Technische Universität Berlin

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Title of my Thesis

Dummy Thesis
am Fachgebiet Agententechnologien in betrieblichen Anwendungen und der Telekommunikation (AOT)
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Erklärung der Urheberschaft

Ich erkläre hiermit an Eides statt, dass ich die vorliegende Arbeit ohne Hilfe Dritter und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe; die aus fremden Quellen direkt oder indirekt übernommenen Gedanken sind als solche kenntlich gemacht. Die Arbeit wurde bisher in gleicher oder ähnlicher Form in keiner anderen Prüfungsbehörde vorgelegt und auch noch nicht veröffentlicht.

Ort, Datum Unterschrift

Abstract

DELETEME: An abstract is a teaser for your work. You try to convince a reader that it is worth reading your work. Normally, it makes to structure you abstract in this way:

- one paragraph on the motivation to your topic
- one paragraph on what approach you have chosen
- and one paragraph on your results which may be presented in comparison to other approaches that try to solve the same or a similar problem.

Abstract should not exceed one page (aubrey's opinion)

Zusammenfassung

DELETEME: translate to German to Englisch or vice-versa.

Acknowledgements

DELETEME: Thank you for the music, the songs I am singing

Contents

List of Figures

List of Tables

Chapter 1

Introduction

DELETEME: for readability purpose, it makes sense to write a short paragraph on what the reader can expect in this chapter.

DELETEME: tipp: sometimes it makes sense to write the first chapter, the last chapter, and the abstracts at the end. In this case, it might be easier to argue towards your topic

1.1 Motivation

DELETEME: This section is very important since it argues why it is necessary to take care of the problem you are addressing in your work. One way to do this is coming from a very broad view on the problem to a very detailled one. This can be done by establishing a chain of statements that refer to each other until you reach your particular problem. Doing this, you really need to take care for citing every statement.

DELETEME: Example for a chain: Mobile communication gets increasingly popular in the world (CITE sales on mobile communication infrastruce, mobile phones, or increasing number of mobile phones contracts). → Especially smartphones, which represent the next generation cellular phone (CITE), get more and more used for communicating not only with other people but also for connecting to the Internet for using various services (CITE). → Smartphone are comprehensive cellular phones that provide additional functionality due to their increased connection and processing capabilities (CITE). → Most smartphones offer an online application store for adding software to the devices which helps the users to customize their devices according to their needs, e.g. Android Market[1]. → One problem about installing third-party software is that not all softwares try to help the user; → software with malicious intentions, so called malicious software (malware), can be a severe threat to smarpthone users. Some malwares delete files (EXAMPLE + CITE or footnote with URL) or even destroy devices

[1] `http://market.android.com`, visited on 05/08/2011

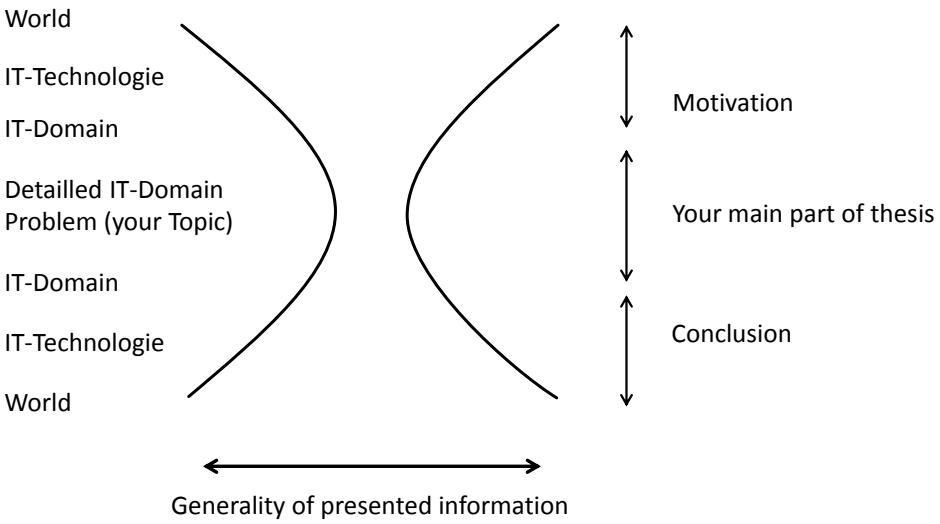

Figure 1.1: This images illustrates how generality of information could be handled in a thesis. In you motivation you should start from a very broad view on the topic. Then you should get more precise with every statement until you reach the actual problem you are addressing. You should do vice-versa in your conclusion, starting with the problem that you addressed and getting broader until you can write about the meaning of your results to the (IT-)world.

