
THIRTYSOMETHING

TST-Article

Template for \LaTeX articles

ThirtySomething

03.05.2022

Contents

Contents	1
Change history	2
1 License information	3
2 Introduction	4
2.1 Nameing conventions	4
3 Template	5
4 Usage	6
4.1 Metadata I	6
4.2 Metadata II	9
4.3 Metadata III	10
4.4 Document content	11
4.5 Glossary	11
4.6 Hyphenation	12
5 Commands	13
5.1 Examples to images	15
6 Font sizes	17
7 Tables	18
8 The verbatim environment	20
9 Appendices	21
A README.md	22
List of Figures	I
List of Tables	II
Glossary	III

Change history

Version	Date	Section	Description	Name
1.0.0	30.03.2022	–	• Initial revision	ThirtySomething
1.0.1	30.03.2022	–	• Fix usage of title in header.	ThirtySomething
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1.0.3	01.04.2022	–	• Translate german parts to english. • Introduction of meta data for template file names.	ThirtySomething
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1.0.5	15.04.2022	–	• FIX: Replace TSMeta.tex with TSTemplate-Meta.tex in TSContent.tex • NEW: Added commands for arrows • FIX: All captions in footnotesize	ThirtySomething
1.0.6	20.04.2022	–	• NEW: Added commands/template for appendices	ThirtySomething
1.0.7	28.04.2022	–	• NEW: Added tsFontStrikethrough	ThirtySomething
1.0.8	30.04.2022	–	• NEW: Introduce switches for features in meta file • CHG: Rename TSTitle to TSTitlePage • CHG: Rename commands, use tsText... instead of tsFont... • NEW: Add subsection naming conventions	ThirtySomething
1.0.9	01.05.2022	–	• NEW: Add template for book also	ThirtySomething
1.0.10	03.05.2022	–	• NEW: Images with overlaid text	ThirtySomething

Table 1: Change history

1 License information

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Figure 1: MIT License

2 Introduction

This is a template for use with \LaTeX . An attempt has been made to make the usage of this template as simple as possible for the user.

2.1 Nameing conventions

For this document some naming conventions are used.

- Text in `monospace` is either a command or \LaTeX source code.
- Text in *italic* are usually filenames.

3 Template

The template is divided into several files, which are listed here below:

File	Meaning
<i>LICENSE</i>	MIT license file.
<i>README.md</i>	Information about the template.
<i>TSAppendix.tex</i>	The appendices of the document.
<i>TSCommands.tex</i>	The common predefined commands.
<i>TSContent.tex</i>	The content of the document.
<i>TSCustomCommands.tex</i>	The document specific commands.
<i>TSGlossary.tex</i>	The glossary of the document.
<i>TSHistory.tex</i>	Document history.
<i>TSHyphenation.tex</i>	Document-specific hyphenation.
<i>TSTemplate-Meta.tex</i>	The metadata of the document.
<i>TSTemplate.pdf</i>	The result as a PDF file.
<i>TSTemplate.tex</i>	The envelope document.
<i>TSTitlePage.tex</i>	The title page of the document.
<i>Images/TSLogo.png</i>	The logo used.

Table 2: The files of the template

Some commands and formatting have been predefined for the template. They all have in common that they start with a `\ts...`. This serves to distinguish them from the commands otherwise used in \LaTeX . The available commands are explained in the [Commands](#) chapter.

NOTE: The file containing the meta data is depending on the name of the envelope document *TSTemplate.tex*. The rule is just simple: The name will be *TSTemplate* followed by *-Meta.tex*. If you name your document *My-Document.tex* then the filename of the metadata file will be *MyDocument-Meta.tex*.

4 Usage

As already described, the use of the template should be simple. So the user copies the template, that is, the entire directory with all files and sub-directories.

Normally the user adjusts the metadata (file *TSTemplate-Meta.tex*, see [Metadata I](#) and [Metadata II](#)) and the content in the file *TSContent.tex* according to his needs. Everything else is managed by the template.

It is recommended to rename the main template file *TSTemplate.tex* into a more more descriptive name.

