

HsH-Classes — A set of \LaTeX classes for use in Hochschule Hannover *

Jan Wille[†]

Printed 25.04.2024

Maintained on https://lab.it.hs-hannover.de/qxx-tul-u1/latex-template-hsh

Contents

1 The different classes	2	5.2.3 Loading the parent class	9
2 Document options	2	5.3 Package loading	9
2.1 Generic options share by all classes	2	5.3.1 Ensuring German works	10
2.2 Options for modifying the document	2	5.3.2 Generally usefull packages	10
2.3 Standalone specific options	3	5.3.3 Options for packages that could be loaded by the user	11
3 Provided commands	4	5.4 Custom commands	12
3.1 Title matters	4	5.4.1 Document seperation commands	12
3.2 Commands for document writing	4	5.4.2 The Logo for Hochschule Hannover	12
3.3 Default \LaTeX Commands that are modified	4	5.4.3 Title matters	13
4 Package laoding	5	5.4.4 Commands for document writing	13
4.1 Allways loaded packages	5	5.4.5 Micalanious commands	15
4.2 Conditionally loaded Packages	5	5.5 Document setup	15
4.3 Pre-configured Packages	5	5.5.1 Fonts and text styling	15
5 Implementation	5	5.5.2 Page layout	15
5.1 Internal commands	5	5.5.3 Styling \LaTeX default constucts	15
5.2 Option handeling	6	5.5.4 Header and footer	16
5.2.1 Unknown options	9	5.5.5 Titlepage	17
5.2.2 Default options	9	6 Change History	21

Abstract

The following documents a set of \LaTeX classes created for the Hochschule Hannover. They are intended to ease the workflow when writing documents by providing a common formating basis that should work for pretty much everything a student will be expected to write. This can be simple one-paged documents, excercises, lab-reports, papers or bachelors and masters thesises.

The classes provide interfaces to modify commend requiriements, provide commands to get specifics like the logo and provide and pre-configure comonly needed packages. This should get you going imidealty and reduce the setuptime significantly.

*This file describes version 3.01, last revised 2024-04-25.

[†]E-mail: mail@janiwille.de

1 The different classes

The project classes provided by the Project all carry the HsH- prefix. Here is a list of the available classes and some explanation on when to use which class.

HsH-article	A article-class based on KOMA-Scripts scrartcl. It is designed for quick and compact documents and is useful for writing lab-protocols and alike. It does not have chapters and therefore never breaks to a new page on its own.
HsH-report	A report-class based on KOMA-Scripts scrreprt. This is probably the most useful class, as it can be used for a wide variety of documents (beginning with lab-reports and ending at complete thesis). The line between article and report is somewhat blurry, so use as you see fit.
HsH-standalone	A helper class based based on the standalone class. It is designed only for creating images as separate documents to keep things organized and compiler times low. It is useful for creating graphs, circuit diagrams or other kind of complex sub documents.

2 Document options

To configure the behavior and style of documents using this class, options can be passed via the `\documentclass[<options>]{<document-class>}` command.

It should be noted that all unknown keys will be passed to the parent class and a log-message issued.

2.1 Generic options share by all classes

These Options are available regardless of documentclass and modify common things.

`fontfamily` The `fontfamily=<opt>` option configures which font-style is used. For convenience there are also short-forms provided. The available options are:

`sans`
`roman`

`sans` | `sans-serif` A sans-serif font is used (similar to Arial)
`roman` | `serif` A serif font is used (similar to Times-new-Roman)

`language` The `language=<opt>` option set the main language you write in. It ensures texts like auto-generated headings are localised properly. You can pass in any language-name understood by the babel package. German is the default. For convenience there are also short-forms provided.

`english`
`german`

`todos` The `todos` option is a simple switch that activates support for the `todonotes` package. It enables/disables the package as well as increasing the pagewidth to make space for the notes. You can use the commands from the package to make notes and other annotations (similar to how MS-Words comments work). When you pass `off` | `false` all the annotation will disappear from the PDF while still being in the source.

Note: setting `todos=off` after having used the option will mostly produce compilation errors. These will go away after you remove the temporary files.

2.2 Options for modifying the document

The following options are only available for documents (so not utility classes).

`linespacing` The `linespacing=<opt>` option configures the spacing in between lines. For convenience there are also short-forms provided. The available options are:

`singlespacing`
`onehalfspacing`
`doublespacing`

`single` No additional space is added in between lines.
`onehalf` Approximately half a line of empty space is added in between lines.
`double` About a full lineheight is left in between lines.

`parskip` The `parskip=<opt>` option configures the spacing in between paragraphs. This is an option originally implemented by KOMA-Script (see [its manual](#)) so all its options apply. The class only adds additional options.

For your convenience the relevant options are also listed here:

<code>false off</code>	Paragraphs are identified by indentation of the first line by 1em. There is no spacing requirement at the end of the last line of a paragraph.
<code>full true on</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least 1em of free space at the end of the last line of the paragraph.
<code>full-</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There is no spacing requirement at the end of the last line of a paragraph.
<code>full+</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least a third of a line of free space at the end of a paragraph.
<code>full*</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>half</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least 1em free space at the end of the last line of a paragraph.
<code>half-</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There is no spacing requirement at the end of the last line of a paragraph.
<code>half+</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least a third of a line of free space at the end of a paragraph.
<code>half*</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>never</code>	No inter-paragraph spacing will be inserted even if additional vertical spacing is needed for vertical adjustment with <code>\flushbottom</code> .
<code>never+</code>	No inter-paragraph spacing will be inserted. There must be at least a third of a line of free space at the end of a paragraph.
<code>never*</code>	No inter-paragraph spacing will be inserted. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>headheight</code>	The <code>headheight=<dim></code> option allows you to set the required size of the header. You may need to modify this if you get a <code>\headheight to low</code> error message. The emssage should tell you what value you need, but you can pass any valid length.

Often relevant KOMA-Script options

The following options are implemented by the parent classes and only listed here for completeness. For more details, see [its manual](#).

<code>fontsize</code>	The <code>fontsize=<size></code> options takes a size in pt. It is usually in the range of 10-12, but other sizes can work as well.
<code>paper</code>	The <code>paper=<size></code> options accepts a number of options, most ISO formats are supported, but also others like letter or legal.
<code>twoside</code>	The <code>twoside</code> option sets your document up for double-sided printing. The header and footer will take this into account and binding-correction will be applied along the inner edge.
<code>BCOR</code>	The <code>BCOR=<dim></code> option allows you to define a custom binding-correction. Any valid length can be put here, but too large of a value will shrink the outer margin to a not-desirable level.

2.3 Standalone specific options

The standalone utility class has some special options which are documented here.

