The photo package*

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Abstract

This package introduces a new float type called photo which works similar to the float types table and figure. Various options exist for placing photos, captions, and a "photographer" line. In twocolumn documents, a possibility exists to generate double-column floats automatically if the photo does not fit into one column. Photos do not have to be placed as floats, they can also be placed as boxes, with captions and photographer line still being available.

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1 License

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2 User manual

2.1 Introduction

The photo package allows photos to be inserted into documents, taking care of a variety of caption positions and a "photographer" line. By default captions are placed next to the photo, but they will be put underneath automatically if there is not enough space left next to the photo. Both caption and photographer line are optional and can be left empty.

The photographer line is a short piece of text printed in small print close to the photo, which can e.g. be used to give the name of the person who took the photo, or the filename.

A command and an environment are provided to place a photo with caption and photographer line, resulting in either a box (the photo will appear at the same place as the placement command in the document), or in a float.

A new photo float is defined, which behaves like the existing table and figure floats.

The provided file `photo_test.tex` is a test file for the photo package. It also shows its various capabilities and can serve as an example.

2.2 Package options

The following package options are defined.

shortlof The list of photos is typeset with a parskip of 0 (plus a little stretch). This is useful for documents using a non-zero parskip. It saves having to put `\listofphotos` inside a group with a zero-parskip setting. This problem is the same for `\tableofcontents`, `\listoftables`, `\listoffigures` by the way.

The caption is placed beside the photo by default, the side can be selected by one of:

left Place the photo on the left.

right Place the photo on the right.

in Place the photo on the inside, this is the left on odd pages and the right on even pages.

out Place the photo on the outside, this is the right on odd pages and the left on even pages. (default)

The vertical placement for captions which are beside the photo can be one of

top The top of the caption is aligned with the top of the photo.

center The centre of the caption is aligned with the centre of the photo. (default)

bottom The bottom of the caption is aligned with the bottom of the photo.

The photographer or attribution line can be placed in either one of these positions:

under Underneath the photo. (default)

side Beside the photo.

If options bottom and side are in effect, the text placed by them might collide because there is not enough space for both. Choose different places for either of these 2 texts. The same can happen with center and top if the height of the caption text comes close to the height of the photo.

2.3 Provide a conditional test for an odd/even page

When captions are placed next to photos, we often need to know whether the photo will end up on an odd or even page. A general-purpose macro is provided which works similar to `\@ifundefined`.

`\ifoddpage`

`\ifoddpage`[⟨*label*⟩]`{`⟨*yes*⟩`}{`⟨*no*⟩`}`

Expands to ⟨*yes*⟩ if it is on an odd page, otherwise to ⟨*no*⟩.

`\ifoddpagelabel`

A label is required for this to work; if none is given one is created. Whatever label is used, it is stored in `\ifoddpagelabel`, which allows this label to be re-used with another `\ifoddpage` if it belongs to the same object. This might reduce the number of labels used. `\ifoddpage` only gives a correct answer if the document is compiled at least twice (because it uses `\label{}`).

2.4 Vertical box alignment

These macros put their argument into an hbox, and vertically shift the baseline of the box to the top edge, center, or bottom edge of the box. By default, the TEX box-commands `\vtop` and `\vbox` align the baseline of the box on the baseline of the top or bottom line contained in the box, which is also very useful but does not visually line up things for the photo package.

`\boxbaset`
`\boxbasec`
`\boxbaseb`

`\boxbaset{`⟨*LR-material*⟩`}`
`\boxbasec{`⟨*LR-material*⟩`}`
`\boxbaseb{`⟨*LR-material*⟩`}`

The photo package needs these in various places, but they are general-purpose and also otherwise useful. Note that the argument may only consist of LR-material.

2.5 Defining a new float type for photos

A new float type is defined for photos, which behaves in a similar way to the figure and table floats.

`photo`
`photo*`

`\begin{photo}`[⟨*floatpos*⟩]
`\begin{photo*}`[⟨*floatpos*⟩]

The star-form gives a double-column float in a twocolumn document, otherwise it is the same as the starless form. The optional ⟨*floatpos*⟩ argument is the float placement specifier ⟨*pos*⟩ as described in the LATEX-manual. Its default is the same as for figure and table: tbp.