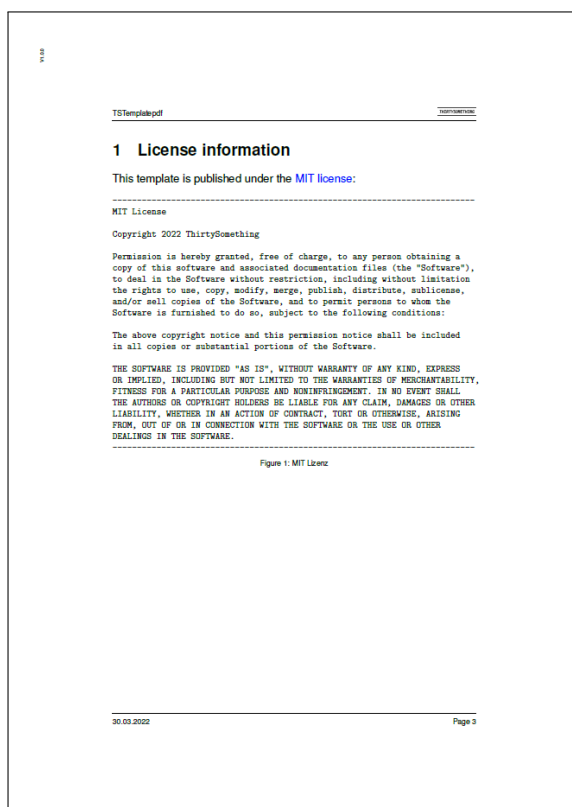


Figure 2: Document page

4.1 Metadata I

For each document there are some metadata. This means the following definitions:

Metadefinition	Meaning
\tsAuthor{}	The author of the document.
\tsSubject{}	The subject of the document.
\tsTitle{}	The title of the document.
\tsURL{}	The url of the author.
\tsVersionMajor{}	The major version of the document. ¹
\tsVersionMinor{}	The minor version of the document. ¹
\tsVersionPatch{}	The patch number of the document. ¹
\tsVersionString{}	Complete version string. ¹

Table 3: Metadata I

These metadata are referenced in various places in the template. For example, they are used in the title page of the document. The version number is based on semantic versioning¹.

¹See [Semantic Versioning](#) for more details.

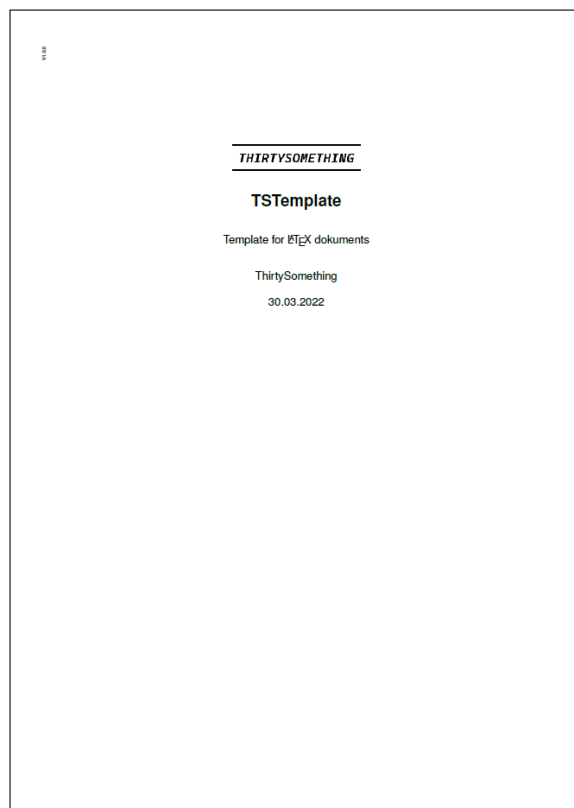


Figure 3: Title page

They are also used to set metadata in the generated PDF:

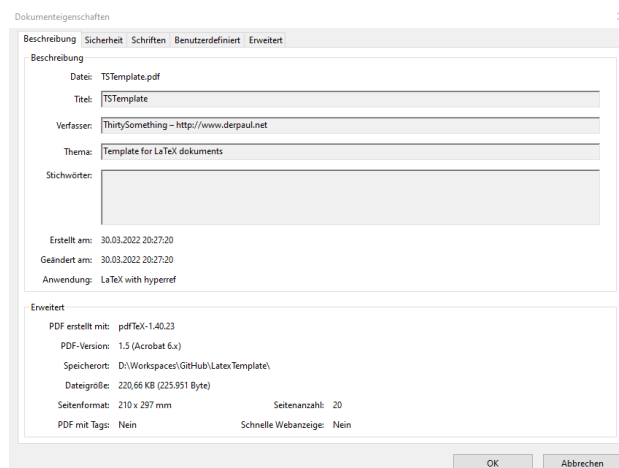


Figure 4: PDF properties

4.2 Metadata II

For further control, there are variables that can be used to enable/disable which features are active for the document. These variables can be found in the file *TSTemplate-Meta.tex*. There are:

