The draftwatermark package*

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2020/12/08

Abstract

The draftwatermark package extends LaTeX providing a means to add a watermark (typically textual and light gray, but possibly more sophisticated) on the pages of a document (either on every page, on the first page, or on selected pages). Typical usage may consist in writing words such as "DRAFT" or "CONFIDENTIAL" across the pages. The package may remind in some sense draftcopy by Dr. Juergen Vollmer, but its implementation is lighter (as the reduced code footprint shows) and does not rely on postscript specials, making the package fully compatible with pdfLaTeX, XquLaTeX and LuaLaTeX. Its feature set is somehow restricted because the emphasis is on the simplicity of the interface. For complex layouts, consider scrlayer.sty from the *KOMA script* bundle or directly using the new LaTeX shipout hooks.

1 Introduction

This package extends LaTeX providing a means to add a textual, usually light gray (but possibly colored) watermark on every page, the first page, or selected pages of a document. Typical usage may consist in writing words such as "DRAFT" or "CONFIDENTIAL" across document pages.

The package may remind in some sense draftcopy by Dr. Juergen Vollmer, but its implementation differs in a few points:

1. Code footprint is smaller, although this does not mean much on modern computers.

2. There is no use of Postscript specials or other driver-dependent tricks, so the package should be compatible with any output driver and with pdfLaTeX, XquLaTeX, and LuaLaTeX in particular. Recently, compatibility with PDF generating engines is quite important and its lack in draftcopy and was the first motivation for writing draftwatermark.

3. Reduced code footprint comes at some price. Many features of draftcopy are not supported here, most notably draftwatermark has:

   - No automatic selection of the watermark text to use, based on the language, relying on pre-stored translations of the word "DRAFT". This may be no big loss, since one is free to choose whatever text he/she happens to prefer.

   - No automatic possibility to watermark only the first *two* pages of a document. However, it is possible to automatically watermark only the first or to *manually* stop the watermarking after the second page.

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*This file (`draftwatermark.dtx`) has version number 3.0, last revised 2020/12/08.

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Note that some features available as options in draftcopy (e.g., the possibility of time-stamping the watermark text) can be obtained working on the watermark text itself.

The emphasis of draftwatermark is on the simplicity of its interface. In many cases the package will do the right thing by just loading it, without any further configuration. Such simplicity pairs with some limitations. As an example, draftwatermark is capable of putting some text or an image on the background of the page, below the document text, but not of *stamping*, that is putting it in the foreground, above the document text. Similarly, it is not well suited for complex watermark layouts. As a further note, there may be unexpected behaviors when draftwatermark is used together with other packages affecting the page building, e.g., with respect to the stacking order of the objects on the page. For any complex layout, or when the Z-ordering is important, the recommendation is to look at the scrlayer package in the *KOMA script* bundle or to rely directly on the new shipout hook mechanism provided by LaTeX.

2   User interface

When loaded, draftwatermark sets up a number of defaults (detailed later and modifiable by specific commands) and immediately becomes active.

2.1   Package options and configuration

If loaded as

    \usepackage{draftwatermark}

the package sets up itself to put the a large, grayed background text saying "DRAFT" at the center every page.

This behavior can be modified by passing options to the package as in

    \usepackage[<options>]{draftwatermark}

\DraftwatermarkOptions   The package behavior can also be dynamically changed *after the package is loaded* by the command \DraftwatermarkOptions{<options>} that can be used anywhere in the document source. In either case, <options> is a comma separated list of options, each given as a <key> or as a <key>=<value> pair. Unless otherwise indicated, all options that can be used at the loading of the package can also be given via the \DraftwatermarkOptions{<options>} mechanism. In fact, the two things are almost equivalent, with some cautionary details. Specifically, the parsing of options by the \usepackage command is a bit quirky, hence when specifying options with the <key>=<value> syntax, some values that are accepted by \DraftwatermarkOptions may cause issues when specifying options with \usepackage.

The available options are:

- firstpageonly=true|false
  If no value is provided, true is assumed. Default is false.
  Instructs draftwatermark to only apply the watermark on the first page.
  This option cannot be used with \DraftwatermarkOptions{<options>}.

- firstpage legacy alias of firstpageonly.

- `stamp=true|false`
  If no value is provided, `true` is assumed. Default is `true`.
  Instructs draftwatermark to print the watermark.

- `nostamp` legacy alias of `stamp=false`.

- `final` legacy alias of `stamp=false`.

- `angle=<real>`
  Default is `45`.
  Defines the angle, in degrees, at which the watermark text should be printed.

- `scale=<real>`
  Default is `1`.
  Defines the scale at which the watermark text should be printed.

- `fontsize=<length>`
  Default is `0.25\paperwidth`.
  Defines the font size for the watermark text. See Section 3.2.

- `text=<token list>`
  Default is `DRAFT`. Defines the watermark text. See notes in Section 3.3.

- `hpos=<length>`
  Default is `0.5\paperwidth`.
  Defines the horizontal position of the watermark, based on its anchor point. See also the `pos` option.

- `vpos=<length>`
  Default is `0.5\paperheight`.
  Defines the horizontal position of the watermark, based on its anchor point. See also the `pos` option.