(EXAMPLE + CITE or footnote with URL). → More and more smartphone malwares appeared in the last years (CITE). → Signature-based approaches work efficiently on known malware (CITE) but face serious drawbacks regarding unknown malware. → Oberheide et al. [2] state that virus engines need an average time of 48 days until their databases get updated to be able to detect a certain unknown malware. → This in turn means that smartphone users stay unprotected for this time which can be seen as a severe threat. → Therefore, approaches are needed that are capable of detecting unknown malware for protecting the users against such threats. DELETEME: This example showed how one could argue that alternative approaches for malware detection is required. The length of the motivation depends on the topics handled and can of course be longer. The principle I am describing is also shown on Figure 1.1

1.2 Approach and Goals

DELETEME: In this section, you should cleary describe your approach that you are following in order to solve the underlaying problem of your thesis. Additionally, you should clearly state the goals of your work. This will not only help you supervizor

to understand what you are doing, it will also help you to be sure on which topic you should evaluate.

1.3 Structure of the Thesis

DELETEME: This section does not require eloquent writing. It is just a presentation of what you will handle in each chapter starting with Chapter 2.

DELETEME: Example: This thesis is structured as follows. In Chapter 2, we discuss essential background related to the thesis topic. (SOME MORE SENTENCES). Chapter 3 represents a detailled analysis of the problem that will be addressed. In particular, (SOME MORE SENTENCES). In Chapter 4, our solution is presented. This solution covers ... (SOME MORE SENTENCES). Chapter 5 evaluates our solution basing on our specified goals. (SOME MORE SENTENCES). In Chapter 6, we conclude. Chapter 6.3 gives additional related information on the topic of this thesis.

Chapter 2

Background

DELETEME: This chapter will cover all of your background information and related work. Background and related work are directly related to your thesis. Please do not place irrelevant content here which is a common mistake. Citing will be handled in the appendices.

DELETEME: Background represents underlaying knowledge that is required to understand your work. The expected knowledge level of your readers can be set to the one of a bachelor or master student who just finished his studies (depending on what kind of thesis you are writing). This means that you do not need to describe how computers work, unless your thesis topic is about this. Everything that an avarage alumni from your field of studies should now does not need to be described. It turn, background information that is very complex and content-wise very near to you problem, can be placed in the main parts. Everyting else should be written here. Note: it is important to connect each presented topic to your thesis. E.g. if you present the ISO/OSI layer model you should also write that this is needed to understand the protocols you plan to develop in the main parts.

DELETEME: Related work respresents results from work that handled the same or a similar problem that you are addressing. This work might have used a different approach or might not have been that successful. Finding a paper / work that solved your problem in the same way you were planning to do is not good and you should contact your supervizor for solving this issue. Again, each paper / work has to be connected to your approach: other papers might have not chosen an optimal solution; they might not have been taking care of essential aspects; they might have chosen a different approach and you believe, yours will work better ...

2.1 Topic 1

2.2 Topic 2

2.3 Topic 3

Chapter 3

My First Main Part

DELETEME: In this chapter you start addressing your actual problem. Therefore, it makes often sense to make a detailed problem analysis first (if not done in introduction). You should be sure about what to do and how. As writtin in the background part, it might also make sense to include complex background information or papers you are basing on in this analysis. If you are solving a software problem, you should follow the state of the art of software development which basically includes: problem analysis, design, implementation, testing, and deployment. Maintenance is often also described but I believe this will not be required for most theses. Code should be placed in the appendix unless it is solving an essential aspect of your work.

