

Titel der Dissertation

Optionaler Subtitel

DISSERTATION

zur Erlangung des akademischen Grades

Doktor/in der technischen Wissenschaften

eingereicht von

Martina Musterfrau

Matrikelnummer 0123456

an der
Fakultät für Informatik der Technischen Universität Wien

Betreuung: Titel Vorname Nachname

Diese Dissertation haben begutachtet:

(Titel Vorname Nachname)

(Titel Vorname Nachname)

Wien, TT.MM.JJJJ

(Martina Musterfrau)

Titel der Dissertation

Optionaler Subtitel

DISSERTATION

submitted in partial fulfillment of the requirements for the degree of

Doktor/in der technischen Wissenschaften

by

Martina Musterfrau

Registration Number 0123456

to the Faculty of Informatics
at the Vienna University of Technology

Advisor: Titel Vorname Nachname

The dissertation has been reviewed by:

(Titel Vorname Nachname)

(Titel Vorname Nachname)

Wien, TT.MM.JJJJ

(Martina Musterfrau)

Erklärung zur Verfassung der Arbeit

Hiermit erkläre ich, dass ich diese Arbeit selbständig verfasst habe, dass ich die verwendeten Quellen und Hilfsmittel vollständig angegeben habe und dass ich die Stellen der Arbeit - einschließlich Tabellen, Karten und Abbildungen -, die anderen Werken oder dem Internet im Wortlaut oder dem Sinn nach entnommen sind, auf jeden Fall unter Angabe der Quelle als Entlehnung kenntlich gemacht habe.

(Ort, Datum)

(Unterschrift Verfasserin)

Acknowledgements

Optional acknowledgements may be inserted here.

Abstract

According to the guidelines of the faculty, an abstract in English has to be inserted here.

Kurzfassung

Hier fügen Sie die Kurzfassung auf Deutsch gemäß den Vorgaben der Fakultät ein.

Contents

1	Introduction	1
1.1	General Information	1
1.2	Organizational Issues	1
1.3	Structure of the Dissertation	1
2	Typographic Design	3
2.1	Tables	3
2.2	Figures	3
2.3	Formulas and Equations	4
2.4	Fonts	5
2.5	Code	5
3	Bibliographic Issues	7
3.1	Literature Search	7
3.2	BibTeX	7
	Bibliography	9

Introduction

1.1 General Information

This document is intended as a template and guideline and should support the author in the course of doing the dissertation. Assessment criteria comprise the quality of the theoretical and/or practical work as well as structure, content and wording of the written dissertation. Careful attention should be given to the basics of scientific work (e.g., correct citation).

1.2 Organizational Issues

Have a look at the website of the Faculty of Informatics at the Vienna University of Technology (<http://www.informatik.tuwien.ac.at>), especially for the forms needed. Please be also sure to talk to your advisor about organizational issues regarding your dissertation.

1.3 Structure of the Dissertation

If the curriculum regulates the language of the dissertation to be English, the dissertation has to be written in English. Otherwise, the dissertation may be written in English or in German. The structure of the dissertation is predetermined. The table of contents is followed by the introduction and the main part, which can vary according to the content. The dissertation ends with the bibliography (compulsory) and the appendix (optional).

- Cover page
- Acknowledgements
- Abstract of the dissertation in English and German
- Table of contents

- Introduction
 - motivation
 - problem statement (which problem should be solved?)
 - aim of the work
 - methodological approach
 - structure of the work
- State of the art / analysis of existing approaches
 - literature studies
 - analysis
 - comparison and summary of existing approaches
- Methodology
 - used concepts
 - methods and/or models
 - languages
 - design methods
 - data models
 - analysis methods
 - formalisms
- Suggested solution/implementation
- Critical reflection
 - comparison with related work
 - discussion of open issues
- Summary and future work
- Appendix: source code, data models, ...
- Bibliography

Typographic Design

For working with LaTeX you can take advantage of a variety of books and free introductions and tutorials on the internet. A competent contact point for LaTeX beginners is the LaTeX Wikibook, which is available under <http://en.wikibooks.org/wiki/LaTeX>.