`\defaultphotoplacement`

To change the default float placement specifier for photos, use:

`\defaultphotoplacement{`⟨*floatpos*⟩`}`

This affects photo floats only, and will be active for the photo float placed next. It can be changed any time, but to change the placement for a single float the ⟨*floatpos*⟩ argument would be more convenient.

`\thephoto`
`\photoname`
`\listphotoname`
`\listofphotos`

The counter defined for numbering photos is `photo`, its value can be obtained in the currently set numbering format with `\thephoto`. The macros `\photoname` and `\listphotoname` contain the respective texts for adaptations to non-english languages.

A list of photos can be obtained with `\listofphotos`.

2.6 Placing a photo in the document

`\putphoto`

This command places a photo together with a caption and a photographer name. `\putphoto` produces a paragraph of boxes, not a float! The syntax is

`\putphoto`[⟨*photopos*⟩]`{`⟨*label*⟩`}`
`{`⟨*photographer*⟩`}{`⟨*photo*⟩`}`[⟨*toc-caption*⟩]`{`⟨*caption*⟩`}`

⟨*photopos*⟩ is an optional placement specification for the photo, the caption, and the photographer line. It overrides, for this photo only, the default arrangement as specified by the package options. Up to one letter of each of the three groups `l, r, i, o` (left, right, in, out), `t, c, b` (top, center, bottom), and `u, s` (under, side) may be given. If ⟨*photopos*⟩ is given, it may not be empty *is this true?*.

⟨*label*⟩ is the cross-reference key for this photo. If no ⟨*label*⟩ is given but `\putphoto` finds it needs one, it will create one itself.

⟨*photographer*⟩ is the text for the photographer line, which must be LR-material. If it is empty, no such line will be printed.

⟨*photo*⟩ is the photo itself, which must be LR-material and typically is an `\includegraphics` command.

⟨*toc-caption*⟩ and ⟨*caption*⟩ are the caption for this photo, and the text for the list of photos if different from the caption. This works the same as `\caption`. If the ⟨*caption*⟩ argument is empty, no caption (and no entry in the `\listofphotos`) will be generated.

`\oecaptionsep` `\minoecaptionwidth` The placement of captions beside the photo is controlled by these two dimensions. A horizontal space of `\oecaptionsep` is inserted between the caption and the photo. The width of the caption is the remaining space after the width of the photo and `\oecaptionsep` have been taken off. If less than `\minoecaptionwidth` is left, the caption will be put underneath the photo instead.

`\photographerfont` The font selection command selecting the font in which ⟨*photographer*⟩ will be printed. It defaults to a tiny sans-serif.

The result of `\putphoto` is a paragraph (or two) containing various boxes. (Would it be better if it resulted in a single box?)

2.7 Placing a photo in the document as float

`Photo` Instead of contributing text material, this environment produces a float (either `photo` or `photo*`). The syntax is very similar to `\putphoto`, except the photo body now comes from the content of the environment.

```
\begin{Photo}[⟨photopos⟩]{⟨label⟩}
      {⟨photographer⟩}[⟨toc-caption⟩]{⟨caption⟩}
⟨photo⟩
\end{Photo}
```

All arguments behave the same as for `\putphoto`. The body of the Photo environment must be LR-material. `\oecaptionsep` and `\minoecaptionwidth` apply, if those two plus the width of the photo exceed `\columnwidth` in two-column documents, the photo* environment is called, otherwise photo. Photo uses `\putphoto` to do the work.

Note that the ⟨*photopos*⟩ argument of the Photo environment has nothing to do with the ⟨*floatpos*⟩ argument of the photo and photo* environments. There is currently no way to specify a ⟨*floatpos*⟩ with Photo.

2.8 Cross-referencing

`\phref` `\Phref` Works as usual. The shortcuts `\phref{`⟨*refkey*⟩`}` and `\Phref{`⟨*refkey*⟩`}` might save a little typing. They work like `\ref`, but also print “photo” resp. “Photo”.

