

The present work was submitted to Visual Computing Institute

Current Topics in the Field of Virtual Reality
Seminar Summer Term 2017

Template for a LaTeX-based Seminar Paper

Seminar Thesis in Computer Science by

O-Ren Ishii
Student ID Number: 987 654

Prof. Dr. Torsten W. Kuhlen
Virtual Reality & Immersive Visualization

Supervisor: Dipl.-Inform. Hattori Hanzo

Aachen, February 20, 2017

Contents

Literature List	iii
1 Introduction	1
2 Related Work	3
2.1 Visuals	3
2.1.1 Figures	3
2.1.2 Tables	4
2.2 References	4
3 Main Part	5
3.1 Part 1	5
3.2 Part 2	5
3.3 Part n	5
3.4 Paragraphs	5
4 Conclusion	7
Bibliography	9

Literature List

Please remove this literature list after the *Literature Research and Outline* deadline.

Main Paper	
[HANZO, 2004]	State in a few sentences what the paper is about.
Related Work	
[DAM et al., 1998]	Excellent paper about quaternions. Presents slerp and squat quaternion interpolation.
[...]	Information on other interesting work...
Focus 1	
[BADLER et al., 1994]	Great work about something. Badler writes always interesting things about this.
[...]	Some sentences about an even more interesting paper ...
[...]	Some sentences about an even more interesting paper ...
Focus 2	
[...]	Please replace Focus 1 , ..., Focus n according to your topic.
[...]	The longtable environment lets you extend your table over more than one page.
[...]	Some sentences about an even more interesting paper ...
[FOWLER and SCOTT, 2000]	Last example on this literature list.

1 Introduction

This part contains the introduction. After a short introduction into the general topic and a clear description of the challenges, your topic will be sketched. Your introduction should be concluded with a commented outline of your paper in order to prepare the reader for your work. A good length for this chapter is up to two pages.

L^AT_EX allows for labeling text parts with `\label{<name>}`. You can refer back to them by using `\ref{<name>}`. L^AT_EX includes the numeration accordingly. In this template, the introduction in chapter 1 is labeled with `sec::introduction`.

Literature Research and Outline (Hints for the first deadline)

Literature List:

- Shortly explain the main aspects of your main paper/topic.
- Find relevant work also addressing this topic.
- Go beyond the references that were cited in your main paper. For example, use `scholar.google.com` with some key words to find other or (depending on the publishing date) even newer papers.
- Agree with your supervisor on how many references should be listed. Some topics require more and some less.

Outline:

- Give a rough overview on your topic in the *Introduction*.
- Name your chapters and sections and give a few explaining words for each.
- In comparison to the plain literature list, you have to give a reasonable order of the content.
- Keep the central theme always in mind during your whole seminar paper such that your supervisor can recognize it when reading this outline.
- Feel free to write as much explanations to each sections as you need to clarify your idea.
- Add the references to the corresponding chapters/sections.

2 Related Work

This chapter contains the fundamentals of your work, i.e., for many cases—depending on your structure—the related work. However, we will describe some basic aspects of L^AT_EX.

2.1 Visuals

Visuals like figures and tables support your seminar paper and, therefore, make use of them. All figures and tables must be referenced in the text and require a meaningful caption such that the reader can understand the figure or table without reading the text. Note that they are not counted when it comes to the required number of text pages you have to hand in.

Furthermore, it is a common style to include the figures on the top or bottom of a page. To this end, the parameters [tb] should be used. In case the figure or table has an undesired position (for example, it appears way too late in the PDF), try to place the corresponding environment command at different positions within the tex file or in case of figures you can also adjust the size.

2.1.1 Figures

Figures are included by using the `figure` environment. The image in Figure 2.1 was created with Adobe Photoshop and then stored as `.eps`. Figures can be labeled and referenced—exactly like text parts (compare chapter 1)—via `\label` and `\ref`.



Figure 2.1: This meaningful figure was created with Adobe Photoshop. It can be referenced by `fig::meaningful`.

**RWTHAACHEN**
UNIVERSITY

(a) Caption for Figure 2.2(a).