Metadefinition	Beschreibung
<pre>% Switch to enable appendix \newif\ifUseTsAppendix % \UseTsAppendixtrue % Disable appendix \UseTsAppendixtrue % Enable appendix</pre>	Toggle appendix
<pre>% Switch to enable glossary \newif\ifUseTsGlossary % \UseTsGlossarytrue % Disable glossary \UseTsGlossarytrue % Enable glossary</pre>	Toggle glossary
<pre>% Switch to enable history \newif\ifUseTsHistory % \UseTsHistorytrue % Disable history \UseTsHistorytrue % Enable history</pre>	Toggle history
<pre>% Switch to enable hyphenation \newif\ifUseTsHyphenation % \UseTsHyphenationtrue % Disable hyphenation \UseTsHyphenationtrue % Enable hyphenation</pre>	Toggle hyphenation
<pre>% Switch to enable list of figures \newif\ifUseTsLOF % \UseTsLOFtrue % Disable list of figures \UseTsLOFtrue % Enable list of figures</pre>	Toggle list of figures
<pre>% Switch to enable logo \newif\ifUseTsLogo % \UseTsLogotrue % Disable logo \UseTsLogotrue % Enable logo</pre>	Toggle logo
<pre>% Switch to enable list of tables \newif\ifUseTsLOT % \UseTsLOTtrue % Disable list of tables \UseTsLOTtrue % Enable list of tables</pre>	Toggle list of tables
<pre>% Switch to enable start of section on new page \newif\ifUseTsSectionOnNewPage % \UseTsSectionOnNewPagetrue % Section on same page \UseTsSectionOnNewPagetrue % Section on new page</pre>	Toggle start of section
<pre>% Switch to enable title page \newif\ifUseTsTitlePage % \UseTsTitlePagetrue % Disable title page \UseTsTitlePagetrue % Enable title page</pre>	Toggle title page

% Switch to enable table of contents \newif\ifUseTsTOC % \UseTsTOCtrue % Disable table of contents \UseTsTOCtrue % Enable table of contents	Toggle table of contents
--	-----------------------------

Table 4: Metadata II

It should be noted that only one line has an influence on the option. The last two lines in the option list show the disabled (with the % sign at the beginning of the line) and the enabled (without the % sign) state.

ATTENTION: Turning options off and/or on will affect the steps required for compilation. For example, if the glossary is disabled, no `makeglossary` may be used during compilation. Otherwise this will result in errors.

4.3 Metadata III

Additional to the metadata of section 4.1 there exists metadata to influence the filenames. Except for the *TSTemplate-Meta.tex* file all other files are used indirect by commands. So there are these commands available:

Metadefinition	Meaning
<code>\tsAppendixFile{}</code>	Filename for appendices, default <i>TSAppendix.tex</i>
<code>\tsCommandsFile{}</code>	Filename for commands, default <i>TSCCommands.tex</i>
<code>\tsContentFile{}</code>	Filename for content, default <i>TSCContent.tex</i>
<code>\tsCustomCommandsFile{}</code>	Filename for custom commands, default <i>TSCustomCommands.tex</i>
<code>\tsGlossaryFile{}</code>	Filename for glossary, default <i>TSGlossary.tex</i>
<code>\tsHistoryFile{}</code>	Filename for history, default <i>TSHistory.tex</i>
<code>\tsHyphenationFile{}</code>	Filename for hyphenation, default <i>TSHyphenation.tex</i>
<code>\tsLogoFile{}</code>	Filename for logo, default <i>./Images/TSLogo.png</i>

<code>\tsTitlePageFile{}</code>	Filename for title page, default <i>TSTitlePage.tex</i>
---------------------------------	--

Table 5: Metadata III

4.4 Document content

The document content is entered like a normal \LaTeX document. For this the file *TSContent.tex* is used, in which the user enters the text. The basic conditions such as the inclusion of packages are regulated in the file *TSTemplate.tex*. Features are enabled/disabled in the file *TSTemplate-Meta.tex* – see also [Metadata II](#).