<code>margin</code>	The <code>margin=<dim></code> option controls how much whitespace is added around your standalone document. This usually looks better which is why the default is 0.25 cm, but you can suppress it by passing 0 cm.
<code>multi</code>	The <code>multi=<opt></code> option defines which environment makes up a page. It can be passed more than once.

3 Provided commands

The classes define a set of commands which are explained in the following section.

`\HsHClassName` Each class defines the macro `\HsHClassName` to contain its classname. This is mostly usefull so internals can reuse the classname, but you could also check against it if you needed to.

3.1 Title matters

\LaTeX has a set of default commands which are used to define data for the titlepage, like `\title` or `\author`. The classes define a few additional commands, which are documented her.

`\matrikelnr` The `\matrikelnr{<nr[, ..]>}` macro sets the matrikelnumber of the author(s). It can be a single number or a comma seperated list of numbers. The numbers will be matched to the authors passed into `\author`.

`\professor` You can pass any text to `\professor{<text>}`, it will be printed on the bottom of the titelpage.

`\keywords` This macro can be used to define keywords which are relevant to your document. They will be printed as part of the abstract and be put into the PDF's meta-data.

Modifying the Logo

`\HsHlogoPath` The logo is loaded from a file whos name is read from `\HsHlogoPath`. Change it to use a different logo-file.

`\HsHlogoPage` As the PDF file can hae multiple pages, the `\HsHlogoPage` command stores which page to load.

`\includeHsHlogohere` The macro `\includeHsHlogohere[<width>]` is used by `\maketitle` to produce the logo. But if you want it elsewhere, you cann call this macro yourself.

3.2 Commands for document writing

The following commands will be usefull to you when writing a document.

`\declarationofauthorship` The command `\declarationofauthorship[<align>]` can be used to print a "declatation of authorship" in the current location, similar to how `tableofcontents` and `friends` work. It will produce a horizontal line, a text block containing the regulatory text and a signature block for every author. The command is localised for both english and german. Using the optional argument, you can define the positioning. Pass `t` for alignment at the top of the page and `b` for bottom alignment (*default*).

The three commands `\frontmatter`, `\mainmatter` and `\backmatter` are provided for report classes. They separete document section and automatically set up `pagenumer` styles.

`\frontmatter` `\frontmatter` set the `pagenumers` to capital roman numerals. This is usually required for everything before the first chapter.

`\mainmatter` `\mainmatter` sets the `pagenumbering` to "normal" arabic numbers. This is usually the style for the document content.

`\backmatter` `\backmatter` can be used for apendixes and alike. It sets the `pagenumbering` to small roman numerals.

3.3 Default \LaTeX Commands that are modified

Additionally, some of \LaTeX s default commands are moddified to better fit this class. This is documented here.

`\title` The `\title[<short-title>]{<title>}` command now takes an additional, optional argument. You can use it for a shorter version of your title, that will be used in the header to save on space.

`\maketitle` The `\maketitle` command if \LaTeX default way to create a titlepage. We redefine it to produce a titlepage that matches the sytel typically used on the Hochschule Hannover. This incudes the logo beeing printed, depending on the `f1` to `f5` `documentoptions`. The command now also takes an options alignment-parameter: `\maketitle[<align>]`. You can pass `l` | `c` | `r` to get *left*, *center* or *right* alignment.

4 Package loading

The classes load some packages for internal use as well as loading and configuring common use packages. The details are documented in the following section.

4.1 Allways loaded packages

fontenc for output encoding, set to the european character set
babel for language-specific typesetting
bookmark creates bookmarks in the PDF
hyperref for easy referencing and linking
caption to customize captions and make references point to the beginning of the floats
graphicx for importing and manipulating images
amsmath,amssymb,amsfonts more options when typesetting math
lmodern sets up the Latin-Modern font
setspace used for configuring linespacing

There are also some packages for internal functionality that shouldn't concern the user, but they are listed here for completeness.

scrbase
pgffor

4.2 Conditionally loaded Packages

A subset of packages is only loaded (or loaded with specific options) depending on options passed to the package

babel gets configured depending on language
csquotes for language-specific quotations marks
ziffer only loaded for German documents, sets comma as decimal separator
todonotes loaded depending on todos

4.3 Pre-configured Packages

These packages are configured by the class to work in a cooperative way. The user must load them in this preamble via `\usepackage{<pkg-name>}` however, as loading them always bears additional, unnecessary overhead.

5 Implementation

5.1 Internal commands

`\HsHClassName` The classname of specific class is stored in the `\HsHClassName` which gets used throughout the code.

```
1 \let\HsHClassName\@currname
```

There is also a second macro `\HsHClassName@ParentClass` which stores the parent class name.

```
2 \def\HsHClassName@ParentClass{%  
3 <article> scrartcl%  
4 <report> scrreprt%  
5 <standalone> standalone%  
6 }
```

5.2 Option handling

The options are handled using features provided by the KOMA-Script ecosystem. To get access to this the `srcbase` package is loaded.

```
7 \RequirePackage{srcbase}
```

We also require some packages for some of the option, these are loaded next.

```
8 \RequirePackage{setspace}
```

A new family of keys is created and shared by all elements of this project. For that the `\DefineFamily` macro is used. The family name is *HsH*, matching the usual prefixes.

```
9 \DefineFamily{HsH}
```

Additionally each class-file represents a member in the family. This is defined using the `\DefineFamilyMember` macro. It's optional argument is set to the current filename by default, so we do not need to specify it, just the family name to attach it to.

```
10 \DefineFamilyMember{HsH}
```

`\HsH@Options@PassToParent` To be able to pass options to the parent class where needed easily, a command is defined. It also issues a log-message.

```
11 \newcommand{\HsH@Options@PassToParent}[1]{%
12   \ClassInfoNoLine{\HsHClassName}{passing option to parent class: #1}%
13   \PassOptionsToClass{#1}{\HsHClassName@ParentClass}%
14 }
```

`\HsH@Options@DeclareAlias` It is also useful to have short-versions of options. The following commands make it easy to declare these.

```
15 \newcommand{\HsH@Options@DeclareAlias}[3][HsH]{%
16   \DeclareOption{#2}{\FamilyExecuteOptions{#1}{#3}}%
17 }
```