The following sections give examples of the most important LaTeX environments and commands.

2.1 Tables

Tables have to be realized with the help of the *table* environment. Tables shall be sequentially numbered for each chapter and described in terms of a short caption (cf. Table 2.1).

Name	Date	Title
Mustermann Adam	18.5	T1
Musterfrau Eva	22.6	T2

Table 2.1: Seminar for Master Students

2.2 Figures

Like tables, figures shall be sequentially numbered for each chapter and described in terms of a short caption). You could either produce your drawings directly inside Latex using PSTricks¹, Tikz², or any set of macros dedicated to your requirements (cf. Figure 2.1). Alternatively, you may include figures prepared in external tools (cf. Figure 2.2). Note, to ensure high quality printing, all figures must have at least 300 dpi.

¹<http://tug.org/PSTricks>

²<http://sourceforge.net/projects/pgf>

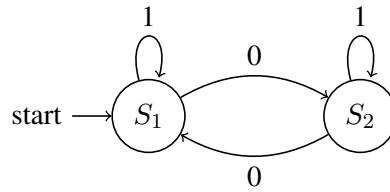


Figure 2.1: Sample figure

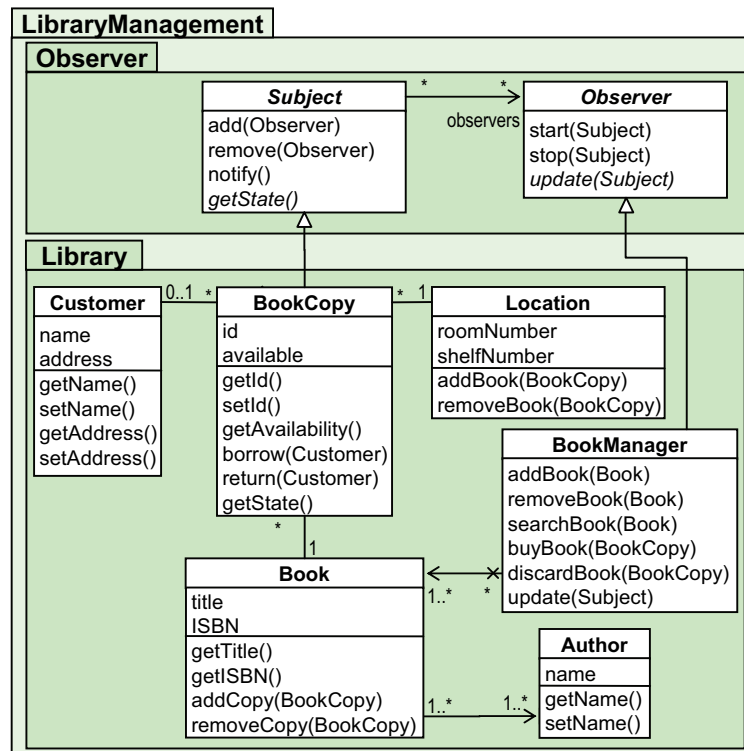


Figure 2.2: Sample figure

2.3 Formulas and Equations

Formulas and equations shall be formatted using the *equation* environment. They shall be centered and numbered on the right. The numbering shall have parentheses, as shown in Equation (2.1).

$$b_2(x) = \text{sgn}(x - 0.5) * (x - 0.5)^2 * 2 + 0.5 \quad (2.1)$$

2.4 Fonts

When introducing important terms for the first time use *emphasize*. For a consistent look and feel of proper names like Class Diagram and Observer pattern you may define macros in the main document `dissertation.tex`.