4.5 Glossary

The user has the option of entering his own glossary. The entries for the glossary are done in the file *TSGlossary.tex*. [ThirtySomething](#) is entered here as an example. This looks like this:

```
\newglossaryentry{TS}{name={ThirtySomething},description={A glossary entry}}
```

Figure 5: Definition of a glossary entry

The values have the following correspondences:

- **TS** – This is the abbreviation used to reference the keyword in the document.
- **ThirtySomething** – This is the keyword listed in the glossary.
- **A glossary entry** – This is the description for the keyword listed in the glossary.

The glossary then lists the keyword, the description and the page number(s) where the keyword was used everywhere. A prerequisite for this is, of course, the use of the command `\gls{abbreviation}` with the existing abbreviation. In the above example, the usage looks like this:

```
\gls{TS}
```

Figure 6: Use of a glossary entry

In case a glossary is to be used, the document must be translated with `makeglossaries`.

```
pdflatex
makeglossaries
pdflatex
pdflatex
```

Figure 7: Translate with glossary

4.6 Hyphenation

In some circumstances, hyphenation is not performed for some words. This may be because these words are very specific and \LaTeX does not know them and therefore cannot hyphenate them. The result may be overlong lines, which are clearly visible in most cases. In some cases this overlength is not immediately obvious. For this you can temporarily add the line

```
% To see the (page)frames used for hyphenation determination
% \usepackage{showframe}
```

Figure 8: Preamble – Package `showframe`

by removing the comment sign (%). This will display frames in the document indicating the text areas – and you can clearly see the overlong lines. The affected words at the end of the line can then be entered in the *TSHyphenation.tex* file. An entry there follows the following pattern:

```
\hyphenation{Thir-ty-Some-thing}
```

Figure 9: Exemplary content of *TSHyphenation.tex*

An entry corresponds to the word to be separated with a dash after each syllable. If necessary in the different cases, then the words are separated by a space. In addition, the following parameter can be changed in the document *TSTemplate.tex*:

```
% Setting tolerance for word wrap
% See also: https://texfaq.org/FAQ-overfull
\tolerance=3000
```

Figure 10: Influencing the hyphenation

The permissible values are in the range from 0 to 10000.

5 Commands

To simplify things for newcomers, various commands have been defined. The use of the commands is optional. However, using them makes it clearer what the author wants to achieve with the corresponding command. It is recommended to end commands without parameters with {}, even if this is not necessary. However, it leads to the fact that, for example, after such a command there can also be a space character – otherwise this is removed by \LaTeX when compiling.

Command definition	Meaning
<code>\tsAppendixSection{Appendix}</code>	This command will add an appendix, also a so-called label. Thus the appendix can be referenced via <code>\ref{appendix:Appendix}</code> or via <code>\nameref{appendix:Appendix}</code> somewhere else.
<code>\tsArrowRight{}</code>	\rightarrow
<code>\tsArrowRightDouble{}</code>	\Rightarrow
<code>\tsArrowDown{}</code>	\downarrow
<code>\tsArrowDownDouble{}</code>	\Downarrow
<code>\tsArrowLeft{}</code>	\leftarrow
<code>\tsArrowLeftDouble{}</code>	\Leftarrow
<code>\tsArrowUp{}</code>	\uparrow
<code>\tsArrowUpDouble{}</code>	\Uparrow
<code>\tsBackslash{}</code>	\backslash
<code>\tsBullet{}</code>	\bullet
<code>\tsCaptionLabelFigure{Figure}</code>	This command is usually used below a mapping. There is not only a description added, but also a so-called label. Thus the figure can be referenced via <code>\ref{fig:Figure}</code> or via <code>\nameref{fig:Figure}</code> somewhere else.
<code>\tsCaptionLabelFormula{Formula}</code>	This command is similar to <code>\tsCaptionLabelFigure</code> , but is referenced via <code>\ref{for:Formula}</code> or via <code>\nameref{for:Formula}</code> .