2.9 Problems / Limitations

- Mixing the `\putphoto` command with the `\begin{Photo}` environment can severely mix up the order of the photos in the document. Even the `\listofphotos` may not be in order!! LaTeX isn't designed to handle this case, there is probably nothing that can be done about this. Don't mix the two in the same document (though ensuring all photo floats are written out before using `\putphoto` seems to be safe).
- `\Phref` does not use `\photoname` (how do I uppercase a first letter only?).
- There is currently no way to specify a ⟨*floatpos*⟩ with Photo.

- It should be possible to revert back to the LaTeX-default of placing captions underneath.

2.10 To do

- Check what happens if ⟨*photopos*⟩ is given but empty.
- Give option of setting the caption above the photo.

3 Implementation

```
1 ⟨*package⟩
```

3.1 Package options

Reduce parskip for list of photos

```
2 \DeclareOption{shortlop}{\newcommand\lop@parskip{\parskip 0ex plus0.03ex}}
```

Photo placement

```
3 \DeclareOption{left}{\def\@OEPOSdflt{l}}
4 \DeclareOption{right}{\def\@OEPOSdflt{r}}
5 \DeclareOption{in}{\def\@OEPOSdflt{i}}
6 \DeclareOption{out}{\def\@OEPOSdflt{o}}
```

Vertical caption placement

```
7 \DeclareOption{top}{\def\@CPOSdflt{t}}
8 \DeclareOption{center}{\def\@CPOSdflt{c}}
9 \DeclareOption{bottom}{\def\@CPOSdflt{b}}
```

Photographer line placement

```
10 \DeclareOption{under}{\def\@PPOSdflt{u}}
11 \DeclareOption{side}{\def\@PPOSdflt{s}}
```

3.2 Option default and processing

```
12 %\edef\@POS@DFLT{\@OEPOSdflt\@CPOSdflt\@PPOSdflt}
13 \ExecuteOptions{out,center,under}
14 \ProcessOptions
```

3.3 A conditional test for an odd/even page

`\ifoddpage` Like `\@ifundefined`, but test whether page is odd. If no label is supplied, one is made up. Whichever label is used is returned in `\ifoddpagelabel`, so a made-up label can be reused. Thanks to David Carlisle `carlisle@cs.man.ac.uk` for getting me on track for deciding whether we are on an odd or even page.

```
15 \newcount\oe@labcnt
16 \newcommand\ifoddpage[3][]{%
17 % make a label if none given
18 \edef\ifoddpagelabel{#1}%
19 \ifx\ifoddpagelabel\empty
20 \global\advance\oe@labcnt 1%
21 \edef\ifoddpagelabel{oelbl@\romannumeral\oe@labcnt}%
22 %\typeout{empty label: using \ifoddpagelabel}%
23 \label\ifoddpagelabel
24 \fi
25 % execute either YES or NO
26 %\typeout{\ifoddpagelabel, 0\pageref{\ifoddpagelabel},
27 %  r@\ifoddpagelabel, \csname r@\ifoddpagelabel\endcsname,
28 %  \page@ref@@\ifoddpagelabel}%
29 %\ifodd0\pageref{\ifoddpagelabel}\def\oe@temp{#2}\else\def\oe@temp{#3}\fi
30 \ifodd0\page@ref@@\def\oe@temp{#2}\else\def\oe@temp{#3}\fi
31 \oe@temp
32 }
```

\page@ref@@ The babel package \protect's \pageref, which then becomes useless for \ifodd. We emulate the original unprotected definition of the LaTeX kernel (is there a better solution?).

```
\newcommand\page@ref@@{\expandafter\expandafter\expandafter
\@secondoftwo\csname r@\ifoddpagelabel\endcsname}
```

3.4 Vertical box alignment

Shift the baseline of the argument to the top edge, center, bottom edge respectively.

```
\newcommand\boxbaset{\raisebox{-\height}}
\newcommand\boxbaseb{\raisebox{\depth}}
\newcommand\boxbasec[1]{\raisebox{-0.5\totalheight}{\boxbaseb{#1}}}
```

3.5 A new float type for photos

A new float type. As for figures and tables.
counter, names, file extension, default placement

```
\newcounter{photo}
\renewcommand\thephoto{\@arabic\c@photo}
\newcommand\photoname{Photo}
\newcommand\listphotoname{List of Photos}
\def\fps@photo{tbp}
\def\ftype@photo{4}
\def\ext@photo{lop}
\def\fnum@photo{\photoname~\thephoto}
```