`fontfamily` The first option to be defined is `fontfamily`. It's defined as a *Numerical* key so that it can accept multiple options and map them to a switch case.

```
18 \DefineFamilyKey{HsH}{fontfamily}{
19   \begingroup
20     \FamilySetNumerical{HsH}{parskip}{@tmp}{%
21       {sans}{0}, {sans-serif}{0},%
22       {roman}{1}, {serif}{1},%
23     }{#1}
24     \ifx\FamilyKeyState\FamilyKeyStateProcessed
25       \aftergroup\FamilyKeyStateProcessed
26       \ifcase@tmp% 0
27         \endgroup
28         \renewcommand{\familydefault}{\sfdefault}
29         \if@atdocument\AfterKOMAoptions{\selectfont}\fi
30       \or% 1
31         \endgroup
32         \renewcommand{\familydefault}{\rmdefault}
33         \if@atdocument\AfterKOMAoptions{\selectfont}\fi
34       \else% should never be
35         \endgroup
36       \fi
37     \else
38       \endgroup
39       \FamilyKeyStateUnknownValue
40     \fi
41 }
```

`sans` For convenience, there are also two short-versions defined.

```
roman 42 \HsH@Options@DeclareAlias{sans}{fontfamily=sans}
43 \HsH@Options@DeclareAlias{roman}{fontfamily=roman}
44 \*!standalone
```

`linespacing` The `linespacing` options is also a *Numerical* option, mapping to three cases. They execute the appropriate commands of the `setspace` package.

```

45 \DefineFamilyKey{HsH}{linespacing}{%
46   \begingroup
47     \FamilySetNumerical{HsH}{linespacing}{@tempa}{%
48       {single}{0},%
49       {onehalf}{1},%
50       {double}{2},%
51     }{#1}
52   \ifx\FamilyKeyState\FamilyKeyStateProcessed
53     \aftergroup\FamilyKeyStateProcessed
54     \ifcase \@tempa% 0
55       \endgroup
56       \if@atdocument\singlespacing\else\AtEndOfClass{\singlespacing}\fi
57     \or% 1
58       \endgroup
59       \if@atdocument\onehalfspacing\else\AtEndOfClass{\onehalfspacing\AfterTOCHead{\singlespacing}}\fi
60     \or% 2
61       \endgroup
62       \if@atdocument\doublespacing\else\AtEndOfClass{\doublespacing\AfterTOCHead{\singlespacing}}\fi
63     \else% should never be
64       \endgroup
65     \fi
66   \else
67     \endgroup
68     \FamilyKeyStateUnknownValue
69   \fi
70 }
71 }
```

`singlespacing` For convenience, there are also these short-versions defined.

```

onehalfspacing 72 \HsH@Options@DeclareAlias{singlespacing}{linespacing=single}
doublespacing 73 \HsH@Options@DeclareAlias{onehalfspacing}{linespacing=onehalf}
               74 \HsH@Options@DeclareAlias{doublespacing}{linespacing=double}
```

`parskip` The `parskip` option is special in that it originally a KOMA-Script option that get expanded by this class. Only two new cases are defined here and everything unknown gets passed to the parent class.

It should also be noted that this option can't execute its code immediately, as the commands needed are only defined later when the parent class loads in. So the `\setparsizes` command is pushed into a hook.

```

75 \DefineFamilyKey{HsH}{parskip}{%
76   \begingroup
77     \FamilySetNumerical{HsH}{parskip}{@tempa}{%
78       {never+}{0},%
79       {never*}{1},%
80     }{#1}
81   \if@atdocument
82     \ClassError{\HsHClassName}{
83       option 'parskip' can only be configured in preamble!
84     }
85   \fi
86   \ifx\FamilyKeyState\FamilyKeyStateProcessed
87     \aftergroup\FamilyKeyStateProcessed
88     \ifcase \@tempa% 0
89       \endgroup
90       \AtEndOfClass{\setparsizes{\z@}{\z@}{.3333\linewidth \@plus 1fil}}
91     \or% 1
92       \endgroup
93       \AtEndOfClass{\setparsizes{\z@}{\z@}{.25\linewidth \@plus 1fil}}
94     \else% should never be
95       \endgroup
96     \fi
```

```

97  \else
98  \endgroup
99  \HsH@Options@PassToParrent{parskip=#1}
100 \FamilyKeyStateProcessed
101 \fi
102 }

```

`headheight` The `headheight` option just set the `\headheight` to the given value.

```

103 \def\HsH@opt@headheight{}
104 \FamilyStringKey{HsH}{headheight}{\HsH@opt@headheight}
105 \AtEndOfClass{%
106   \headheight=\HsH@opt@headheight%
107 }

```

For the `twoside` option we only redefine the default, everything else is handled by the parent class.

```

108 \DefineFamilyKey{HsH}{twoside}[semi]{%
109   \HsH@Options@PassToParrent{twoside=#1,BCOR=1cm}
110   \FamilyKeyStateProcessed
111 }
112 \!/standalone)

```

`\HsH@opt@language` First, the macro to store the languages name in is created. The default is `nil`, as babel will see this as no-language.

```

113 \def\HsH@opt@language{nil}

```

`language` The key is then defined to store its value inside the command. This allows the option to be called multiple time, but only the last set value will be passed on to babel.

```

114 \FamilyStringKey{HsH}{language}{\HsH@opt@language}

```

`english` For convenience, there are also these short-versions defined.

```

german 115 \HsH@Options@DeclareAlias{english}{language=english}
ngerman 116 \HsH@Options@DeclareAlias{german}{language=ngerman}
117 \HsH@Options@DeclareAlias{ngerman}{language=ngerman}

```

`\HsH@opt@faculty` As we need a default value that is not zero, the macro needs to be defined and initialised manually.

```

118 \def\HsH@opt@faculty{1}

```

`faculty` The `faculty` options is once again a *Numerical* option, mapping the five faculties and storing the selected one in `\HsH@opt@faculty`.

```

119 \FamilyNumericalKey{HsH}{faculty}{\HsH@opt@faculty}{%
120   {0}{1}, {none}{1}, {false}{1}, {off}{1}%
121   {1}{2}, {f1}{2},%
122   {2}{3}, {f2}{3},%
123   {3}{4}, {f3}{4},%
124   {4}{5}, {f4}{5},%
125   {5}{6}, {f5}{6},%
126 }

```

`f1` For convenience, there are also these short-versions defined.

```

f2 127 \HsH@Options@DeclareAlias{f1}{faculty=f1}
f3 128 \HsH@Options@DeclareAlias{f2}{faculty=f2}
f4 129 \HsH@Options@DeclareAlias{f3}{faculty=f3}
f5 130 \HsH@Options@DeclareAlias{f4}{faculty=f4}
131 \HsH@Options@DeclareAlias{f5}{faculty=f5}

```

`todos` The boolean option `todos` is simply created using the commands from `scrbase`. Boolean options already default to `\true` if called without an argument, so no need to define an explicit alias.

```

132 \FamilyBoolKey{HsH}{todos}{@todos}