<code>\tsCaptionLabelTable{Table}</code>	This command is similar to <code>\tsCaptionLabelFigure</code> , but is referenced via <code>\ref{tab:Table}</code> or via <code>\nameref{tab:Table}</code> .
<code>\tsDegree{zahl}</code>	Without number $^\circ$ or with number 715° !
<code>\tsFootnoteDef{text}{ref}</code>	Defines a footnote ² with a label, which can be referenced elsewhere using <code>\tsFootnoteRef{ref}</code> .
<code>\tsFootnoteRef{ref}</code>	References a footnote ² which was defined elsewhere using <code>\tsFootnoteDef{text}{ref}</code> .
<code>\tsImage{filename}{description}</code> <code>{options}</code>	With this, an image can be included – it then automatically gets a description. It is mandatory to specify three parameter brackets. The first parameter is the file name. The second parameter is the signature under the image. The third parameter, the options, are optional, that is, the brackets can be empty. These are the same parameters that can be used with <code>\includegraphics</code> , e.g. <code>width=380px</code> .
<code>\tsImageF{filename}{description}</code> <code>{options}</code>	Like <code>\tsImage</code> , but with a frame.
<code>\tsImageO{filename}{description}</code> <code>{overlay}{options}</code>	Like <code>\tsImage</code> , but with an overlaid text.
<code>\tsImageOF{filename}{description}</code> <code>{overlay}{options}</code>	Like <code>\tsImageF</code> , but with an overlaid text.
<code>\begin{tsLTItemize}</code> <code>\item Item I of enumeration list.</code> <code>\item Item B of enumeration list.</code> <code>\item Item 3 of enumeration list.</code> <code>\end{tsLTItemize}</code>	An enumeration list <ul style="list-style-type: none"> • Item I of enumeration list. • Item B of enumeration list. • Item 3 of enumeration list.
<code>\tsTextBold{text}</code>	text
<code>\tsTextItalic{text}</code>	<i>text</i>
<code>\tsTextLower{text}</code>	text
<code>\tsTextMonospace{text}</code>	text

²I am a footnote.

<code>\tsTextQuoteF{text}</code>	<code><<text>></code>
<code>\tsTextQuoteG{text}</code>	<code>„text“</code>
<code>\tsTextStrikethrough{text}</code>	text
<code>\tsTextUnderline{text}</code>	<u>text</u>
<code>\tsTextUpper{text}</code>	text

Table 6: Available commands

A look into the source code of this document shows the usage of the commands.

5.1 Examples to images

```
% Insert image TSLogo.png
% File is in subdirectory Images
% Signature is 'Image without parameters'
% Optional parameters are empty
\tsImage{./Images/TSLogo.png}{Image without parameters}{}
```

Figure 11: Code of image without parameters


THIRTYSOMETHING

Figure 12: Image without parameters

```
% Insert image TSLogo.png
% File is in subdirectory Images
% Signature is 'Image with parameter'
% Parameter: width=0.5\textwidth => scale the image to half page width
\tsImage{./Images/TSLogo.png}{Image with parameter}{width=0.5\textwidth}
```

Figure 13: Code of image with parameter


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Figure 14: Image with parameter


```
% Insert image TSLogo.png with frame
% File is in subdirectory Images
% Signature is 'Image without parameters, with frame'
% Optional parameters are empty
\tsetImageF{./Images/TSLogo.png}{Image without parameters, with frame}{}

```

Figure 15: Code of image without parameters, with frame

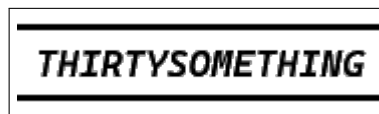


Figure 16: Image without parameters, with frame

```
% Insert image Garden.jpg with frame
% File is in subdirectory Images
% Signature is 'Image with frame, overlay and parameters'
% Optional parameters are empty
\tsetImage0{./Images/Garden.jpg}{Image with frame, overlay and parameters}
{\tsTextUpper{(C)} 2008, ThirtySomething}{width=0.9\textwidth}

```

Figure 17: Code image with frame, overlay and parameters



Figure 18: Image with frame, overlay and parameters

6 Font sizes

There may be a need to adjust the font size. For this purpose \LaTeX provides the following options:

Command	Example
<code>\Huge{Huge}</code>	Huge
<code>\huge{huge}</code>	huge
<code>\LARGE{LARGE}</code>	LARGE
<code>\Large{Large}</code>	Large
<code>\normalsize{normalsize}</code> (Default)	normalsize (Default)
<code>\small{small}</code>	small
<code>\footnotesize{footnotesize}</code>	footnotesize
<code>\scriptsize{scriptsize}</code>	scriptsize
<code>\tiny{tiny}</code>	tiny