The default photo placement can be changed with this command:

```
\newcommand\defaultphotoplacement[1]{\def\fps@photo{#1}}
```

single-column float

```
\newenvironment{photo}%
               {\@float{photo}}%
               {\end@float}
```

double-column float

```
\newenvironment{photo*}%
               {\@dblfloat{photo}}%
               {\end@dblfloat}
```

Generate a list of photos. For the list of photos we need to take care of the document class. Do a crude job and use \chapter if it is defined, \section otherwise.

```
\newcommand\listofphotos{%
\begingroup
\csname lop@parskip\endcsname
\@ifundefined{chapter}{\section}{\chapter}*{\listphotoname
      \@mkboth{\MakeUppercase\listphotoname}%
              {\MakeUppercase\listphotoname}}%
    \@starttoc{\ext@photo}%
\endgroup
    }
```

A table-of-contents entry.

```
\newcommand*\l@photo{\@dottedtocline{1}{1.5em}{2.3em}}
```

3.6 Command for placing a photo

declare some variables

```
\newdimen\oecaptionsep
\newdimen\minoecaptionwidth
\newbox\oe@box
\oecaptionsep 10mm
\minoecaptionwidth 35mm
\newcommand\photographerfont{\tiny\sffamily}
```

\putphoto This command places a photo into the document. It does not produce a float!

```
\newcommand\putphoto[4][\@OEPOSdflt\@CPOSdflt\@PPOSdflt]{%
\par
\begingroup
\edef\@OEPOS{#1}\edef\@LAB{#2}\def\@PGR{#3}%
\setbox\oe@box\hbox{#4}%
\putphoto@ii
}

\newcommand*\putphoto@ii[2][]{%
\def\@TCAP{#1}\def\@CAP{#2}%
%
\def\@captype{photo}% make (photo-)\caption available outside float
%
\def\cap@width{\dimen0}% shortcut - w/o introducing a new variable
%
% process placement info
\def\@CPOS{\@CPOSdflt}\def\@PPOS{\@PPOSdflt}%
%\typeout{photo pos: ... \@OEPOS, \@PPOS, \@CPOS}%
\def\@tempb{\@tfor\@tempa:=}%
\expandafter\@tempb\@OEPOS\do{%
  %\typeout{loop: \@tempa}
  \if l\@tempa \def\@OEPOS{l}\else
  \if r\@tempa \def\@OEPOS{r}\else
  \if i\@tempa \ifx\@PGR\empty\else
\ifoddpage[\@LAB]{\def\@OEPOS{l}}{\def\@OEPOS{r}}\fi\else
  \if o\@tempa \ifx\@PGR\empty\else
\ifoddpage[\@LAB]{\def\@OEPOS{r}}{\def\@OEPOS{l}}\fi\else
  \if u\@tempa \def\@PPOS{u}\else
  \if s\@tempa \def\@PPOS{s}\else
  \if t\@tempa \def\@CPOS{t}\else
  \if c\@tempa \def\@CPOS{c}\else
  \if b\@tempa \def\@CPOS{b}\else
  \PackageError{photo}{illegal pos: \@tempa}{}%
  \fi\fi\fi\fi\fi\fi\fi\fi\fi}%
%\typeout{photo pos: ==> \@OEPOS, \@PPOS, \@CPOS}%
%
% calculate width available for caption:
\cap@width\columnwidth
\advance\cap@width-\wd\oe@box \advance\cap@width-\oecaptionsep
%
% place caption beside photo if there is enough space left, underneath
% otherwise:
\ifdim\minoecaptionwidth>\cap@width\photo@ucap\else\photo@scap\fi
\endgroup
}
```

photo with caption underneath

```
\newcommand\photo@ucap{%
\begingroup
\centering\parbox{\wd\oe@box}{%
\leavevmode\box\oe@box
\ifx\@PGR\empty\else
  \newline\photographerfont
  \if r\@OEPOS \raggedleft \fi
  \@PGR
\fi
}\par
\endgroup
\photo@caption
}
```

