Master Thesis

My Thesis

The Author

December 17, 2015

Supervisor: Name of Supervisor

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Abstract

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Contents

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Acronyms

CTAN The Comprehensive TeX Archive Network. 1

FIM Fachschaft für Mathematik und Informatik. 1

HDR High Dynamic Range. 2

1. Introduction

Welcome to this thesis template! It is based on the KOMA script classes of LaTeX and should provide you with a basic yet functional template for your bachelor or master thesis. If you already are familiar with LaTeX you might want to skip the introduction and just go to the formatting checklist right away (see table A.1).

This template includes the document structure you can use with your thesis and it includes some hints and tips for using LaTeX. The following examples will assume that you are familiar with writing basic texts in LaTeX, including the overall document structure with chapters and sections etc., creating a PDF file from the source documents and managing your references. More technical details are integrated into the source document as comments, so if you want change something like the document language start looking into the `main.tex` file. In the source files you also will find some comments about the different topics covered in this document. If you should have any detailed questions concerning a specific package (e.g., you want to create a listing, a complex table or just add some todo notes) it is a good idea to consult the package documentation available at the *The Comprehensive TeX Archive Network (CTAN)* homepage[1].

If this is your first LaTeX document, you might want to start at the beginning and read some tutorials about how to write a text with it. For example, *LaTeX Wikibooks*[2] provides a comprehensive overview of how to use LaTeX. There are tons of other tutorials out in the Internet so you might just search and take one that fits you best. The *Fachschaft für Mathematik und Informatik (FIM)*[3] also offers an introductory course and learning material on LaTeX.

1.1. Tips and Hints

Here we start with some dummy elements you might need in your thesis. I like to start every sentence in a new line in the source document so that it is easier to spot errors reported by LaTeX. Use a distinctive name for your labeling scheme so that you can refer to it easily in your text with `\cref{...}`[4]. I like to use the following scheme:

- `chap:<name>` for chapters

- `sec:<name>` for sections

- `fig:<name>` for figures

- `tab:<name>` for tables

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[1] `http://www.ctan.org/pkg/`, accessed on 13.10.2015.
[2] `http://en.wikibooks.org/wiki/LaTeX/`, accessed on 13.10.2015.
[3] `http://fim.uni-mannheim.de`, accessed on 13.10.2015.
[4] I used the mono-spaced font here that you can trigger with `\texttt{...}`.

You can find more information on the topic at the *LaTeX Wikibooks*[5]. As you can see here, to emphasize words use the \emph command. You can do this with product names or newly introduced terms. This is chapter 1 of this paper. Now we can start with some references. These are typically placed at the end of the sentence or the paragraph they are referring to (Avidan and Shamir, 2007; El-Alfy et al., 2007). If you like to name the author of a citation within a sentence you can do it as follows: In their recent work, Avidan and Shamir (2007) state that they produced good results with their Seam Carving approach. If you refer to online resources such as the article by Gaudiosi (2015), do not forget to include the access date in the bibliography (see `library.bib`).

To start a new paragraph just leave (at least) one line blank in the source document. Always use this approach and do not use manual line breaks (\\) as this will mess with LaTeX's internal formatting rules. Now we are at acronyms and glossary entries. If you have acronyms within your text, first add new items to the glossary file. As soon as you refer to acronyms in your text with the \gls command, the following will happen: At the first occurrence, the full term will be displayed. At any following occurrence just the abbreviated term will get displayed. This works both for acronyms and for glossary entries. This is how it looks like: A different image manipulation approach other than Seam Carving is the use of High Dynamic Range (HDR) images. Such HDR images help to record scenes with challenging lighting conditions. You can also use \Gls to insert entries starting with a capital letter (e.g., at the beginning of sentences) or \glspl to insert the plural form.

Maybe you will need to include a table in you paper. I will just include a very basic table that you can use as a starting point for your own one (see table 1.1). If you need to create more complex tables again the *LaTeX Wikibooks*[6] gives a more or less complete overview or have a look at table A.1.

Table 1.1.: Captions of tables should appear above the table. When integrating a figure, however, the caption should appear below it.

	First	Second
A	0	1
B	1	0

In this paragraph I just want so say a few more words on text formatting. Normally, LaTeX does a proper job with word separation at end of lines. However, if it does not know words or if they contain special characters, words will exceed the normal text width, resulting in `overfull` warnings. For proper handling of special characters like dashes and slashes, you can use \hyp and \fshyp. In that way, words like server-based and Client/Server will be treated properly by LaTeX. There are more forms of dashes. You can display numeric ranges like 11−15 with en dashes or—if you wish to—insert em dashes for breaks in English sentences.