2.5 Code

For short code fragments use the *verbatim* environment.

```
//Start Program
System.out.println("Hello World!");
//End Program
```

A much better alternative is the *algorithm* environment (cf. Algorithm 2.1). This environment offers special formatting features for loops, operations and comments.

input : A bitmap Im of size $w \times l$

output: A partition of the bitmap

```
1 special treatment of the first line;
2 for  $i \leftarrow 2$  to  $l$  do
3   special treatment of the first element of line  $i$ ;
4   for  $j \leftarrow 2$  to  $w$  do
5      $\text{left} \leftarrow \text{FindCompress}(Im[i, j - 1]);$ 
6      $\text{up} \leftarrow \text{FindCompress}(Im[i - 1, j]);$ 
7      $\text{this} \leftarrow \text{FindCompress}(Im[i, j]);$ 
8     if left compatible with this then ; //  $\circ(\text{left}, \text{this}) == 1$ 
9
10    |   if  $\text{left} < \text{this}$  then  $\text{Union}(\text{left}, \text{this});$ 
11    |   else  $\text{Union}(\text{this}, \text{left});$ 
12    |   end
13    |   if up compatible with this then ; //  $\circ(\text{up}, \text{this}) == 1$ 
14
15    |   |   if  $\text{up} < \text{this}$  then  $\text{Union}(\text{up}, \text{this});$ 
16    |   |   // this is put under up to keep tree as flat as
17    |   |   |   possible
18    |   |   else  $\text{Union}(\text{this}, \text{up});$  // this linked to up
19    |   |   end
20    |   end
21  end
22  foreach element  $e$  of the line  $i$  do  $\text{FindCompress}(p)$ 
23 end
```

Algorithm 2.1: Sample algorithm

Bibliographic Issues

3.1 Literature Search

Information on online libraries and literature search, e.g., interesting magazines, journals, conferences, and organizations may be found at <http://www.big.tuwien.ac.at/teaching/info.html>.

3.2 BibTeX

BibTeX should be used for referencing.

The LaTeX source document of this pdf document provides you with different samples for references to journals [3], conference papers [6], books [2], book chapters [7], electronic standards [5], dissertations [8], masters' theses [4], and web sites [1]. The respective BibTeX entries may be found in the file `references.bib`. For administration of the BibTeX references we recommend <http://www.citeulike.org> or JabRef for offline administration, respectively.

Bibliography

- [1] Business Informatics Group. <http://www.big.tuwien.ac.at>. Accessed: 2010-11-09.
- [2] M. Hitz, G. Kappel, E. Kapsammer, and W. Retschitzegger. *UML @ Work, Objektorientierte Modellierung mit UML 2*. dpunkt.verlag, 3. edition, 2005 (in German).
- [3] Christian Huemer, Philipp Liegl, Rainer Schuster, and Marco Zapletal. B2B Services: Worksheet-Driven Development of Modeling Artifacts and Code. *Computer Journal*, 52(2):28–67, 2009.
- [4] P. Langer. Konflikterkennung in der Modellversionierung. Master’s thesis, Vienna University of Technology, 2009.
- [5] OASIS. *Business Process Execution Language 2.0 (WS-BPEL 2.0)*, 2007.
- [6] A. Schauerhuber, M. Wimmer, W. Schwinger, E. Kapsammer, and W. Retschitzegger. Aspect-Oriented Modeling of Ubiquitous Web Applications: The aspectWebML Approach. In *Proceedings of the 14th Annual IEEE International Conference and Workshops on the Engineering of Computer-Based Systems (ECBS '07), March 26-29, Tucson, Arizona, USA*, pages 569–576. IEEE CS Press, 2007.
- [7] W. Schwinger and N. Koch. Modeling Web Applications. In G. Kappel, B. Pröll, S. Reich, and W. Retschitzegger, editors, *Web Engineering*, pages 39–64. John Wiley & Sons, Ltd, 2006.
- [8] M. Wimmer. *From Mining to Mapping and Roundtrip Transformations - A Systematic Approach to Model-based Tool Integration*. PhD thesis, Vienna University of Technology, 2008.