 practical reason is a representation of, as far as I know, the
564 things in themselves; as I have shown elsewhere, the phenomena
565 should only be used as a canon for our understanding. The paralogisms
566 of practical reason are what first give rise to the architectonic of
567 practical reason.}
568 \chardef\fsbslash='\\
569 \newcommand{\mysize}[1]{%
570 \bgroup\noindent\csname#1\endcsname
571 The \texttt{\fsbslash #1} size is: \textbf{\csname#1\endcsname\f@size\,pt}.\\
572 The \texttt{\fsbslash baselineskip} is \the\baselineskip\par\vskip2mm\egroup}
573 \newcommand{\mysizeex}[1]{%
574 \paragraph*\{\csname #1\endcsname \texttt{\fsbslash #1}
575 \textmd{\f@size pt on \the\baselineskip}\}}
576 \noindent\bgroup\raggedright\csname #1\endcsname\fs@extext\par\egroup}

```

\printfontsize

```

577 \newcommand{\printfontsize}[2][]{%
578 \section*{Settings with \texttt{\fsbslash changefontsize[#1]\{#2\}}}%

```

```

579 \changefontsize[#1]{#2}
580   \mysize{tiny}\mysize{scriptsize}\mysize{footnotesize}
581   \mysize{small}\mysize{normalsize}\mysize{large}\mysize{Large}
582   \mysize{LARGE}\mysize{huge}\mysize{Huge}
583   \mysizeex{tiny}\mysizeex{scriptsize}\mysizeex{footnotesize}
584   \mysizeex{small}\mysizeex{normalsize}\mysizeex{large}
585   \mysizeex{Large}\mysizeex{LARGE}\mysizeex{huge}\mysizeex{Huge}

... addition ends]