- `pos={<length>, <length>}`
  Defines at once the horizontal (first length) and vertical (second length) position of the watermark, based on its anchor point. See also the options `hpos` and `vpos`.

- `hanchor=l|c|r`
  Default is `c`.
  Defines the horizontal position of the watermark anchor point. Specifically, `l` stands for *left*, `c` for *center* and `r` for *right*. See also the `anchor` option.

- `vanchor=t|m|b`
  Default is `m`.
  Defines the vertical position of the watermark anchor point. Specifically, `t` stands for *top*, `m` for *middle* and `b` for *bottom*. See also the `anchor` option.

- `anchor=<string>`
  Defines the anchor point for the watermark. The anchor point is placed at the page coordinates specified by the `hpos` and `vpos` options. The string used for the specification is made of the `l`, `c`, `r`, `t`, `m`, and `b` characters, whose meaning is as described for the `hanchor` and `vanchor` options. For instance, if the anchor specification is `lt`, then the top left corner of the watermark is placed at the position specified by the `hpos` and `vpos` options.

- alignment=l|c|r
  Default is c.
  Defines the alignment for the watermark text in case it contains line breaks. Specifically, l aligns left, c aligns at the center and r aligns right.

- colormodel=<color model>
  Defaults to gray.
  Defines the color model for the specification of the color of the watermark text. Can be any color model supported by the color package. Leaving it empty allows named colors to be specified. See also the color option.

- colorspec=<color specification>
  Defaults to 0.8.
  Defines a color specification for the watermark text. The specification is interpreted according to the color model. For instance if the model is rgb, then the specification can be a color triple. See also the color option.

- color=<full color specification>
  Defines the color of the watermark text. The color specification may include an optional color model and must include a color specification, following the standard set by the color package. For instance, some examples of valid specifications are red, or {[rgb]{1, 0, 1}}, or {[gray]{0.5}}.

- markcmd=<macro>
  Default is \DraftwatermarkStdMark.
  Defines the command used to draw the actual watermark. See also Sect. 4.

3   Some notes on the configuration options

3.1   The stamp option and its companion configuration directives

The stamp, nostamp and final options let one control whether the watermark should actually be printed or not. They can be handy for quickly removing the "draft" status from a document, without having to alter the actual watermark setup. Option final is a synonym for nostamp. Note that final is a commonly used global (class-level) option that can be simultaneously obeyed by multiple packages. The option stamp can be used to override a global final option and to recover the watermarking.

Via the \DraftwatermarkOptions command, the stamp option can be given at arbitrary points in the document to suspend or resume watermarking. In this way one can *manually* apply the watermark only on selected pages of a document.

3.2   The watermark text size

The package lets one control the watermark size in two different ways. One is by picking a font size via the fontsize option; the other one is by scaling the watermark with the scale option.

In principle, using a large font to produce a large textual watermark is the preferred choice. In fact, a font with a large point size is not just a scaled up version of the same font with a small point size. Conversely, it is a font where all the traits are adjusted to actually look well at a large size. This is why draftwatermark defaults to setting scale=1 and to a

large point size for the font (in fact, sufficiently large to get the word "DRAFT", rotated at 45°, take about half of the page width.

Nonetheless asking for a large font may not work, if LaTeX has not been set up to use *scalable* fonts. For this reason, the recommendation is to always use draftwatermark on LaTeX or pdfLaTeX together with other packages that trigger the usage of fully scalable fonts (practical examples may be newtx or mathptmx, etc.). An even better alternative is to use modern TeX engines, as in XeLaTeX or LuaLaTeX with fontspec. In any case, recall that even with scalable fonts, LaTeX may be unable to deal with extremely large font sizes (e.g., $\gg 5$ cm). If really large letters are required for the watermark, a suitable combination of `fontsize` and `scale` may be needed.

One can immediately realize when LaTeX is unable to deal with the package default or selected `fontsize` from two things: (i) a font warning from LaTeX; and (ii) a tiny watermark text whose size seems not to react to the `fontsize` option. In this case, either switch to scalable fonts or select a small `fontsize` (e.g., `12pt`) together with a `scale` significantly larger than 1.

3.3 The watermark text

As previously noticed, the watermark text can be specified with the `text` option. The value passed to the `text` option does not need to be a plain string. Conversely, it may include formatting marks, such as line break commands (e.g., `\\`) or commands to select font variants (e.g., `\bfseries`). In fact, it is also possible to use a command to include an image as the text. In case line breaks are present, the text is left, right, center aligned according to the `alignment` option. A word of caution is necessary, though. To use LaTeX commands in the watermark text, please configure the latter via the `\DraftwatermarkOptions` command. Trying to do so by passing options to the draftwatermark package via the `\usepackage` mechanism may fail due to how LaTeX parses option strings. Also note that the text may need to be surrounded by braces.

If the watermark text includes line breaks, draftwatermark will use a very thin interline space, according to the fact that the multi-line text is managed by surrounding the it with a LaTeX `shortstack` command.

Also, note that the watermark typesetting happens inside a TeX group, to make sure that any parameter setting you do in the `text` token list can stay local.

As a further remark, observe that in order to only put a watermark on selected pages, an alternative to changing the `stamp` configuration option at arbitrary points in the document can be to use conditional expressions in the watermark text itself.