```


For the standalone class the `fontsize` option is mocked to present a standardised interface. A user might expect this option to be passable to this class and we should create an annoying error just for this.

```

133 <standalone>
134 \DefineFamilyKey{HsH}{fontsize}{%
135   \ClassInfoNoLine{\HsHClassName}{The 'fontsize' option is only a mock, its has not effect}
136   \FamilyKeyStateProcessed
137 }
138 </standalone>

```

5.2.1 Unknown options

Unknown options will be passed to the parent class. For that a `@else@` key is defined on the `HsH` family, which will be executed for every unknown key-value option. Unknown bare options are handled by the `\DeclareOption*` command and will be passed there.

```

139 \DefineFamilyKey{HsH}{@else@}{
140   \HsH@Options@PassToParrent{#1}
141   \FamilyKeyStateProcessed
142 }
143 \DeclareOption*{
144   \HsH@Options@PassToParrent{\CurrentOption}
145 }

```

5.2.2 Default options

The different classes all execute a set of default options, which is handled by the following code.

```

146 \FamilyExecuteOptions{HsH}{%
147   fontfamily=sans-serif,
148 <standalone>
149   fontsize=11pt,
150   language=ngerman,
151 <article>   parskip=never+,
152 <report>   parskip=half+,
153   linespacing=single,
154   headheight=2.15\baselineskip,
155 </standalone>
156 <article | report>
157   toc=listof,
158   toc=bibliography,
159 </article | report>
160   faculty=none,
161 <standalone>
162   margin=0.25cm,
163   multi=tikzpicture,
164   multi=circuitikz,
165 </standalone>
166 }

```

Now we can process the options for the `HsH` family.

```

167 \FamilyProcessOptions{HsH}\relax

```

5.2.3 Loading the parent class

```

168 \LoadClass{\HsHClassName@ParrentClass}

```

5.3 Package loading

The classes load and configure some common packages to reduce the needed amount of boilerplate code in your preamble.

Additionally there are settings provided for packages that are used more rarely, but will be set up correctly if you decide to load them via `\usepackage{}`.

5.3.1 Ensuring German works

With modern LaTeX systems the encoding of inputfiles is UTF-8 by default, so the inputenc package is no longer required. Should the user still use a old setup or use a different encoding, he is responsible for loading inputenc himself.

The font-encoding for the pdf file is also set up to allow for the full european characterset.

```
169 \RequirePackage[T1]{fontenc}
170 \RequirePackage{type1ec}
```

To ensure localised translations of all displayed text automatically depend on the user-selected language, the babel package is loaded. This also allows for the use of the \iflanguage command, which is relevant later.

```
171 \RequirePackage[main=\HsH@opt@language]{babel}
```

Quotationsmarks are also very different between languages, so the following ensures the correct style for the correct language.

```
172 \RequirePackage[autostyle=true]{csquotes}
173 \MakeOuterQuote{"}
```

German uses a comma as the decimal separator, which collides with LaTeX's default english setting of using the comma as a thousands separator and therefore replacing it with some whitespace on printed version. Luckily loading the ziffer package sets this up to match the german standart.

```
174 \iflanguage{ngerman}{\RequirePackage{ziffer}}{}
```

5.3.2 Generally usefull packages

We load hyperref for clickable links and configure it to write meta-data to the PDF.

```
175 \RequirePackage[hidelinks]{hyperref} % must load before 'bookmarks'
176 \RequirePackage{bookmark}
177 <!*standalone>
178 \AtBeginDocument{
179   \hypersetup{
180     pdfinfo={
181       Title={\@title},
182       Author={\@author},
183       Subject={\@subject},
184       Keywords={\@keywords}
185     }
186   }
187 }
188 </!standalone>
```

The todonotes package is greate for anotation, but extremly expensive on compiletime. So we load it only if the user requests it. Also its commands are stubed, so that they can be left in the sourcecode and jut not output anything.

```
189 \if@todos
190   \PassOptionsToPackage{
191     textsize=small,
192     figwidth=.6\textwidth
193   }{todonotes}
194   \RequirePackage{todonotes}
195 \else
196   \newcommand{\listoftodos}[1]{}
197   \newcommand{\todo}[2][ ]{}
198   \newcommand{\missingfigure}[2][ ]{}
199 \fi

200 \RequirePackage[hypcap=true]{caption}
201 \RequirePackage{graphicx}
202 \RequirePackage{amsmath,amssymb,amsfonts}
203 \RequirePackage{svgnames}{xcolor}
```

5.3.3 Options for packages that could be loaded by the user

Some package are not always needed and potentially heavy to load in by default. But its still usefull to set default options for these packages.

These differ from the settings provided in `HsH-classes.cfg` in that they are defaults that apply allway and not user-configurable preferences which are user or even project specific.

For the bibtex we ensure the *biber* backend is selcted, which matches the settings in `.latexmkrc`.

```
204 <*article|report>
205 \PassOptionsToPackage{backend=biber}{biblatex}
206 \AtBeginDocument{
207   \makeatletter
208   \@ifpackageloaded{biblatex}{
209     \renewcommand*{\mkbibacro}[1]{\MakeUppercase{#1}}
210   }{}%
211   \makeatother
212 }
213 </article|report>
```

For bibtex we load the free-standing units, mostly for backwards compatibility. We also ensure german language specific settings are applied.

```
214 \PassOptionsToPackage{free-standing-units}{siunitx}
215 \AtBeginDocument{
216   \makeatletter
217   \@ifpackageloaded{siunitx}{
218     \iflanguage{ngerman}{
219       \sisetup{output-decimal-marker={,}}
220     }{}
221   }{}
222   \makeatother
223 }
```

For better compatibility with the listings package we load the scrhack package. We also pass some configurations to if it gets loaded.

```
224 \RequirePackage{scrhack}
225 \AtBeginDocument{
226   \makeatletter
227   \@ifpackageloaded{listings}{
228     \RequirePackage{lstautogobble}\lstset{autogobble=true}
229     \iflanguage{ngerman}{
230       \lstset{iterate={Ö}{\0}}1{Ä}{\A}1{Ü}{\U}1{ß}{\ss}1{ü}{\u}1{ä}{\a}1{ö}{\o}
231     }{}
232   }{}
233   \makeatother
234 }
```

The circuitikz needs bo be configure so it matches typical european styles.

```
235 \PassOptionsToPackage{european,EFvoltages,straightvoltages,betterproportions}{circuitikz}
```

For other packages we provide the settings more as a recomendation of what is usefull.