photo with caption beside

```
\newcommand\photo@scap{%
\abovecaptionskip\z@
```

```
\belowcaptionskip\z@
\leavevmode
\ifx\@PGR\empty\else\if s\@PPOS \if r\@OEPOS
  \rlap{\boxbaseb{\parbox{\cap@width}{%
    \photographerfont\raggedleft\@PGR}}}\fi\fi\fi
\boxbaseb{%
  \if l\@OEPOS
    \photo@lift{\wd\oe@box}{\box\oe@box}\hskip\oecaptionsep
      \photo@lift\cap@width\photo@caption
  \else
    \photo@lift\cap@width\photo@caption\hskip\oecaptionsep
      \photo@lift{\wd\oe@box}{\box\oe@box}%
  \fi
}%
\ifx\@PGR\empty\else
  \if u\@PPOS
    \newline\photographerfont\if r\@OEPOS \raggedleft \fi\@PGR
  \else\if l\@OEPOS
      \llap{\boxbaseb{\parbox{\cap@width}{\photographerfont\@PGR}}}\fi
  \fi
\fi
\par
}
```

This creates a parbox, with its baseline shifted to the top edge / centre / bottom edge.

```
\newcommand\photo@lift[2]{%
%\if t\@CPOS \raisebox{-\height}{\parbox{#1}{#2}}\else
%\if b\@CPOS \raisebox{\depth}{\parbox{#1}{#2}}\else
%\raisebox{-0.5\totalheight}{\raisebox{\depth}{\parbox{#1}{#2}}}\fi\fi
\csname boxbase\@CPOS\endcsname{\parbox{#1}{#2}}%
}
```

Set the caption, within the provided width.

```
\newcommand\photo@caption{%
\ifx\@CAP\empty\else
\ifx\@TCAP\empty
\caption{\@CAP}\else
\caption[\@TCAP]{\@CAP}\fi
\ifx\@LAB\empty\else\label\@LAB\fi
\fi
}
```

3.7 Environment for placing a floating photo

This environment produces a photo float, single-column if possible or double-column otherwise. It uses \putphoto.

```
\newenvironment{Photo}[3][\@OEPOSdflt\@CPOSdflt\@PPOSdflt]{%
\par
\begingroup
\edef\@OEPOS{#1}\edef\@LAB{#2}\def\@PGR{#3}%
%\Photo@ii
\@dblarg\Photo@ii
}{%
\end{lrbox}%
\def\@@t{photo}%
\if@twocolumn\ifdim\wd\oe@box>\columnwidth
% for this photo, the column width is effectively \textwidth
\def\@@t{photo*}\columnwidth\textwidth
\fi\fi
\expandafter\begin\expandafter{\@@t}%
\begingroup
\putphoto@ii[\@TCAPf]\@CAPf
\expandafter\end\expandafter{\@@t}%
\endgroup
}
```

continue with part 2

```
\newcommand\Photo@ii[2][]{%
\def\@TCAPf{#1}\def\@CAPf{#2}%
\begin{lrbox}\oe@box
}
```

3.8 Cross-referencing

The "photo" name shouldn't be hard-coded.

```
\newcommand\phref[1]{photo~\ref{#1}}
\newcommand\Phref[1]{\photoname~\ref{#1}}
```

⟨/package⟩

Change History

v0.0
General: TROG94.sty V3.0, Created out of TROG93.sty, V2.5, 20 Dec 93. 1
v1.0
General: Created from TROG94.sty, V4.1, 07 Feb 95. 1
v1.1
General: Changed args \oephoto. Environment OEphoto. 1
v1.1b
General: Commented bug. 1
v2.0
General: Added placements for photo, caption, photographer: \putphoto. Added \phref, \Phref. Introduced package options. 1
v2.00
General: Put under the LaTeX Project Public License (LPPL). 1
v2.1
General: Added \ifoddpagelabel. . . 1
v2.1b
General: Documentation. Commented out OEphoto-environment. 1
v2.1c
General: Changed \boxbasec to avoid brace error in some cases. 1
v2.1d
General: Put into docstrip format. First public release. 1
v2.1e
General: Fixed \phref, \Phref. . . . 1
v2.1f
General: Changed email, packaged with PDF. 1

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