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[5] `http://en.wikibooks.org/wiki/LaTeX/Labels_and_Cross-referencing` contains more information on the topic. And this, by the way, is how to insert footnotes and URLs. Accessed on 13.10.2015.

[6] `http://en.wikibooks.org/wiki/LaTeX/Tables`, accessed on 13.10.2015.

For German sentences en dashes – like those – are used instead. If you need to explicitly tell LaTeX how words can be separated, you can use the `\hyphenation` command by specifying the separation. In that way, even really long and complicated words like Superduperreally-longwordwordwordword will get separated just as you want them to get separated. Quotes in LaTeX are not that straight-forward either. To insert quotes in an English text you should do something like "that". In a German text correct quotes are generated by something like „this" (see comment in source document).

Now we use this paragraph to insert a dummy figure. After inserting it, you can refer to it with the `\cref` command (see fig. 1.1) as well. See how this command automatically included the right type of reference? If you want to include your own figure, you can basically just copy this example and edit image source, caption and its label. Refer to the LaTeX source file for an example with subfigures. You should insert figures at the bottom of the paragraph you are referring to it. In that way, the figure will get displayed right there or at the top of the next page, if there is not enough space left on the current page. Luckily, LaTeX will automatically handle all of that for you. When you take a look in the source document you can see that I inserted a pair of parenthesis (`{}`, an "empty command") after the `\LaTeX` command. You will have to do this with certain commands to get the right spacings. If I just wrote LaTeXthe space between the words would have been wrong (as you can see here). Also insert the parenthesis if there is no space between a command and the following word.

Figure 1.1.: This is just a dummy figure to demonstrate how to include one in your own text. Source: <source of image if taken from an existing source>

Ok, that should be enough for now. If you already know everything stated above you just can remove it and begin to write your own text. Of course you also can leave it here as a reference until you found everything out. Good luck with your thesis and have fun with LaTeX!

1.2. More Text

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This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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2. Chapter 2

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A. Checklist

Use the following list to check if you have followed the hints from this document in your work. Refer to chapter 1 for more information on the items.

Table A.1.: The checklist for correctly formatted and prettier documents.

1.	Check for incorrect/missing citations (*(?)*) or references (*??*).
2.	Remove all LaTeX errors and underfull/overfull boxes.
3.	Make sure to use a consistent encoding for your TeX files, especially for special characters (ä, ö, ü, ß, …).
4.	Format your BibTeX document: Check if the information is correct and complete for each entry. Pay notice to warnings when running the `bibtex` command.
5.	Add access dates to online sources in your bibliography (see `library.bib`) or in footnotes.
6.	Run a spell checker over your document (included with some LaTeX editors).
7.	Place figures or tables in the TeX file at the end of the paragraph you are referring to them in the text (`\cref`).
8.	Use the correct format for quotation marks (*"x"* or *„x"*).
9.	Use the correct format for separating paragraphs (one empty line). Manual line breaks (`\\`) should be avoided.
10.	Use the correct form of dashes (-, –, —).

Table A.1.: The checklist for correctly formatted and prettier documents, continued.

11.	Name sources of images/figures you did not create yourself in the description (*Source: [X]*).
12.	Use the short form of captions for List of Figures, Tables, etc. (`caption[<short>]{<long>}`).
13.	If you print your work double-sided (recommended for bachelor and master thesis) remove the `oneside` option from the document class.
14.	Make sure to use high-quality figures and images that are readable both in the digital and the printed version.
15.	If you include the declaration of honor do not forget to sign it.

Bibliography

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H. El-Alfy, D. Jacobs, and L. Davis. Multi-scale video cropping. In *Proceedings of the 15th international conference on Multimedia*, MULTIMEDIA '07, pages 97–106, New York, NY, USA, 2007. ACM. ISBN 978-1-59593-702-5. doi: 10.1145/1291233.1291255. URL `http://doi.acm.org/10.1145/1291233.1291255`.

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Glossary

Seam Carving Seam carving describes an algorithm to rescale images. Originally proposed by Avidan and Shamir, it has been further developed and adapted for videos. Instead of just cropping or rescaling an image, single seams through the image are identified that are least significant to the image's content. 2

Declaration of Honour

The text for this declaration can be found in your "Prüfungsordnung" (examination regulations). Copy and paste it into this document here.

Mannheim, December 17, 2015

The Author