As the user might want to change these, we outsource this to a seperat file and input it `\AtBeginDocument`. That way the user can just replace the file with his custom version.

```
236 \AtBeginDocument{
237   \makeatletter
238   \InputIfFileExists{HsH-classes.cfg}{
239     \ClassInfo{\HsHClassName}{Local config file HsH-classes.cfg used.}
240   }{
241     \ClassInfo{\HsHClassName}{No HsH-classes.cfg!! I hope you configered it yourself.}
242   }
243   \makeatother
244 }
```

5.4 Custom commands

5.4.1 Document separation commands

The following commands are only defined for book type classes by default. But they are also useful for the report class, so we define them in that case.

```
245 \<report>
```

`\if@mainmatter` We define a switch which stores if the document is currently at a mainmatter section. It defaults to true as the user needs to explicitly set the state to something different.

```
246 \newif\if@mainmatter\@mainmattertrue
```

As a page number change requires a fresh page, this is ensured first. We also need to make sure that on a two-sided document, the first page is always on the left.

`\frontmatter` The page numbering is set to capital roman numerals.

```
247 \newcommand{\frontmatter}{
248   \if@twoside\cleardoubleoddpage\else\clearpage\fi
249   \@mainmatterfalse\pagenumbering{Roman}
250 }
```

`\mainmatter` The page numbering is set to arabic numerals.

```
251 \newcommand{\mainmatter}{
252   \if@twoside\cleardoubleoddpage\else\clearpage\fi
253   \@mainmattertrue\pagenumbering{arabic}
254 }
```

`\backmatter` The page numbering is set to arabic numerals.

```
255 \newcommand{\backmatter}{
256   \if@openright\cleardoubleoddpage\else\clearpage\fi
257   \@mainmatterfalse\pagenumbering{roman}
258 }
```

```
259 \</report>
```

5.4.2 The Logo for Hochschule Hannover

The following macros are responsible for creating the logo. They load a specific page of a PDF file and display it.

`\HsHlogoPath` This macro contains the path to load the PDF from. It defaults to HSH-Logo.pdf, which is provided by this project inside the `scr/` folder.

```
260 \newcommand{\HsHlogoPath}{HSH-Logo.pdf}
```

`\HsHlogoPage` This macro stores the page to use from the PDF. It will be set via the document option `faculty`.

```
261 \newcommand{\HsHlogoPage}{\HsH@opt@faculty}
```

`\includeHsHlogohere` Calling this macro produces the logo in-place. You can specify the width as an optional argument. The default is 5 cm.

If the file provided via `\HsHlogoPath` doesn't exist, the command will produce an error.

```
262 \newcommand{\includeHsHlogohere}[1][5cm]{
263   \IfFileExists{\HsHlogoPath}{
264     \includegraphics[width=#1,page=\HsHlogoPage]{\HsHlogoPath}
265   }{
266     \ClassError{\HsHClassName}{\HsHlogoPath\space not found!}{
267       The HsH Logo is necessary for the titlepage! Try putting it next to your source file or u
268     }
269   }
270 }
```

5.4.3 Title matters

271 (*article | report)

The following commands relate to the creation of the titlepage. They implement how the user can define the different datafields.

First the \@author macro is set to \@empty, this makes it easier to handle it later.

272 \let\@author\@empty

\title We redefine the \title command to take an optional argument. This is stored in the additional \@shorttitle macro.

273 \renewcommand{\title}[2][]{}

274 \gdef\@title{#2}

275 \gdef\@shorttitle{#1}

276 }

\@shorttitle This new macro stores a short version of the title. This will be used in places where the full title might overflow the available space.

277 \def\@shorttitle{\@empty}

\matrikelnr These macros set and store the matrikel-number (or set of numbers), which will be printed on the titlepage.

\@matrikelnr

278 \newcommand{\matrikelnr}[1]{\gdef\@matrikelnr{#1}}

279 \def\@matrikelnr{\@empty}

\professor These three macros-groups give options to the user to print people's names on the titlepage, who are relevant to the document, but not the author.

\firstexaminer 280 \newcommand{\professor}[1]{\gdef\@professor{#1}}

\secondexaminer 281 \def\@professor{\@empty}

\@professor 282 \newcommand{\firstexaminer}[1]{\gdef\@firstexaminer{#1}}

\@firstexaminer 283 \def\@firstexaminer{\@empty}

\@secondexaminer 284 \newcommand{\secondexaminer}[1]{\gdef\@secondexaminer{#1}}

285 \def\@secondexaminer{\@empty}

\keywords The macro-group defines and holds keywords which describe the document. They are used when printing the abstract as well as in the PDF's meta-data.

\@keywords

286 \newcommand{\keywords}[1]{\gdef\@keywords{#1}}

287 \def\@keywords{\@empty}

288 (/article | report)

5.4.4 Commands for document writing

\declarationofauthorship The declaration of authorship is not relevant for the standalone variant.

289 (*!standalone)

The pgffor package is required to handle the loop over the list of authors.

290 \RequirePackage{pgffor}

Now the command is defined. It takes an optional argument which defaults to b.

291 \newcommand{\declarationofauthorship}[1][b]{

First the argument is passed and an error raised for invalid arguments. Passing in b will push the declaration to the bottom of the page and add a horizontal line. Passing t simply adds some space.

292 \if#1b

293 \vspace*{\fill}

294 \hrule

295 \else\if#1t

296 \vspace*{2em}

297 \else

298 \ClassError{\HsHClassName}{Wrong Parameter for '\declarationofauthorship'}{

299 '\string\declarationofauthorship' only accepts 't' and 'b' as parameters.

300 }

301 \fi\fi

Now the actual declaration can be constructed. It uses the text from `\decofauthname` and `\decofauthtext`.

```
302 \vskip 3em
303 {\centering\bfseries\usekomafont{section}{\decofauthname}\par}
304 \vskip 3em
305 \decofauthtext\par
```

The last step is to loop over all authors by reading `\@author` and creating a signature box for each one. `\thanks` also needs to be cleared, as a footnote wouldn't make sense here.

```
306 \begingroup
307 \renewcommand{\thanks}{\sbox0}
308 \raggedleft
309 \foreach \tmp@ in \@author {
310 \if\tmp@empty\else
311 \hskip 1em \parbox{4cm}{
312 \vskip 4em
313 \hrule\vskip 4pt
314 \raggedleft\footnotesize\tmp@
315 }%
316 \fi
317 }\par
318 \endgroup
319 }
```