586 \endinput

```

Change History

v0.1

General: First public release 1

v0.2

General: Updated documentation and
code comments. 1

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.

Symbols		
\,	571	\@fptop
\@@@generatefontfile	309	\@generatefontfile
\@generatefontfile	294, 303	\@ifpackageloaded . 1, 2
\dblfpbot	290, 462	\@ifundefined 539
\dblfpsep	289, 459	\@ind .. 313, 330, 332–
\dblftop	288, 456	336, 342, 344–353,
\defaultunits	5, 63, 67	360, 362–371, 471–
\fontfile	310, 311, 314, 315, 324, 328, 340, 358, 376, 383, 390, 397, 404, 411, 418, 424, 425, 428, 431, 434, 437, 440, 443, 446, 449, 452, 455, 458, 461, 464, 469, 478, 483, 496, 510, 520, 530, 538, 559	474, 485–490, 498–
\fontsizefilebase	. 3, 13, 15, 17, 19, 21	504, 512–514, 522–
\fpbot	287, 453	524, 532–534, 542, 544, 545, 547, 549, 551
\fpsep	286, 289, 450	\@list@extra 174, 181, 190, 197, 205, 212, 220, 228, 235, 244, 248, 253, 257, 262, 266, 271, 542, 545, 547
\fontsizefilebase	. 3, 13, 15, 17, 19, 21	\@listI
\fpbot	287, 453	88, 183, 336, 479, 544
\fpsep	286, 289, 450	\@listi 88, 105, 122, 177, 183, 273, 336, 339, 348, 357, 366, 468, 470, 479, 542, 544, 554
\listi@footnotesize	 122, 208
\listi@small		\@listi@small . 105, 193
\listii		\@listii 223, 482, 484, 545
\listiii		\@listiii
\listiv		.. 238, 495, 497, 547
\listv		\@listiv . . . 251, 509, 511
\listvi		\@listv . . . 260, 519, 521
\mainaux		\@listvi . . . 269, 529, 531
\minus		\@mainaux 311
\nnil		\@minus . . . 35, 37, 41, 43, 49, 51, 55, 57, 232
\onlypreamble		\@nnil . . . 5, 63, 67, 71, 74
\percentchar		\@onlypreamble 561
		\@percentchar 315–317, 319, 320, 329, 331, 337, 341, 343, 348, 353, 354, 359, 361, 366, 371, 372, 379, 386, 393, 400, 407, 414, 421, 426, 429, 432, 435, 438, 441, 444, 447, 450, 453,

456, 459, 462, 465,	... 174, 190, 205,	\endcsname
470, 475, 484, 491,	220, 235, 248, 257, 266	175, 191, 206, 221,
497, 505, 511, 515,	\{ 578	236, 249, 258, 267,
521, 525, 531, 535,	\} 578	318, 570, 571, 574, 576
539, 543, 546, 548,		\ExecuteOptionsX . . . 29
550, 552, 553, 556, 557		
\@pkgextension	318	
\@plus 35,		F
37, 41, 43, 49, 51,		\f@baselineskip . . .
55, 57, 232, 285, 286		167, 274, 325, 330,
\@ptsize 10, 66		342, 360, 378, 385,
\@setfontsize		392, 399, 406, 413, 420
82, 99, 116,		\f@size
127, 133, 139, 145,		326, 330, 342, 360,
151, 157, 163, 330,		378, 385, 392, 399,
342, 360, 378, 385,		406, 413, 420, 571, 575
392, 399, 406, 413, 420		\floatsep
\@tempa 6, 11,		.. 278, 282, 283, 432
13, 15, 21, 27, 71, 74		\footins 276, 429
\@tempb 8, 17, 19, 69, 74,		\footnotesep . . . 275, 426
91, 108, 125, 131,		\footnotesize . 115,
137, 143, 149, 155, 161		116, 357, 359, 360, 549
\@tempdima		\fs@exttext 562, 576
.. 5, 7, 62–64, 68,		\fsbslash
70, 73, 83, 90, 91,		568, 571, 572, 574, 578
100, 107, 108, 117,		
124, 125, 128, 130,		G
131, 134, 136, 137,		\generate@fontfile
140, 142, 143, 146,		... 300, 306, 312
148, 149, 152, 154,		\generateclofile .. 293
155, 158, 160, 161, 164		
\@tempdimb . 7–10, 67,		H
68, 72, 76, 77, 79,		\headheight . . . 73, 326
83, 91, 93, 94, 96,		\Huge 162, 163, 417, 419, 420
100, 108, 110, 111,		
113, 117, 125, 128,		I
131, 134, 137, 140,		\if@tempswa
143, 146, 149, 152,		.. 181, 197, 212,
155, 158, 161, 164,		228, 244, 253, 262, 271
167, 169, 171, 185,		\ifdim 32–34, 40, 47, 48, 54
187, 200, 202, 215,		\InputIfFileExists
217, 231, 274, 275,		... 13, 17
277, 279, 281, 286, 291		\intextsep 282, 438
\@tempdimc		\itemsep 180,
.. 64–66, 68–70,		196, 211, 227, 243,
90, 107, 124, 130,		352, 370, 474, 490, 504
136, 142, 148, 154, 160		
\@tempswafalse		K
.. 172, 188, 203,		\kernel@ifnextchar 294
218, 233, 246, 255, 264		
\@tempswatrue		L
		\l@addto@macro
		542, 545, 547, 549, 551

\labelsep	224, 239, 252, 261, 270, 487, 500, 514, 524, 534	\mysizeex	573, 583–585	\setlength 7, 35, 37, 41, 43, 49, 51, 55, 57, 64,
\labelwidth	224, 239, 252, 261, 270, 486, 487, 499, 500, 513, 514, 523, 524, 533, 534	\noindent	570, 576	N	68, 70, 72, 73, 80, 90, 91, 97, 107, 108, 114, 124, 125, 130,
\LARGE	150, 151, 403, 405, 406	\p@	9, 32–35, 37, 40, 41, 43, 47–49, 51, 54, 55, 65, 68, 232	P	131, 136, 137, 142, 143, 148, 149, 154, 155, 160, 161, 167,
\Large	144, 145, 396, 398, 399	\PackageInfo	14, 18	\PackageInfo	232, 274, 275, 282–
\leftmargin	177, 193, 208, 223, 224, 238, 239, 251, 252, 260, 261, 269, 270, 349, 367, 471, 485, 498, 512, 522, 532	\par@updaterelative	541	\par@updaterelative	290, 325, 326, 426,
\leftmargini	177, 193, 208, 349, 367, 471	\paragraph	574	\paragraph	429, 432, 435, 438,
\leftmarginii	223, 485, 486	\parsep	168, 179, 180, 184, 195, 196, 199, 210, 211, 214, 226, 227, 241, 351, 352, 369, 370, 473, 474, 489, 490, 502	\parsep	441, 444, 447, 450, 453, 456, 459, 462, 465
\leftmarginiii	238, 498, 499	\partopsep	232, 242, 291, 465, 503	\skip	\skip
\leftmarginiv	251, 512, 513	\printfontsize	577	\textbf	276, 429
\leftmarginv	260, 522, 523	\ProcessOptionsX	30	\textfloatsep	98,
\leftmarginvi	269, 532, 533	\protect	549, 551	\textmd	99, 339, 341, 342, 551
M		\providecommand	62	\texttt	\strip@pt
\makeatletter	12	\ProvidesFile	321	T	8, 10, 66
\month	322	R			
\mysize	569, 580–582	\raggedright	576		
		S			
		\scr@v@is@ge	540		
		\scriptsize	126, 127, 375, 377, 378	Y	
		\section	578	\year	322