3.4 The watermark positioning

The watermark position is controlled via the `hpos` and `vpos` configuration options (or alternatively, by the `pos` configuration option). It is worth underlining that these configuration parameters require *lengths* not plain numbers.

The coordinates used by the positioning parameters are measured from the top left corner of the page. They work in conjunction with the anchoring parameters (`hanchor`, `vanchor` and `anchor`). Specifically, the anchor point of the watermark is placed at the specified position. The default is to center the watermark on the page, but it is possible to choose other positions by a smart choice of the positioning and anchoring parameters. For instance, one may want to put the watermark on the top right corner of each page, which can be easily done with an `rt` anchoring.

As a final remark, observe that the specification of the positioning coordinates can be based on LaTeX macros. For instance, one can set the horizontal position `hpos` at `0.5\paperwidth` (for centering) or at `\dimexpr\paperwidth-5mm` (for placement at the right hand side of the page). Interestingly, draftwatermark re-evaluates the positioning coordinates on every page. This means that positions based on `\paperwidth` or `\paperheight` should dynamically adjust if the page size is changed through the document. To some extent, this is also true of the anchor options. For instance, one may set the horizontal anchor `hanchor` at `\ifodd\thepage r\else l\fi` causing the anchor point to alternate between `r` and `l` at every new page. In conjunction with a similarly conditional `hpos` setting, for instance `\ifodd\thepage \dimexpr\paperwidth-5mm \else 5mm\fi`, this enables interesting effects, like placing the watermark close to the right side of the page on odd pages and to the left side of the page on even pages. Obviously, this kind of setting is only applicable with the `hanchor` and `vanchor` options, and not with the `anchor` shorthand.

4   The standard watermark and ways of overriding it

In order to simplify its usage as much as possible, the draftwatermark package is designed under the assumption that, most of the time, the user will need just a *textual* watermark and some basic way to tune its visual aspect, such as choosing the text font, font size, scale, rotation angle, etc.

\DraftwatermarkStdMark   To this aim, the macro `\DraftwatermarkStdMark` is provided to do the standard job of typesetting the watermark text according to the configuration-defined font, color, angle, and so on. Then the package arranges so that this macro is called whenever watermarking is needed.

In case the facilities provided by `\DraftwatermarkStdMark` are insufficient, the package user can set up his/her own macro to do the watermark typesetting and instruct draftwatermark to use it in place of `\DraftwatermarkStdMark`. This is done by using the configuration option `markcmd` that takes the new macro name as its parameter. The advice is to always write a new macro rather than redefining or patching `\DraftwatermarkStdMark`. Note that because `markcmd` can be reconfigured multiple times, one may actually define multiple macros to get different watermark layouts on different pages of the same document.

It is worth recalling that when `markcmd` is set to something different from `\DraftwatermarkStdMark`, the angle, font, scale, color parameters will be ignored. In this case, the package user is on his/her own if he/she wants to parametrize the watermark appearance.

5   Compatibility notes

5.1   Compatibility notes for package version 3.0 and later

Version 3.0 of the package takes advantage of the new functionalities introduced in LaTeX with the Fall 2020 release and gets rid of its dependency on everypage. In principle, this could result in behavioral differences in corner cases.

For users of versions of LaTeX before Fall 2020, draftwatermarks falls back to its own legacy code base, now packaged as draftwatermark-2x.

It is worth remarking that there is no advantage in trying to explicitly load draftwatermark-2x on a modern LaTeX to try to get the past behavior. In fact, even if

the old code base uses everypage, on modern LaTeX formats, the latter tries itself to rely on the new LaTeX functionalities rather than its own legacy mechanisms.

5.2 Compatibility notes for package version 2.0 and later

Version 2.0 of the package is an almost complete rewrite with respect to version 1.2. Specifically, all the configuration mechanism has been overhauled, by moving to an interface based on configuration keys and associated values.

In principle, compatibility to the 1.x series should be fully preserved by the provision of a *legacy interface*. In case old documents are broken by the 2.x series, please report it as a bug.

The advice is not to use the legacy interface in new documents, unless you know that they will need to be processed in environments lacking a recent draftwatermark.

5.3 The legacy interface

The legacy interface is composed by the following commands:

\SetWatermarkAngle
- Command \SetWatermarkAngle{<real>} is the same as \DraftwatermarkOptions{angle=<real>}.

\SetWatermarkColor
- Command \SetWatermarkColor[<model>]{<color spec>} is the same as \DraftwatermarkOptions{color={[<model>]{<color spec>}}}.

\SetWatermarkLightness
- Command \SetWatermarkLightness{<real>} is the same as \DraftwatermarkOptions{color={[<gray>]{<real>}}}. The real value should be in between 0 (for black) and 1 (for white).

\SetWatermarkFontSize
- Command \SetWatermarkFontSize{<length>} is the same as \DraftwatermarkOptions{fontsize=<length>}.

\SetWatermarkScale
- Command \SetWatermarkScale{<real>} is the same as \DraftwatermarkOptions{scale=<real>}.