Chapter 4

My Second Main Part

Chapter 5

Evaluation

DELETEME: The evaluation chapter is one of the most important chapters of your work. Here, you will prove usability/efficiency of your approach by presenting and interpreting your results. You should discuss your results and interprete them, if possible. Drawing conclusions on the results will be one important point that your estimators will refer to when grading your work.

5.1 Results

5.2 Discussions

Chapter 6

Conclusion and Future Work

6.1 Summary

DELETEME: put a plain summary of your work here. Summaries should be made of each Chapter beginning with Chapter 2 and ending with you evaluation. Just write down what you did and describe the corresponding results without reflecting on them.

6.2 Conclusion

DELETEME: do not summarize here. Reflect on the results that you have achieved. What might be the reasons and meanings of these? Did you make improvements in comparison to the state of the art? What are the good points about your results and work? What are the drawbacks?

6.3 Future Work

DELETEME: Regarding your results - which problems did you not solve? Which questions are still open? Which new questions arised? How should someone / would you continue working in your thesis field basing on your results?

Bibliography

[1] Markus.Porto - Uni Giessen. Kochbuch für latex. http://www.uni-giessen.de/hrz/tex/cookbook/cookbook.html (3. April 2007).

[2] Jon Oberheide, Evan Cooke, and Farnam Jahanian. Cloudav: N-version antivirus in the network cloud. In *Proceedings of the 17th USENIX Security Symposium (Security'08)*, San Jose, CA, July 2008.

Appendices

DELETEME: everything that does not fit into your work, e.g. a 5 page table that breaks the reading flow, should be placed here

Appendix A: Abbreviations

AES	Advanced Encryption Standard (Symmetrisches Verschlüsselungsverfahren)
ASCII	American Standard Code for Information Interchange (Computer-Textstandard)
dpi	dots per intch (Punkte pro Zoll; Maß für Auflösung von Bilddateien)
HTML	Hypertext Markup Language (Textbasierte Webbeschreibungssprache)
JAP	Java Anon Proxy
JPEG	Joint Photographic Experts Group (Grafikformat)
JPG	Joint Photographic Experts Group (Grafikformat; Kurzform)
LED	Light Emitting Diode (lichtemittierende Diode)
LSB	Least Significant Bit
MD5	Message Digest (Kryptographisches Fingerabdruckverfahren)
MPEG	Moving Picture Experts Group (Video- einschließlich Audiokompression)
MP3	MPEG-1 Audio Layer 3 (Audiokompressionformat)
PACS	Picture Archiving and Communication Systems
PNG	Portable Network Graphics (Grafikformat)
RSA	Rivest, Shamir, Adleman (asymmetrisches Verschlüsselungsverfahren)
SHA1	Security Hash Algorithm (Kryptographisches Fingerabdruckverfahren)
WAV	Waveform Audio Format (Audiokompressionsformat von Microsoft)

Appendix B: LaTeX Help

How to Use This Template

- Remove all of my text which is mostly labeled with DELETEME
- Change the information in the 00a_title_page.tex file
- Use the information written in this section
- Ask you supervizor to help you
- If I am not your supervizor and noone else can help you, write me an email (aubrey.schmidt@dai-labor.de)

Citations

Citing is one of the essential points you need to do in you thesis. Statements not basing on results of your own research[1] not being cited represent a breach on the rules of scientific working. Therefore, you every statement needs to be cited basing on information that other people can cross-check. A common way of citing in technical papers is:

- Oberheide et al. [2] state that the average time for an anti-virus enginge to be updated with a signature to detect an unknown threat is 48 days.

Note: et al. is used when the paper was written by more than two people. Check the code of this section to learn how to cite from a technical perspective.

Note: you can change the citation style in the `thesis.tex` file, e.g. to harvard style citations. Instructions on this can also be found in this file.

