HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES

Faculty
Engineering and Computer Science

Package Documentation

Worksheet

Author:	Benjamin Zöllner (Benjamin.Zoellner@posteo.de)
Professor:	Prof. Dr. Markus Schmidt-Gröttrup
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Abstract

This package provides macros and an environment for easy worksheet creation: use the exercise environment for formating exercises in a simple, efficient design; make custom, automatically numbered worksheet titles in the same way as the LaTeX title macros; provide course and author information with a scrlayer-scrpage based automated header; conforming to different Babel languages (At this time only English, French and German are supported.).

This package is guaranteed to work with pdflatex and xelatex, only depending on scrlayer-scrpage and Babel. It is recommended to use xelatex including fontspec package and setting sans font to "Helvetica Neue" or "Raleway".

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Every ellipsis (. . .) in the following examples can be replaced with a string or text of any length.

Contents

1 Exercise Environment

An exercise containing minimal information is simply made with:

```
\begin{exercise}
...
\end{exercise}
```

In the optional argument of exercise, information "Score", "Learning Targets", "Occurrence" and "Difficulty" can be set independently of each other with:

```
\score{...}, \learningtargets{...}, \occurrence{...} and
                    \easy, \medium or \hard
```

Syntax

Placing a command to set specific exercise information outside of the optional argument of exercise will cause it *to do nothing*. Replace ellipses (...) at will, but even though whitespaces will be ignored, do not add any characters to the optional argument of exercise, **especially do not add any new-line characters or `\par` macros at all costs**.

```
\begin{exercise}[\score{...}\learningtargets{...}\easy]
...
\end{exercise}
or
\begin{exercise}[\score{...}\learningtargets{...}\medium]
...
\end{exercise}
or
\begin{exercise}[\score{...}\learningtargets{...}\hard]
...
\end{exercise}
```

Detailed information of an exercise is only shown, if *detailed information is available* and *specific flags are set*. The flags are by default not set. To set these flags use:

```
\worksheetShowFileName
\worksheetShowScore
\worksheetShowLearningTargets
\worksheetShowDifficulty
```

Deleting these flags is achieved with:

```
\worksheetHideFileName
\worksheetHideScore
\worksheetHideLearningTargets
\worksheetHideDifficulty
```

Example:

Including following source code in 4 different *.tex files using `\input{...}`:
"file1.tex"

```
\worksheetShowScore

\begin{exercise}[\score{10}\easy]
This exercise has a maximum score of 10 and easy difficulty
level. Following this, a certain exercise is described in a
sentence. Maybe there is another sentence which is not enough,
though. This last sentence should do.
\end{exercise}

\worksheetShowFileName
\worksheetShowLearningTargets
\worksheetShowDifficulty
\worksheetShowOccurrence
```

"file2.tex"

```
\begin{exercise}[\learningtargets{1, 2, 3}\medium]
This exercise satisfies learning targets one, two, three and has
medium difficulty level. Following this, a certain exercise is
described in a sentence. Maybe there is another sentence which
is not enough, though. This last sentence should do.
\end{exercise}
```

"file3.tex"

```
\begin{exercise}[\occurrence{Exam WS 2018}\score{20}]
This exercise was in an exam in winter semester in 2018,
satisfies learning targets 4,5 and has a maximum score of 10 and
hard difficulty level. Following this, a certain exercise is
described in a sentence. Maybe there is another sentence which
is not enough, though. This last sentence should do.
\end{exercise}

\worksheetHideFileName
```

"file4.tex"

```
\begin{exercise}[\score{30}]
This exercise has a maximum score of 30. Following this, a
certain exercise is described in a sentence. Maybe there is
another sentence which is not enough, though. This last sentence
should do.
\end{exercise}
```

lead to:

Exercise 1 Maximum Score: 10

This exercise has a max. score of 10 and easy difficulty level. Following this, a certain exercise is described in a sentence. Maybe there is another sentence which is not enough though. This last sentence should do.

Exercise 2

Difficulty Level: medium, Learning Targets: 1, 2, 3

This exercise satisfies learning targets 1, 2, 3 and has medium difficulty level. Following this, a certain exercise is described in a sentence. Maybe there is another sentence which is not enough though. This last sentence should do.

[file2]

Exercise 3 Maximum Score: 20

This exercise was in an exam in winter semester in 2018, satisfies learning targets 4,5 and has a max. score of 10 and hard difficulty level. Following this, a certain exercise is described in a sentence. Maybe there is another sentence which is not enough though. This last sentence should do.

[file3] [Exam WS 2018]

Exercise 4 Maximum Score: 30

This exercise has a max. score of 30. Following this, a certain exercise is described in a sentence. Maybe there is another sentence which is not enough though. This last sentence should do.

2 Worksheet Title

Both, title and subtitle, can be set with:

<div align="center">

`\worksheetTitle{...}` and `\worksheetSubTitle{...}`

</div>

The title itself is then displayed with `\worksheetMakeTitle`.