\SetWatermarkHorCenter
- Command \SetWatermarkHorCenter{<length>} is the same as \DraftwatermarkOptions{hpos=<length>, hanchor=c}.

\SetWatermarkVerCenter
- Command \SetWatermarkVerCenter{<length>} is the same as \DraftwatermarkOptions{vpos=<length>, vanchor=m}.

\SetWatermarkText
- Command \SetWatermarkText{<text>} is the same as \DraftwatermarkOptions{text={<text>}}.

Note that the legacy interface supports only a subset of what is possible with the modern interface.

6 Examples

6.1 Plain case, using the modern package interface

As an example, consider this first document source:

```
1 \documentclass{article}
```

```
 2 \usepackage[svgnames]{xcolor}
 3 \usepackage[T1]{fontenc}
 4 \usepackage[firstpageonly, color={[gray]{0.5}},
 5   text=DRAFT\\COPY]{draftwatermark}
 6 \usepackage{mathptmx}
 7 \usepackage{lipsum}
 8 \title{Sample document for the draftwatermark package}
 9 \author{}
10
11 \begin{document}
12 \maketitle
13
14 \section{One}
15 \lipsum[1-3]
16
17 \section{Two}
18 \lipsum[4-6]
19
20 \end{document}
```

This produces a two pages document with placeholder content, putting a page-centered watermark on the first page only. The watermark is made a slightly darker toneof gray than the default.

6.2 Plain case, using the legacy interface

Using the legacy interface, the source for the same sample document as above would look like:

```
21 \documentclass{article}
22 \usepackage[svgnames]{xcolor}
23 \usepackage[T1]{fontenc}
24 \usepackage[firstpage]{draftwatermark}
25 \usepackage{mathptmx}
26 \usepackage{lipsum}
27
28 \SetWatermarkLightness{0.5}
29 \SetWatermarkText{DRAFT\\COPY}
30
31 \title{Sample document for the draftwatermark package}
32 \author{}
33
34 \begin{document}
35 \maketitle
36
37 \section{One}
38 \lipsum[1-3]
39
40 \section{Two}
41 \lipsum[4-6]
42
43 \end{document}
```

6.3 Things that cannot be done with the legacy interface

A major limitation of the legacy interface that has been removed with the modern interface is the inability to control the watermark anchoring. For instance, one may want the watermark to appear in the right top angle of every page. With the modern interface, such a result can be easily obtained as in the following sample code:

```
44 \documentclass{article}
45 \usepackage[svgnames]{xcolor}
46 \usepackage[T1]{fontenc}
47 \usepackage[firstpage, anchor=tr, color=red,
48   pos={\dimexpr\paperwidth-5mm, 5mm},
49   angle=-45, fontsize=32pt]{draftwatermark}
50 \usepackage{mathptmx}
51 \usepackage{lipsum}
52 \title{Sample document for the draftwatermark package}
53 \author{}
54
55 \DraftwatermarkOptions{text=\bfseries DRAFT}
56 \begin{document}
57 \maketitle
58
59 \section{One}
60 \lipsum[1-3]
61
62 \section{Two}
63 \lipsum[4-6]
64
65 \end{document}
```

Another interesting possibility of the modern interface derives from the fact that the positioning and anchoring options are re-evaluated for every page. This allows the positioning to dynamically change following other parameters (for instance the \paperwidth) or to take advantage of conditionals to achieve effects such as differentiating the watermark for odd and even pages, as shown in the following code:

```
66 \documentclass{article}
67 \usepackage[svgnames]{xcolor}
68 \usepackage[T1]{fontenc}
69 \usepackage[color=red, fontsize=32pt]{draftwatermark}
70 \usepackage{mathptmx}
71 \usepackage{lipsum}
72 \title{Sample document for the draftwatermark package}
73 \author{}
74
75 \DraftwatermarkOptions{%
76   angle=0,
77   text={\ifodd\thepage ODD\else EVEN\fi},
78   hpos={\ifodd\thepage \dimexpr\paperwidth-5mm\else 5mm\fi},
79   vpos=5mm,
80   vanchor=t,
81   hanchor={\ifodd\thepage r\else l\fi}
82 }
83
84 \begin{document}
85 \maketitle
```

```
86
87 \section{One}
88 \lipsum[1-3]
89
90 \section{Two}
91 \lipsum[4-6]
92
93 \end{document}
```

6.4   Maximum freedom with a custom watermarking command

Maximum freedom can be obtained with a custom watermarking command. The following example shows how it can be used, once again differentiating the watermark for odd and even pages.

```
 94 \documentclass{article}
 95 \usepackage[svgnames]{xcolor}
 96 \usepackage[T1]{fontenc}
 97 \usepackage{draftwatermark}
 98 \usepackage{mathptmx}
 99 \usepackage[scaled]{helvet}
100 \usepackage{lipsum}
101 \title{Sample document for the draftwatermark package}
102 \author{}
103
104 \newsavebox\wmbox
105 \savebox\wmbox{%
106   {\color[rgb]{1,0.8,0.8}\sffamily \fbox{DRAFT}}}
107 \newcommand\MyWM{%
108   \ifodd\thepage
109     \hspace*{\dimexpr \paperwidth -\wd\wmbox-10mm}%
110     \usebox{\wmbox}%
111   \else
112     \usebox{\wmbox}%
113   \fi}
114
115 \DraftwatermarkOptions{anchor=lt, pos={5mm, 5mm}, markcmd=\MyWM}
116 \begin{document}
117 \maketitle
118
119 \section{One}
120 \lipsum[1-3]
121
122 \section{Two}
123 \lipsum[4-6]
124
125 \end{document}
```

7   Development and support

The package is developed on *github*:

```
https://github.com/callegar/LaTeX-draftwatermark
```

Please, refer to that site for any bug report or development information. Be so kind to refrain from opening bugs for enhancement requests that, from the present document, would evidently require moving against some fundamental design decisions.