Table 7: Font sizes

7 Tables

Font sizes play a role in the use of tables when it comes to distributing the content appropriately among the columns. Here is a sample code how to make a table.

```
\begin{small}
  \renewcommand*{\arraystretch}{3}
  \begin{longtable}{ | p{0.45\textwidth} | p{0.5\textwidth} | }
    \hline
    \tsTextBold{Command}      & \tsTextBold{Sample} \\
    \hline
    \tsBackslash{}Huge\{text\} & \Huge{Huge}        \\
    \hline
    \tsCaptionLabelTable{Font sizes}
  \end{longtable}
\end{small}
```

Figure 19: Tables

It is started with a block in one of the desired [Font sizes](#). The first command within the font environment changes the spacing between the text lines. If you do not do this, the table content and the table grid will overlap or the spacing will be very tight. A good value is

```
\renewcommand*{\arraystretch}{1.5}
```

Figure 20: Row height in tables

The definition of the columns and their widths follows. The total width available to a text in a line is `\textwidth`. Due to the lines of the table, not quite `1.0 \textwidth` is available. So the sum of all individual column widths should not exceed `0.9\textwidth`.

To slightly separate column headings from the column contents, the `\tsTextBold{column name}` command can be used. Each column value is separated from the next column by a `&`. The end of the row is marked with a `\\`.

For horizontal lines, a `\hline` is inserted.

The data lines follow the same structure.

To give the table a referencable name, add a `\tsCaptionLabelTable{Font sizes}` at the end. Check the source of this document in the section [Font sizes](#) to see how it works.

When using a `verbatim` environment in a table, then the column type of the table **must be** of type P! Also important is that the column separator `&` must be on the next line after the `\end{tsLTItemize}`.

8 The verbatim environment

With the Verbatim environment text can be displayed in a Monospace font. This is used to display source code.

```
\begin{figure}[H]
  \small
  \centering
  \begin{BVerbatim}
Sample code of verbatim environment.
  \end{BVerbatim}
  \tsCaptionLabelFigure{Verbatim Environment Demo}
\end{figure}
```

Figure 21: Verbatim Environment Code

In order for the verbatim environment to get a signature, it is embedded in a figure environment. The [H] behind it makes sure that the environment stays at the desired place in the text and does not end up somewhere in the document.

The adjustment of the font size is done as needed. A possible centering is achieved here using \centering.

Note: If the verbatim environment is to be centered, the text that is between \begin{BVerbatim} and \end{BVerbatim} must be leftmost aligned in the source code of the document. Otherwise the spaces will be part of the alignment.

The example from above then produces this result:

```
Sample code of verbatim environment.
```

Figure 22: Verbatim Environment Demo

9 Appendices

In case you want to have appendices, there are two steps. The first one is required to enable the appendices, the second one is the appendix itself. For enabling remove the comment sign in the *TSTemplate-Meta.tex* file:

```
% Switch to enable appendix
\newif\ifUseTsAppendix
\UseTsAppendixtrue
```

Figure 23: Enabling appendices

The second one is the usage of an appendix. You can have a look at the sources in *TSAppendix.tex* or use this example:

```
\tsAppendixSection{README.md}
```

Figure 24: Usage of an appendix

In this example the appendix `README.md` is added and can be referenced either by [A](#) and/or [README.md](#).

A README.md

LatexTemplate

A basic template for latex documents. See the [PDF][pdf] for more details.

License

```code

-----  
MIT License

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-----  
```

[pdf]: ./TSTemplate.pdf

List of Figures

1	MIT License	3
2	Document page	6
3	Title page	8
4	PDF properties	8
5	Definition of a glossary entry	11
6	Use of a glossary entry	11
7	Translate with glossary	12
8	Preamble – Package showframe	12
9	Exemplary content of TSHyphenation.tex	12
10	Influencing the hyphenation	12
11	Code of image without parameters	15
12	Image without parameters	15
13	Code of image with parameter	15
14	Image with parameter	15
15	Code of image without parameters, with frame	16
16	Image without parameters, with frame	16
17	Code image with frame, overlay and parameters	16
18	Image with frame, overlay and parameters	16
19	Tables	18
20	Row height in tables	18
21	Verbatim Environment Code	20
22	Verbatim Environment Demo	20
23	Enabling appendices	21
24	Usage of an appendix	21

List of Tables

1	Change history	2
2	The files of the template	5
3	Metadata I	7
4	Metadata II	10
5	Metadata III	11
6	Available commands	15
7	Font sizes	17

Glossary

ThirtySomething A glossary entry [11](#)