`\ifsingleauthor` To ensure `\decofauthtext` is properly spelled for one or multiple authors, we define a conditional that holds this information. Additionally we check the number of authors `\AtBeginDocument` and store it.

```
320 \newif\ifsingleauthor
321 \AtBeginDocument{
322 \begingroup
323 \newcount\count@
324 \count@=\z@
325 \@for\tmp@:=\@author\do{\advance\count@\@ne}
326 \ifnum\count@>\@ne\global\singleauthorfalse\else\global\singleauthortrue\fi
327 \endgroup
328 }
```

define the localised texts

```
329 \newcommand{\decofauthname}{Declaration of Authorship}
330 \newcaptionname{english}\decofauthname{Declaration of Authorship}
331 \newcaptionname{german,ngerman}\decofauthname{Selbstst\"andigkeitserkl\"arung}
332 %
333 \newcommand{\decofauthtext}{Language not supported!}
334 \newcaptionname{english}\decofauthtext{%
335 \ifsingleauthor{I}\else{We}\fi\space hereby certify that the work \ifsingleauthor{I}\else{we}
336 \ifsingleauthor{am}\else{are}\fi\space submitting is entirely of \ifsingleauthor{my}\else{our}
337 making except where otherwise indicated. \ifsingleauthor{I}\else{We}\fi\space
338 \ifsingleauthor{am}\else{are}\fi\space aware of regulations concerning plagiarism, including
339 disciplinary actions that may result from it. Any use of the works of any other author, in a
340 is properly acknowledged at their point of use.
341 }
342 \newcaptionname{german,ngerman}\decofauthtext{%
343 Hiermit best\{"a\}t\ifsingleauthor\else{n}\fi\space \ifsingleauthor{ich}\else{wir}\fi, dass
344 folgende Arbeit eigenst\{"a\}ndig von \ifsingleauthor{mir}\else{uns}\fi\space allein erstellt
345 unter Ber\{"u\}cksichtigung der zur Verf\{"u\}gung gestellten Aufgabenstellung sowie dem Arbeit
346 unter Angabe aller verwendeten Quellen erarbeitet wurde. Die Regelungen und Konsequenzen ein
347 Plagiats, inklusive disziplinarischer Ma\{"s\}nahmen, sind \ifsingleauthor{mir}\else{uns}\fi
348 bewusst. Insbesondere wurden alle Zitate und gedanklichen \{"U\}bernahmen als solche kenntlich
349 }
```

`\declarationAuthorship`

```
350 \def\declarationAuthorship{%
351 \ClassWarning{\HsHClassName}{%
```

```

352 Command \string\declarationAuthorship\space is deprecate.\MessageBreak
353 Replace it with \string\declarationofauthorship.
354 }%
355 \declarationofauthorship%
356 }
357 </!standalone>

```

5.4.5 Micalanious commands

Utility commands

For writing absolut values, we provide the `\abs{ $\langle equ \rangle$ }` command, which puts groable, vertical bars on both sides of the equation inside.

```

358 \newcommand{\abs}[1]{\ensuremath{\left\vert\right\vert#1\right\vert}}

```

Configuring mathmode-indices

The only hard requirements for documents writing on Hochschule Hannover is, that the indices in mathematic formulas must be typset in an upright ("steil") font, not the default kursive font. We configure this by first defining a macro to replace the default `\sb` macro. We can than assign this to `_`. For that to work we need to change its catcode to make it modifyable.

Note: You can allways use `\sb` to use the original behaviour for special cases.

```

359 \def\@subinrm#1{\sb{\mathrm{#1}}}
360 {\catcode'\_ =13 \global\let\_ =\@subinrm}

```

`\upsubscripts` Now we can define a command to activate this new behavior by changing the catcode of `_` to 13, which makes it a normal macro.

```

361 \newcommand\upsubscripts{\catcode'\_ =12}

```

`\normalsubscripts` To switch back we simply need to reset the catcode of `_` back to the original, which makes it a builidin operator with the default behavior.

```

362 \newcommand\normalsubscripts{\catcode'\_ =8}

```

5.5 Document setup

The following sets up the look and feel of the documents using this classe. All configuration and stylin is done here.

5.5.1 Fonts and text styling

```

363 \RequirePackage{lmodern}

```

5.5.2 Page layout

```

364 <!*standalone>
365 \areaset[current]{0.75\paperwidth}{0.8\paperheight}
366 \if@todos
367 \addtolength\paperwidth{5cm}
368 \addtolength\marginparwidth{5cm}
369 \fi
370 </!standalone>

```

5.5.3 Styling L^AT_EX default constucts

Floats

```

371 <!*standalone>

```

Floats should alsway prefere the *here* placement, than the *top* of the following page.

```

372 \renewcommand{\fps@figure}{h!t}
373 \renewcommand{\fps@table}{h!t}

```

Floats should be centered by default and the width of the caption box is limited.

```
374 \g@addto@macro\@floatboxreset\centering
375 \setcapwidth{0.8\textwidth}
```

The names of floating environments are redefined to show abbreviations only.

```
376 \defcaptionname{english}\figurename{Fig.}
377 \defcaptionname{german,ngerman}\figurename{Abb.}
378 \defcaptionname{english}\tablename{Tab.}
379 \defcaptionname{german,ngerman}\tablename{Tab.}
```

For subfigures we need to define a name used in autoreferences.

```
380 \AtBeginDocument{
381   \makeatletter
382   \@ifpackageloaded{subfigure}{
383     \let\subfigureautorefname\figureautorefname
384   }{}%
385   \makeatother
386 }
387 \!

```

Lists

For unordert liste the markers are redefined to look a littel nicer.

```
388 \renewcommand{\labelitemi}{\raisebox{.3ex}{\scalebox{0.7}{\bullet$}}}
389 \renewcommand{\labelitemii}{\raisebox{.3ex}{\scalebox{0.7}{\circ$}}}
390 \renewcommand{\labelitemiii}{\raisebox{.1ex}{-}}
391 \renewcommand{\labelitemiv}{\raisebox{-.1ex}{\scalebox{1.3}{\cdot$}}}
```

Misc

We activate one of the commands defined above to make math-indices upright by default.

```
392 \upsubscripts
```

We want a ragged bottom instead of spreading the paragraphs over the page.

```
393 \raggedbottom
```

The ruler shown in the top and left margin with the draft option is removed.

```
394 \let\layercontentsmeasure\relax
```

5.5.4 Header and footer

```
395 (*article | report)
```

The header and footer are styled using the low-level commands provided by the KOMA-Script package `scrlayer-scrpage`.

```
396 \RequirePackage{scrlayer-scrpage}
397 \FamilyOptions{KOMA}{headsepline,singlespacing=true}
```

First we define the new pagestyle `HsHheadings`.

```
398 \newpagestyle{HsHheadings}{
399   {
400     \parbox[b]{\sls@headwidth}{
401       \LaTeXraggedright
402       \ifx\@shorttitle\@empty\@title\else\@shorttitle\fi
403     }%
404   }
405   {
406     \parbox[b]{\sls@headwidth}{
407       \LaTeXraggedleft
408       \leftmark
409     }%
410   }
411   {
412     \parbox[b]{.45\sls@headwidth}{
413       \LaTeXraggedright
414       \ifx\@shorttitle\@empty\@title\else\@shorttitle\fi