8 Implementation

8.1 Implementation of draftwatermark

Announce the name and version of the package, which requires LaTeX 2$_\varepsilon$.

```
126 \NeedsTeXFormat{LaTeX2e}
127 \ProvidesPackage{draftwatermark}%
128   [2020/12/08 3.0 Put a gray textual watermark on document pages]
```

Depending on the actual functionalities provided by LaTeX consider loading draftwatermark-2x. If so doing, warn about this, and hand over the operation to that package.

```
129 \@ifundefined{AddToHook}{%
130   \PackageWarningNoLine{draftwatermark}{%
131     You appear to be running a version of LaTeX\MessageBreak
132     unsupported by current draftwatermark.\MessageBreak
133     Forcing fallback to 'draftwatermark-2x' that\MessageBreak
134     uses an older code base}%
135   \RequirePackageWithOptions{draftwatermark-2x}%
136   \endinput}{}
```

Require the needed packages.

```
137 \RequirePackage{kvoptions}
138 \RequirePackage{graphicx}
139 \RequirePackage{color}
```

Define the configuration options and default values.

```
140 \DeclareBoolOption[false]{firstpageonly}
141 \define@key{draftwatermark}{firstpage}[true]{%
142   \csname draftwatermark@firstpageonly#1\endcsname}
143 \DeclareBoolOption[true]{stamp}
144 \DeclareComplementaryOption{nostamp}{stamp}
145 \DeclareComplementaryOption{final}{stamp}
146 \DeclareStringOption[45]{angle}
147 \DeclareStringOption[1]{scale}
148 \DeclareStringOption[DRAFT]{text}
149 \DeclareStringOption[0.5\paperwidth]{hpos}
150 \DeclareStringOption[0.5\paperheight]{vpos}
151 \DeclareStringOption[0.25\paperwidth]{fontsize}
152 \DeclareStringOption[gray]{colormodel}
153 \DeclareStringOption[0.8]{colorspec}
154 \DeclareStringOption[c]{hanchor}
155 \DeclareStringOption[m]{vanchor}
156 \DeclareStringOption[c]{alignment}
157 \DeclareStringOption[\DraftwatermarkStdMark]{markcmd}
158 \define@key{draftwatermark}{pos}{%
159   \draftwatermark@processpos #1\@nil}
160 \define@key{draftwatermark}{anchor}{%
161   \draftwatermark@processanchor{#1}}
162 \define@key{draftwatermark}{color}{%
163   \draftwatermark@processcolor #1\@nil}
```

Set up some helper marcros to process the options. These should be rather self-explanatory.

```
164 \def\draftwatermark@processpos#1,#2\@nil{%
165   \def\draftwatermark@hpos{#1}%
166   \def\draftwatermark@vpos{#2}}
167
168 \def\draftwatermark@processanchor#1{%
169   \def\draftwatermark@tempa{#1}
170   \@onelevel@sanitize \draftwatermark@tempa
171   \expandafter \@tfor \expandafter \draftwatermark@tempb
172     \expandafter :\expandafter =\draftwatermark@tempa
173     \do
174     {%
175       \if \draftwatermark@tempb l%
176         \def \draftwatermark@hanchor{l}%
177       \else \if \draftwatermark@tempb c%
178         \def \draftwatermark@hanchor{c}%
179       \else \if \draftwatermark@tempb r%
180         \def \draftwatermark@hanchor{r}%
181       \else \if \draftwatermark@tempb t%
182         \def \draftwatermark@vanchor{t}%
183       \else \if \draftwatermark@tempb m%
184         \def \draftwatermark@vanchor{m}%
185       \else \if \draftwatermark@tempb b%
186         \def \draftwatermark@vanchor{b}
187       \else
188         \PackageError{draftwatermark}{%
189           Illegal anchor directive `\draftwatermark@tempb'}%
190           {Directive has been ingnored.}%
191       \fi\fi\fi\fi\fi\fi
192     }}
193
194 \def\draftwatermark@processcolor{%
195   \@ifnextchar[
196     \draftwatermark@processcolor@ii\draftwatermark@processcolor@i}
197
198 \def\draftwatermark@processcolor@i#1\@nil{%
199   \def\draftwatermark@colormodel{}%
200   \def\draftwatermark@colorspec{#1}}
201
202 \def\draftwatermark@processcolor@ii[#1]#2\@nil{%
203   \def\draftwatermark@colormodel{#1}%
204   \def\draftwatermark@colorspec{#2}}
205
```

Process the package options...

```
206 \ProcessKeyvalOptions*
```

... and then disable the firstpageonly and firstpage options, that can only be used at the package loading time.

```
207 \DisableKeyvalOption{draftwatermark}{firstpageonly}
208 \DisableKeyvalOption{draftwatermark}{firstpage}
209
```

\DraftwatermarkOptions   Set up a command to modify the configuration as needed.

```
210 \newcommand\DraftwatermarkOptions[1]{\setkeys{draftwatermark}{#1}}
211
```

Introduce the legacy interface.