You should not cite anything that can be changed, e.g. it is not that good citing web pages since they might get updated changing the cited content. There are no clear quality measures on citing sources but aubrey believes that the following list is true for several cases, starting with highest quality:

1. Journal article or book
2. Conference paper
3. Workshop paper
4. Technical report
5. Master thesis

[1] in what ever context

6. Bachelor thesis

7. General Web reference

There might be workshop papers that have a higher quality than some journal papers. Therefore this list only gives you a hint on possible quality measures. Another measure can be whether a paper was indexed by ACM/IEEE, although this is not a strong indicator.

Finding and Handling Citation Sources

Following ressources are required for finding and handling articles, books, papers and sources.

- your primary resource will be `http://scholar.google.com`
- `http://www.google.com` might also be used
- `wikipedia.com` can be a good start for finding relevant papers on your topic
- you should download and install JabRef or a similar tool `http://jabref.sourceforge.net/`
- you should point JabRef to the mybib.bib file
- you should immediately enter a relevant paper to JabRef, additionally, you should write a short summary on it; else, you will do this work at least twice.

General Advices

- Do not take care of design, LaTeXwill do this for you. If you still feel that you need to take care of this, do this when you have finished writing, else you will end up in a lot of double and triple work.
- LaTeXwill do exactly that you will tell it to do. If you have problems with this, go for google or ask you supervizor
- use labels in order to be able to reference to chapters, section, subsections, figures, tables, etc. ...

General Commands

- check http://en.wikibooks.org/wiki/LaTeX
- check http://www.uni-giessen.de/hrz/tex/cookbook/cookbook.html German

Please also check the following source [1].

Code

This section shows you how to get your code into a LaTeXdocument. See code for options.

```
1 class Beispiel{
2
3   public static void main(String args[]){
4
5     System.out.println("Hello World");
6
7   }
8
9 }
```

```
1 class Beispiel{
2
3   public static void main(String args[]){
4
5     System.out.println("Hello World");
6
7   }
8
9 }
```

Listing 6.1: Example code is presented here

Figures

This section describes how to include images to your document. Information was taken from `http://en.wikibooks.org/wiki/LaTeX/Floats,_Figures_and_Captions`, visited on 05/08/2011. Please make sure to use original vector graphics as basis since image quality might be used as weak indicator for thesis quality. For this, try to find find files in `.SVG` or `.PDF` format. Exporting a `.PNG` or `.JPG` to `.PDF` will not work since data was already lost while exporting it to these formats. This is the case for most Web graphics. Wikipedia startet entering most in images in `.SVG` which easily can be transformed to `.PDF`, but please do not forget proper citations.

Figure 6.1: Including an image; in this case a PDF. Please note that the caption is placed below the image.

Figure 6.2: See code for caption options: this is a long caption which is printed in the Text. Additionally, image size was increased

(a) Small (b) Large (c) Medium

Figure 6.3: Placing images side by side using the subfig package. Space between the images can be adjusted.

Tables

Here, you will find some example tables.The tables were taken from `http://en.wikibooks.org/wiki/LaTeX/Tables`, visited on 05/08/2011. Table environment was added plus caption and label. For code, check `__help/latex_hinweise.tex`.

Table 6.1: Simple table using vertical lines. Note that the caption is always above the table! Please check code for finding the right place for the table label.

1	2	3
4	5	6
7	8	9

Table 6.2: Table using vertical and horizontal lines

7C0	hexadecimal
3700	octal
11111000000	binary
1984	decimal

Table 6.3: Table with column width specification on last column

Day	Min Temp	Max Temp	Summary
Monday	11C	22C	A clear day with lots of sunshine. However, the strong breeze will bring down the temperatures.
Tuesday	9C	19C	Cloudy with rain, across many northern regions. Clear spells across most of Scotland and Northern Ireland, but rain reaching the far northwest.

Table 6.4: Table using multi-column and multirow

Team sheet		
Goalkeeper	GK	Paul Robinson
Defenders	LB	Lucus Radebe
	DC	Michael Duberry
	DC	Dominic Matteo
	RB	Didier Domi
Midfielders	MC	David Batty
	MC	Eirik Bakke
	MC	Jody Morris
Forward	FW	Jamie McMaster
Strikers	ST	Alan Smith
	ST	Mark Viduka