```



```

415 }%
416 \hfill
417 \parbox[b]{.45\sls@headwidth}{
418   \LaTeXraggedleft
419   \headmark
420 }%
421 }
422 (\textwidth,.1pt)
423 }{
424   {\pagemark}
425   {\hfill\pagemark}
426   {\hfill\pagemark}
427 }

```

Then all generic settings are applied:

```

428 \clearpairofpagestyles
429 \ofoot*{\pagemark}
430 \pagestyle{HsHheadings}
431 <article>\automark{section}
432 <report>\automark{chapter}
433 <report>\renewcommand*{\chapterpagestyle}{HsHheadings}
434 </article | report>

```

5.5.5 Titlepage

`\maketitle` The definition of `\maketitle` is mostly taken from the source-code of the KOMA-Script parrentclass, but was modified to create the desired style.

```

435 <*article | report>
436 \newcommand{\professortext}{Professor}
437 \newcommand{\firstexaminertext}{First examiner}
438 \newcommand{\secondexaminertext}{Second examiner}
439 \newcaptionname{english}\professortext{Professor}
440 \newcaptionname{english}\firstexaminertext{First examiner}
441 \newcaptionname{english}\secondexaminertext{Second examiner}
442 \newcaptionname{german,ngerman}\professortext{Professor(in)/Lehrbeauftragte(r)}
443 \newcaptionname{german,ngerman}\firstexaminertext{Erstpr{"u}fer(in)}
444 \newcaptionname{german,ngerman}\secondexaminertext{Zweitpr{"u}fer(in)}
445 \newtoks \@tabtoks
446 \newcommand\addtabtoks[1]{\global\@tabtoks\expandafter{\the\@tabtoks#1}}
447 \newcommand\eaddtabtoks[1]{\edef\mytmp{#1}\expandafter\addtabtoks\expandafter{\mytmp}}
448 % %%\newcommand*\resettabtoks{\global\@tabtoks{}}
449 \newcommand*\printtabtoks{\the\@tabtoks}
450 \addtokomafont{publishers}{\normalsize}
451 \g@addto@macro\titlepage{\singlespacing}
452 %
453 <article>\renewcommand\maketitle[1][c]{
454 <report>\renewcommand\maketitle[1][l]{
455   \expandafter\ifnum \cscname scr@v@3.12\endcscname>\scr@compatibility\relax
456   \else
457     \def\and{%
458       \end{tabular}
459       \hskip 1em \@plus.17fil
460       \begin{tabular}[t]{c}%
461     }
462   \fi
463 <*article>
464   \par
465   \ifx\@uppertitleback\@empty\else
466     \ClassWarning{KOMAClassName}{%
467       non empty \string\uppertitleback\space ignored
468       by \string\maketitle\MessageBreak
469       in 'titlepage=false' mode%
470     }
471   \fi
472   \ifx\@lowertitleback\@empty\else

```

```

473 \ClassWarning{\KOMAClassName}{%
474     non empty \string\lowertitleback\space ignored
475     by \string\maketitle\MessageBreak
476     in 'titlepage=false' mode%
477 }
478 \fi
479 \end{article}
480 \begin{report} \begin{titlepage}
481 \begin{article} \begin{group
482     \let\@param#1
483     \ifx\@param\empty
484         \ClassError{\myClassName}{\maketitle\space with empty option}{
485             \maketitle[] has been called (with an empty parameter), this doesn't work.
486             Use \maketitle instead.
487         }
488     \fi
489 \end{report}
490 \if@titlepageiscoverpage
491     \edef\titlename@restore{
492         \noexpand\endgroup
493         \noexpand\global\noexpand\@colht\the\@colht
494         \noexpand\global\noexpand\@colroom\the\@colroom
495         \noexpand\global\vsizethe\vsizethe
496         \noexpand\global\noexpand\@titlepageiscoverpagefalse
497         \noexpand\let\noexpand\titlename@restore\noexpand\relax
498     }
499     \begin{group
500         \topmargin=\dimexpr \coverpagetopmargin-1in\relax
501         \oddsidemargin=\dimexpr \coverpageleftmargin-1in\relax
502         \evensidemargin=\dimexpr \coverpageleftmargin-1in\relax
503         \textwidth=\dimexpr
504         \paperwidth-\coverpageleftmargin-\coverpagerightmargin\relax
505         \textheight=\dimexpr
506         \paperheight-\coverpagetopmargin-\coverpagebottommargin\relax
507         \headheight=0pt
508         \headsep=0pt
509         \footskip=\baselineskip
510         \colht=\textheight
511         \colroom=\textheight
512         \vsizethe\textheight
513         \columnwidth=\textwidth
514         \hsizethe\columnwidth
515         \linewidth=\hsizethe
516     \else
517         \let\titlename@restore\relax
518     \fi
519     \let\footnotesize\small
520     \let\footnoterule\relax
521     \let\footnote\thanks
522 \end{report}
523 \begin{article} \let\titlename@restore\relax
524     \renewcommand*\thefootnote{\@fnsymbol\c@footnote}%
525     \let\oldmakefnmark\makefnmark
526     \renewcommand*\@makefnmark{\rlap{\oldmakefnmark}}%
527 \begin{article} \next@tdpage
528     \ifx\@extratitle\empty
529 \begin{article} \ifx\@frontispiece\empty\else \mbox{}\fi
530 \end{article}
531     \ifx\@frontispiece\empty\else
532         \if@twoside\mbox{}\next@tdpage\fi
533         \noindent\@frontispiece\next@tdpage
534     \fi
535 \end{report}