\SetWatermarkAngle   Legacy command to set the rotation angle for the standard watermark

```
212 \newcommand\SetWatermarkAngle[1]{\DraftwatermarkOptions{angle=#1}}
```

\SetWatermarkFontSize   Legacy command to set the font size for the standard watermark

```
213 \newcommand\SetWatermarkFontSize[1]{\DraftwatermarkOptions{fontsize=#1}}
```

\SetWatermarkScale   Legacy command to set the scale for the standard watermark

```
214 \newcommand\SetWatermarkScale[1]{\DraftwatermarkOptions{scale=#1}}
```

\SetWatermarkHorCenter   Legacy commands to set the horizontal and vertical position for the standard watermark,
\SetWatermarkVerCenter   also forcing it to be centered there.

```
215 \newcommand\SetWatermarkHorCenter[1]{%
216   \DraftwatermarkOptions{hpos=#1, hanchor=c}}
217 \newcommand\SetWatermarkVerCenter[1]{%
218   \DraftwatermarkOptions{vpos=#1, vanchor=m}}
```

\SetWatermarkText   Legacy command to set the text of the standard watermark

```
219 \newcommand\SetWatermarkText[1]{\DraftwatermarkOptions{text={#1}}}
```

\SetWatermarColor   Legacy commands to set the color for the standard watermark.
\SetWatermarkLightness

```
220 \newcommand\SetWatermarkColor[2][]{%
221   \DraftwatermarkOptions{colormodel=#1, colorspec=#2}}
222 \newcommand\SetWatermarkLightness[1]{%
223   \DraftwatermarkOptions{colormodel=gray, colorspec=#1}}
224
```

\DraftwatermarkStdMark   The command to generate the standard watermark

```
225 \newcommand\DraftwatermarkStdMark{%
226   \rotatebox{\draftwatermark@angle}{%
227     \scalebox{\draftwatermark@scale}{%
228       \begingroup
229       \ifx\draftwatermark@colormodel\@empty
230         \color{\draftwatermark@colorspec}%
231       \else
232         \color[\draftwatermark@colormodel]{\draftwatermark@colorspec}%
233       \fi
234       \setlength{\@tempdima}{\draftwatermark@fontsize}%
235       \fontsize{\@tempdima}{1.2\@tempdima}\selectfont
236       \shortstack[\draftwatermark@alignment]{\draftwatermark@text}%
237       \endgroup}}}
238
```

The code to actually print the watermark

```
239 \newcommand\draftwatermark@printwm[1]{%
240   \sbox\@tempboxa{\raisebox{\depth}{#1}}%
241   \setlength{\@tempdima}{\draftwatermark@hpos}%
242   \setlength{\@tempdimb}{-\draftwatermark@vpos}%
243   \edef \draftwatermark@tempa{\draftwatermark@hanchor}%
```

```
244  \@onelevel@sanitize \draftwatermark@tempa
245  \expandafter\def\expandafter\draftwatermark@tempb
246    \expandafter{\expandafter\@car \draftwatermark@tempa\@nil}%
247  \if \draftwatermark@tempb r%
248    \addtolength\@tempdima{-\wd\@tempboxa}%
249  \else\if \draftwatermark@tempb c%
250    \addtolength\@tempdima{-0.5\wd\@tempboxa}%
251  \else\if \draftwatermark@tempb l%
252    \relax
253  \else
254    \PackageError{draftwatermark}{%
255      Illegal anchor directive '\draftwatermark@tempb'}%
256        {Anchoring to left side.}%
257  \fi\fi\fi
258  \edef \draftwatermark@tempa{\draftwatermark@vanchor}%
259  \@onelevel@sanitize \draftwatermark@tempa
260  \expandafter\def\expandafter\draftwatermark@tempb
261    \expandafter{\expandafter\@car \draftwatermark@tempa\@nil}%
262  \if \draftwatermark@tempb b%
263    \relax
264  \else\if \draftwatermark@tempb m%
265    \addtolength\@tempdimb{-0.5\ht\@tempboxa}%
266  \else\if \draftwatermark@tempb t%
267    \addtolength\@tempdimb{-\ht\@tempboxa}%
268  \else
269    \PackageError{draftwatermark}{%
270      Illegal anchor directive '\draftwatermark@tempb'}%
271        {Anchoring to top side.}%
272  \fi\fi\fi
273  \put(\@tempdima,\@tempdimb){\usebox\@tempboxa}%
274 }
275
```

A wrapper to make the watermark printing conditional

```
276 \newcommand\draftwatermark@print[1]{%
277  \ifdraftwatermark@stamp
278    \draftwatermark@printwm{#1}%
279  \fi}
```