**RWTHAACHEN**
UNIVERSITY

(b) Caption for Figure 2.2(b).

Figure 2.2: These logos are inserted in the `figure` environment by using `subfigure`.

Meaningful Entry	Column 2 + 3		Column 4
Row 1	a	b	c
Row 3 + 4	a	b	c
	a	b	c

Table 2.1: This table gives an example on how to span a cell over multiple columns and rows.

As shown in Figure 2.2, multiple images can be presented next to each other using `\subfigures`. Each subfigure can be referenced separately by individual labels (compare Figure 2.2(a) and Figure 2.2(b)).

2.1.2 Tables

Tables are created by using the `table` environment. As shown in Table 2.1, single cells can cover multiple rows or columns with the `multirow` and `multicolumn` command.

2.2 References

A reference from your BibTeX database can be used with `\cite{referenceToken}` which looks as follows in your text: [BUSCHMANN et al., 2000, BOOCH et al., 1999, FOWLER and SCOTT, 2000, FORSELL, 1994, HELMAN and HESSELINK, 1991] or [NIEMANN, 1997]. If a reference is used it will appear automatically in the bibliography, otherwise not.

3 Main Part

This chapter of your seminar paper is the main part. However, never name it *Main Part*.

3.1 Part 1

Meaningful text in whole sentences.

3.2 Part 2

More meaningful text in whole sentences

3.3 Part n

etc.

3.4 Paragraphs

Formatting text is one of the main benefits of L^AT_EX. However, a text can and should be structured by paragraphs that can be generated either by using an empty line in the source code or by the command `\par`. Decide for one option and do not mix them.

4 Conclusion

Here, the seminar paper is concluded. Bring the main paper again into a general context and, if applicable, rate it. Furthermore, it is possible to conclude your paper with pointing out some future work in this field.

This part should be written in the end to highlight the essential of your seminar paper. In this course, it might be necessary to reconsider and rewrite the *Introduction*.

Bibliography

- [BADLER et al., 1994] BADLER, N. I., R. BINDIGANAVALE, J. P. GRANIERI, S. WEI and X. ZHAO (1994). *Posture interpolation with collision avoidance*. In *Proceedings of the Conference on Computer Animation '94.*, pp. 13–20.
- [BOOCH et al., 1999] BOOCH, G., J. RUMBAUGH and I. JACOBSON (1999). *Das UML-Benutzerhandbuch*. Professionelle Softwareentwicklung. Addison Wesley.
- [BUSCHMANN et al., 2000] BUSCHMANN, F., R. MEUNIER, H. ROHNERT, P. SOMMERLAD and M. STAL (2000). *Pattern-orientierte Softwarearchitektur*. Addison-Wesley.
- [DAM et al., 1998] DAM, E. B., M. KOCH and M. LILLHOLM (1998). *Quaternions, Interpolation and Animation*. Technical Report, Institute of Computer Science (DIKU), University of Copenhagen, Universitetsparken 1, 2100 Copenhagen, Denmark.
- [FORSELL, 1994] FORSELL, L.K. (1994). *Visualizing Flow Over Curvilinear Grid Surfaces Using Line Integral Convolution*. In *Proceedings of IEEE Visualization*, pp. 240–247, Washington, D.C. IEEE Computer Society.
- [FOWLER and SCOTT, 2000] FOWLER, M and K. SCOTT (2000). *UML konzentriert - Eine strukturierte Einführung in die Standard-Objektmodellierungssprache*. Addison Wesley Verlag.
- [HANZO, 2004] HANZO, HATTORI (2004). *Planning Bimanual Movements without Sight*. ACM Transactions on Very Fast Motion, 22(2):182–203.
- [HELMAN and HESSELINK, 1991] HELMAN, J.L. and L. HESSELINK (1991). *Visualizing Vector Field Topology in Fluid Flows*. IEEE Computer Graphics & Applications, 11(3):36–46.
- [NIEMANN, 1997] NIEMANN, H. (1997). *Klassifikation von Mustern*. Informatik-Lehrbuchreihe. Springer-Verlag Berlin, Heidelberg.