Multicols with Pictures*

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Abstract

This templates is based on the article-class with the multicol-package. The multicol environment doesn't allow floating pictures, which are located in a column. Only the figure*-option is possible, which means textwide pictures over all colums. With this template you are able to insert pictures with a caption and a specific size.

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1 Introduction

the best way. All images are only for demonstration, without any sense ... ;-)

FIGURE 1.1: Japanese in Japanese with a width of 50% of columwidth

The only problem for non-floating figures is the missing option for a caption. Therefore I defined a new command, which insert pictures and gives the possibility for a caption. For the future a lof, a list of figures is planned. But this may take some times ...

日本語

FIGURE 1.2: Japanese in Japanese with a picturewidth of 20% of columwidth, which is sooooooooo small ... ;-), but with a soooooo long caption, which is much more longe than the image ...

This documentation is written in the templates style, so you can see, what you can get ... ;-) In this package is a real template-file which does not have all this text stuff, only the important LaTeX-preamble.

2 Packages

There are required packages for the template and some more only for this doc.

2.1 Required Packages

This template needs only the following LaTeXpackages:

- multicol
- graphicx

Both packages are often part of a standard LaTeX-Installation. Otherwise you can get it at CTAN or any other Tex-mirror:

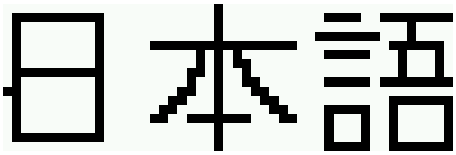

FIGURE 2.2: Japanese in Japanese with a picturewidth of 100% of columwidth

DANTE: `ftp://ftp.dante.de/tex-archive/...`

multicol: `ftp://.../macros/latex/required/tools/multicol.dtx`

graphicx: `ftp://.../macros/latex/required/graphics/graphicx.dtx`

2.2 Other Packages

There are some more packages used in this documentation, which are only important for this documentation and therefore not needed if you write some other stuff.

- url

2.2.1 Where to get the packages

First let me say, that I switched to a two-column mode ;-)

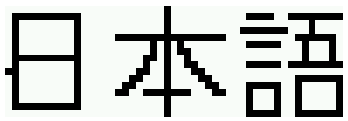

FIGURE 2.1: Japanese in Japanese with a picturewidth of 75% of columwidth

2.2.2 Installing the packages

Look at LaTeX or LyX documentation.

3 The commands

3.1 Insert Images

`\includegraphics` from the `\graphicx`-Package needs the eps-Format, so you must transform any other graphic-type. This is possible with a lot of different programs, e.g. `convert nihongo.gif nihongo.eps`

There are three parameters for the `\myFigure`-command:

imagewidth this is a factor, which is multiplied with the column-width, so that `0.75` gives a picture with a width-size of 75% of the colum. The height depends to the choosen width, so that the aspectratio is a constant value.

imagename with full path!

imagecaption if there are special charakters in this caption like % it's important, that you don't write this caption-text in tex-mode, means red. Have a look at the example file!

3.2 Set Columseparator

Space between the colums is saved in `\columnsep` and the command `myColumnSep` makes it only a bit easier to change this value. There is only one parameter:

columnsep this must be a value with a valid LaTeXunit, like cm, pt, ...

4 The code

4.1 LaTeX

- article.class (may be changed)
- language english
- all other options are the LyX-defaults

4.2 \multicol

```
\usepackage{multicol}
```

`\begin{multicols}{columns}` starts the multicol environment and `\end{multicols}` ends the environment.

4.3 \myFigure

```
\newcounter{myFCounter}[section]
\usepackage{graphicx}
\newcommand{\myFigure}[3]{%
    \begin{center}\begin{minipage}[t]{\columnwidth}%
    \begin{center}\refstepcounter{myFCounter}\vspace{1ex}%
    \includegraphics[width=#1\columnwidth,keepaspectratio]{#2}\ \\%
```

```
    \sc Figure \thesection .\arabic{myFCounter}:\ \rm #3
    \vspace{1ex}\end{center}%
    \end{minipage}\end{center}
}
```

```
myFigure{width1}{path/image.name}{captiontext}
```

vspace{1ex} the space above the image (the height of an lower x)

keepaspectratio can be changed to \verb/height=#2/, if you prefer four parameters, so that you can handle the pictre without a right aespectratio.

sc Small Caps, can be changed to any other captionstyle

thesection gives the sectionnumber

rm switches to roman style for the captiontext

4.4 \myColumnSep

```
\newcommand\myColumnSep[1]{%
  \setlength{\columnsep}{#1}%
}
```

It's called with

```
\myColumnSep{3cm}
```

The value must have a valid unit.