... and finally the code to set up the everypage hooks to assure that the watermark printing commands are called when needed

```
280 \ifdraftwatermark@firstpageonly
281  \AddToHookNext{shipout/background}{%
282    \draftwatermark@print{\draftwatermark@markcmd}}%
283 \else
284  \AddToHook{shipout/background}{%
285    \draftwatermark@print{\draftwatermark@markcmd}}%
286 \fi
```

8.2 Implementation of draftwatermark-2x

Announce the name and version of the package, which requires LaTeX 2ε.

```
287 \NeedsTeXFormat{LaTeX2e}
288 \ProvidesPackage{draftwatermark}%
```

```
289    [2020/12/06 2.3 Put a gray textual watermark on document pages]
290
```

Require the needed packages.

```
291 \RequirePackage{kvoptions}
292 \RequirePackage{everypage}[2007/06/20]
293 \RequirePackage{graphicx}
294 \RequirePackage{color}
295
```

Set up options and assumptions for the kvoptions package

```
296 \SetupKeyvalOptions{family=draftwatermark, prefix=draftwatermark@}
297
```

Define the configuration options and default values.

```
298 \DeclareBoolOption[false]{firstpageonly}
299 \define@key{draftwatermark}{firstpage}[true]{%
300   \csname draftwatermark@firstpageonly#1\endcsname}
301 \DeclareBoolOption[true]{stamp}
302 \DeclareComplementaryOption{nostamp}{stamp}
303 \DeclareComplementaryOption{final}{stamp}
304 \DeclareStringOption[45]{angle}
305 \DeclareStringOption[1]{scale}
306 \DeclareStringOption[DRAFT]{text}
307 \DeclareStringOption[0.5\paperwidth]{hpos}
308 \DeclareStringOption[0.5\paperheight]{vpos}
309 \DeclareStringOption[0.25\paperwidth]{fontsize}
310 \DeclareStringOption[gray]{colormodel}
311 \DeclareStringOption[0.8]{colorspec}
312 \DeclareStringOption[c]{hanchor}
313 \DeclareStringOption[m]{vanchor}
314 \DeclareStringOption[c]{alignment}
315 \DeclareStringOption[\DraftwatermarkStdMark]{markcmd}
316 \define@key{draftwatermark}{pos}{%
317   \draftwatermark@processpos #1\@nil}
318 \define@key{draftwatermark}{anchor}{%
319   \draftwatermark@processanchor{#1}}
320 \define@key{draftwatermark}{color}{%
321   \draftwatermark@processcolor #1\@nil}
322
```

Set up some helper marcros to process the options. These should be rather self-explanatory.

```
323 \def\draftwatermark@processpos#1,#2\@nil{%
324   \def\draftwatermark@hpos{#1}%
325   \def\draftwatermark@vpos{#2}}
326
327 \def\draftwatermark@processanchor#1{%
328   \def\draftwatermark@tempa{#1}
329   \@onelevel@sanitize \draftwatermark@tempa
330   \expandafter \@tfor \expandafter \draftwatermark@tempb
331     \expandafter :\expandafter =\draftwatermark@tempa
332     \do
333     {%
334       \if \draftwatermark@tempb l%
335         \def \draftwatermark@hanchor{l}%
```

15

```
336        \else \if \draftwatermark@tempb c%
337          \def \draftwatermark@hanchor{c}%
338        \else \if \draftwatermark@tempb r%
339          \def \draftwatermark@hanchor{r}%
340        \else \if \draftwatermark@tempb t%
341          \def \draftwatermark@vanchor{t}%
342        \else \if \draftwatermark@tempb m%
343          \def \draftwatermark@vanchor{m}%
344        \else \if \draftwatermark@tempb b%
345          \def \draftwatermark@vanchor{b}
346        \else
347          \PackageError{draftwatermark}{%
348            Illegal anchor directive `\draftwatermark@tempb'}%
349            {Directive has been ingnored.}%
350        \fi\fi\fi\fi\fi\fi
351     }}
352
353 \def\draftwatermark@processcolor{%
354   \@ifnextchar[
355     \draftwatermark@processcolor@ii\draftwatermark@processcolor@i}
356
357 \def\draftwatermark@processcolor@i#1\@nil{%
358   \def\draftwatermark@colormodel{}%
359   \def\draftwatermark@colorspec{#1}}
360
361 \def\draftwatermark@processcolor@ii[#1]#2\@nil{%
362   \def\draftwatermark@colormodel{#1}%
363   \def\draftwatermark@colorspec{#2}}
364
```

Process the package options...

```
365 \ProcessKeyvalOptions*
```

... and then disable the `firstpageonly` and `firstpage` options, that can only be used at the package loading time.

```
366 \DisableKeyvalOption{draftwatermark}{firstpageonly}
367 \DisableKeyvalOption{draftwatermark}{firstpage}
368
```

\DraftwatermarkOptions Set up a command to modify the configuration as needed.

```
369 \newcommand\DraftwatermarkOptions[1]{\setkeys{draftwatermark}{#1}}
370
```

Introduce the legacy interface.