Example:

Assuming this document's file name would be "MyFile12-34.tex", using this source code

```
\worksheetTitle{My Title}
\worksheetSubTitle{My Subtitle}

\worksheetMakeTitle

\noindent Lorem ipsum dolor sit amet, consectetur adipiscing
elit. Nullam dapibus faucibus orci vel commodo. Quisque
tristique molestie dolor, eu euismod ligula malesuada ut.
```

lead to following title:

<div align="center">

My Title 12
My Subtitle

</div>

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam dapibus faucibus orci vel commodo. Quisque tristique molestie dolor, eu euismod ligula malesuada ut.

3 Header

Header information can be set with:

<center>`\worksheetAuthors`{...} and `\worksheetCourseName`{...}</center>

The authors are always placed on the inner side, while the course name is always placed on the outer side. In one-sided documents this would result in placing course name on the page's left side and authors on the page's right side. The default header of "scrlayer-scrpage" package is redefined (plus the default pagestyle is set to "headings") only, if at least authors or at least course name was set before.

    The package worksheet automatically tries to include "./lv.tex" which should define `\coursename` and `\authors` which are automatically associated as header information. Change the try-to-include file with: `\worksheetChangelvFile`{...}.

    If a KOMA document class is selected, worksheet automatically sets the header font family to "Sans Serif". Suppress this behaviour with: `\worksheetNoSFFamilyInHeader`.

    See *5 Dependencies - scrlayer-scrpage* for further information about controlling presence of the header.

Examples:

Results of following examples are shown in this page's header. All examples lead to the exact same header.

1. Example

Setting header information manually ("lv.tex" does not exist):

```
\worksheetAuthors{Example Author}
\worksheetCourseName{Example Header}

\begin{document}...
```

2. Example

Changing the directory path of "lv.tex" ("lv.tex" does exist in "./MySubDirectory/"):

```
\worksheetChangelvFile{./MySubDirectory/lv.tex}

\worksheetAuthors{Ignored Author}
\worksheetCourseName{Ignored Header}

\begin{document}...
```

Content of "MySubDirectory/lv.tex":

```
\def\coursename{Example Header}
\def\authors{Example Author}
```

Also a german version of "MYSubDirectory/lv.tex" is possible:

```
\def\lvname{Example Header}
\def\autoren{Example Author}
```

4 Conforming to Babel Languages

This package automatically changes its appearance to a specific language, after a specific language is selected with `\selectlanguage{...}`. Supported Babel languages are:

english, french, german and ngerman

Example:

Defining two different exercises in two different languages:

```
\worksheetShowScore
\worksheetShowLearningTargets
\worksheetShowDifficulty
\worksheetShowOccurrence

\begin{exercise}%
[\score{10}\easy\learningtargets{1, 2, 3}\occurrence{Exam WS 2018}]
This is an exercise written in english and described in a
sentence. Maybe there is another sentence which is not enough
though. This last sentence should do.
\end{exercise}

\selectlanguage{ngerman}

\begin{exercise}%
[\score{10}\easy\learningtargets{1, 2, 3}\occurrence{Klausur WS 2018}]
Dies ist eine in deutsch verfasste Aufgabe, die mit einem Satz
beschrieben wird. Vermutlich reicht dieser eine Satz jedoch
nicht aus. Dieser letzte Satz sollte ausreichen.
\end{exercise}
```

lead to:

Exercise 5   Maximum Score: 10

Difficulty Level: easy,   Learning Targets: 1, 2, 3

This is an exercise written in english and described in a sentence. Maybe there is another sentence which is not enough though. This last sentence should do.

[Exam WS 2018]

Aufgabe 6   Punkte: 10

Schwierigkeitsgrad: leicht,   Lernziele: 1, 2, 3

Dies ist eine in deutsch verfasste Aufgabe, die mit einem Satz beschrieben wird. Vermutlich reicht dieser eine Satz jedoch nicht aus. Dieser letzte Satz sollte ausreichen.

[Klausur WS 2018]

5 Dependencies

All dependencies are listed in this Section. Compiling this package with *pdflatex* and *xelatex* is guaranteed.

scrlayer-scrpage

The Package worksheet uses *scrlayer-scrpage* to control header. Use

$$\pagestyle\{plain\} \text{ or } \thispagestyle\{plain\}$$

to hide and

$$\pagestyle\{headings\} \text{ or } \thispagestyle\{headings\}$$

to show worksheet header. Per default *scrlayer-scrpage's* header is redefined and – per default – pagestyle "headings" is selected; suppress all this behaviour by calling `\worksheetHideHeader` **before** `\begin{document}`.

Babel

The package worksheet redefines `\selectlanguage{...}` keeping the original macro functionality plus checking the selected language's support and changing the internal language if the selected language is supported.