```

```

536 \else
537 <article> \@makeextratitle
538 <*report>
539 \noindent\@extratitle
540 \ifx\@frontispiece\@empty
541 \else
542 \next@tpage
543 \noindent\@frontispiece
544 \fi
545 \next@tdpage
546 </report>
547 \fi
548 <*article>
549 \ifx\@frontispiece\@empty
550 \ifx\@extratitle\@empty\else\next@tdpage\fi
551 \else
552 \next@tpage
553 \@makefrontispiece
554 \next@tdpage
555 \fi
556 \global\@topnum=\z@
557 </article>
558 \setparsizes{\z@}{\z@}{\z@\@plus 1fil}\par@updaterelative
559 \vspace*{1cm}
560 \begin{minipage}[t]{\textwidth}%
561 \ifx\@titlehead\@empty \else
562 \usekomafont{titlehead}{\@titlehead}%
563 \fi
564 \hfill
565 % image with referencepoint in lower left corner:
566 \raisebox{0pt}[\ht\strutbox][\dp\strutbox]{\includeHsHlogohere}
567 \end{minipage}
568 \raisebox{10pt}{\rule{\textwidth}{0.5pt}}
569 \null
570 <article> \vskip 2em
571 <report> \vfill
572 \begin{group}
573 \if\@param c\centering\fi
574 \if\@param r\raggedleft\fi
575 \ifx\@subject\@empty\else
576 {\usekomafont{subject}{\@subject\par}}
577 <article> \vskip 1.5em
578 <report> \vskip 3em
579 \fi
580 {\usekomafont{title}{\huge\@title\par}}
581 <article> \vskip .5em
582 <report> \vskip 1em
583 {\ifx\@subtitle\@empty\else\usekomafont{subtitle}{\@subtitle\par}\fi}
584 <article|report> \vskip 4em
585 {\ifx\@matrikelnr\@empty
586 \if\@author\@empty\else\usekomafont{author}{
587 \parbox{\dimexpr\linewidth}{
588 \if\@param c\centering\fi
589 \if\@param r\raggedleft\fi
590 \@author
591 }
592 }\fi
593 \else
594 \if\@author\@empty\else
595 % sneaky comma needed after \@matrikelnr to deal with single item lists
596 \foreach \x [count=\i,evaluate=\i as \y using {\@matrikelnr,[\i-1]}] in \@author {
597 \usekomafont{author}{
598 \def\arraystretch{1.2}

```

```

599         \if@param l\begin{tabular}{@{}l l}\printtabtoks\end{tabular}\fi
600         \if@param c\begin{tabular}{l l}\printtabtoks\end{tabular}\fi
601         \if@param r\begin{tabular}{r r@{}}\printtabtoks\end{tabular}\fi
602     }%
603     \fi
604     \fi}
605     <article>         \vskip 1em
606     <report>         \vskip 1.5em
607     {\usekomafont{date}{\@date\par}}
608     <article>         \vskip 1em
609     <report>         \vskip \z@ \@plus3fill
610     \usekomafont{publishers}{
611         \def\arraystretch{1.2}
612         \if@param l\begin{tabular}{@{}l l}\fi
613         \if@param c\begin{tabular}{l l}\fi
614         \if@param r\begin{tabular}{r r@{}}\fi
615         \if@professor\@empty\else\textbf{\professortext:}&\@professor\\\fi
616         \if@firstexaminer\@empty\else\textbf{\firstexaminertext:}&\@firstexaminer\\\fi
617         \if@secondexaminer\@empty\else\textbf{\secondexaminertext:}&\@secondexaminer\\\fi
618     \end{tabular}
619     }
620     <*article>
621     \ifx\@dedication\@empty\else
622     \vskip 2em
623     {\usekomafont{dedication}{\@dedication \par}}%
624     \fi
625     </article>
626     \par
627     \endgroup
628     <article>         \vskip 2em
629     <report>         \vskip 3em
630     <article>         \ifx\titlepagestyle\@empty\else\thispagestyle{\titlepagestyle}\fi
631     \@thanks\global\let\@thanks\@empty
632     <*report>
633     \vfill\null
634     \if@twoside
635     \@tempwattrue
636     \expandafter\ifnum \@nameuse{scr@v@3.12}>\scr@compatibility\relax
637     \else
638     \ifx\@uppertitleback\@empty\ifx\@lowertitleback\@empty
639     \@tempwafalse
640     \fi\fi
641     \fi
642     \if@tempswa
643     \next@tpage
644     \begin{minipage}[t]{\textwidth}
645     \@uppertitleback
646     \end{minipage}\par
647     \vfill
648     \begin{minipage}[b]{\textwidth}
649     \@lowertitleback
650     \end{minipage}\par
651     \@thanks\global\let\@thanks\@empty
652     \fi
653     \else
654     \ifx\@uppertitleback\@empty\else
655     \ClassWarning{KOMAClassName}{%
656     non empty \string\uppertitleback\space ignored
657     by \string\maketitle\MessageBreak
658     in 'twoside=false' mode%
659     }
660     \fi
661     \ifx\@lowertitleback\@empty\else

```

```

662      \ClassWarning{\KOMAClassName}{%
663        non empty \string\lowertitleback\space ignored
664        by \string\maketitle\MessageBreak
665        in 'twoside=false' mode%
666      }
667    \fi
668  \fi
669  \ifx\@dedication\@empty
670  \else
671    \next@tdpage\null\vfill
672    {\centering\usekomafont{dedication}{\@dedication \par}}%
673    \vskip \z@ \@plus3fill
674    \@thanks\global\let\@thanks\@empty
675    \cleardoubleemptypage
676  \fi
677  \ifx\titlepage@restore\relax\else\clearpage\titlepage@restore\fi
678 \</report>
679 \<article> \endgroup
680 \<report> \end{titlepage}
681 \setcounter{footnote}{0}
682 \expandafter\ifnum \csname scr@v3.12\endcsname>\scr@compatibility\relax
683   \let\thanks\relax
684   \let\maketitle\relax
685   \let\@maketitle\relax
686   \global\let\@thanks\@empty
687   \global\let\@author\@empty
688   \global\let\@date\@empty
689   \global\let\@title\@empty
690   \global\let\@subtitle\@empty
691   \global\let\@extratitle\@empty
692   \global\let\@frontispiece\@empty
693   \global\let\@titlehead\@empty
694   \global\let\@subject\@empty
695   \global\let\@publishers\@empty
696   \global\let\@uppertitleback\@empty
697   \global\let\@lowertitleback\@empty
698   \global\let\@dedication\@empty
699   \global\let\@matrikelnr\@empty
700   \global\let\@prof\@empty
701   \global\let\author\relax
702   \global\let\title\relax
703   \global\let\extratitle\relax
704   \global\let\titlehead\relax
705   \global\let\subject\relax
706   \global\let\publishers\relax
707   \global\let\uppertitleback\relax
708   \global\let\lowertitleback\relax
709   \global\let\dedication\relax
710   \global\let\date\relax
711   \global\let\matrikelnr\relax
712   \global\let\professor\relax
713 \fi
714 \global\let\and\relax
715 }
716 \</article | report>

```

6 Change History

v1.00

General: Initial Version. Official first
release 1

v2.00

General: This version changes the
default build-system to latexmk . . . 1

v2.01	
\declarationAuthorship: Deprecate	
\declarationAuthorship, as it got	
replaced by	
\declarationofauthorship	14
v3.00	
General: added typelec package to get	
better font-scaling	10
removed the inputenc package, as	
utf8 is now default	10