\SetWatermarkAngle Legacy command to set the rotation angle for the standard watermark

```
371 \newcommand\SetWatermarkAngle[1]{\DraftwatermarkOptions{angle=#1}}
```

\SetWatermarkFontSize Legacy command to set the font size for the standard watermark

```
372 \newcommand\SetWatermarkFontSize[1]{\DraftwatermarkOptions{fontsize=#1}}
```

\SetWatermarkScale Legacy command to set the scale for the standard watermark

```
373 \newcommand\SetWatermarkScale[1]{\DraftwatermarkOptions{scale=#1}}
```

`\SetWatermarkHorCenter`	Legacy commands to set the horizontal and vertical position for the standard watermark,
`\SetWatermarkVerCenter`	also forcing it to be centered there.

```
374 \newcommand\SetWatermarkHorCenter[1]{%
375   \DraftwatermarkOptions{hpos=#1, hanchor=c}}
376 \newcommand\SetWatermarkVerCenter[1]{%
377   \DraftwatermarkOptions{vpos=#1, vanchor=m}}
```

`\SetWatermarkText`	Legacy command to set the text of the standard watermark

```
378 \newcommand\SetWatermarkText[1]{\DraftwatermarkOptions{text={#1}}}
```

`\SetWatermarColor`	Legacy commands to set the color for the standard watermark.
`\SetWatermarkLightness`	

```
379 \newcommand\SetWatermarkColor[2][]{%
380   \DraftwatermarkOptions{colormodel=#1, colorspec=#2}}
381 \newcommand\SetWatermarkLightness[1]{%
382   \DraftwatermarkOptions{colormodel=gray, colorspec=#1}}
383
```

`\DraftwatermarkStdMark`	The command to generate the standard watermark

```
384 \newcommand\DraftwatermarkStdMark{%
385   \rotatebox{\draftwatermark@angle}{%
386     \scalebox{\draftwatermark@scale}{%
387       \begingroup
388       \ifx\draftwatermark@colormodel\@empty
389         \color{\draftwatermark@colorspec}%
390       \else
391         \color[\draftwatermark@colormodel]{\draftwatermark@colorspec}%
392       \fi
393       \setlength{\@tempdima}{\draftwatermark@fontsize}%
394       \fontsize{\@tempdima}{1.2\@tempdima}\selectfont
395       \shortstack[\draftwatermark@alignment]{\draftwatermark@text}%
396       \endgroup}}}
397
```

The code to actually print the watermark

```
398 \newcommand\draftwatermark@printwm[1]{%
399   \sbox\@tempboxa{#1}%
400   \setlength{\@tempdima}{\draftwatermark@hpos}%
401   \setlength{\@tempdimb}{\draftwatermark@vpos}%
402   \edef \draftwatermark@tempa{\draftwatermark@hanchor}%
403   \@onelevel@sanitize \draftwatermark@tempa
404   \expandafter\def\expandafter\draftwatermark@tempb
405     \expandafter{\expandafter\@car \draftwatermark@tempa\@nil}%
406   \if \draftwatermark@tempb r%
407     \addtolength\@tempdima{-\wd\@tempboxa}%
408   \else\if \draftwatermark@tempb c%
409     \addtolength\@tempdima{-0.5\wd\@tempboxa}%
410   \else\if \draftwatermark@tempb l%
411     \relax
412   \else
413     \PackageError{draftwatermark}{%
414       Illegal anchor directive '\draftwatermark@tempb'}%
415         {Anchoring to left side.}%
416   \fi\fi\fi
```

```
417  \edef \draftwatermark@tempa{\draftwatermark@vanchor}%
418  \@onelevel@sanitize \draftwatermark@tempa
419  \expandafter\def\expandafter\draftwatermark@tempb
420    \expandafter{\expandafter\@car \draftwatermark@tempa\@nil}%
421  \if \draftwatermark@tempb b%
422    \addtolength\@tempdimb{-\ht\@tempboxa}%
423    \addtolength\@tempdimb{-\dp\@tempboxa}%
424  \else\if \draftwatermark@tempb m%
425    \addtolength\@tempdimb{-0.5\ht\@tempboxa}%
426    \addtolength\@tempdimb{-0.5\dp\@tempboxa}%
427  \else\if \draftwatermark@tempb t%
428    \relax
429  \else
430    \PackageError{draftwatermark}{%
431      Illegal anchor directive '\draftwatermark@tempb'}%
432        {Anchoring to top side.}%
433  \fi\fi\fi
434  \vbox to 0pt {%
435      \vspace*{-1in}%
436      \vspace*{\@tempdimb}%
437      \hbox to 0pt {%
438        \hspace*{-1in}%
439        \hspace*{\@tempdima}%
440        \usebox\@tempboxa
441        \hss}%
442      \vss}}
443
```

A wrapper to make the watermark printing conditional

```
444 \newcommand\draftwatermark@print[1]{%
445   \ifdraftwatermark@stamp
446     \draftwatermark@printwm{#1}%
447   \fi}
```

. . . and finally the code to set up the everypage hooks to assure that the watermark printing commands are called when needed

```
448 \ifdraftwatermark@firstpageonly
449   \AddThispageHook{\draftwatermark@print{\draftwatermark@markcmd}}
450 \else
451   \AddEverypageHook{\draftwatermark@print{\draftwatermark@markcmd}}
452 \fi
```

Change History

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.