

University of Passau
Department of Informatics and Mathematics



Master's Thesis

Experiments on Type Checking of Software Product Lines

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Abstract

[...]

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1. Introduction

[...]

1.1 Goal of this Thesis

[...]

1.2 Structure of the Thesis

[...]

2. Background

[...]

3. Example Chapter

This chapter gives you some examples how to include graphics, create tables, or include code listings. But first, we start with a short description how you can efficiently cite in \LaTeX . The following footnote shows you how to reference URLs and where this document is available online.¹

3.1 Acronyms

This template makes advantage of the glossaries package to support acronyms. The first occurrence of an acronym is replaced by its definition (e.g., Integrated Development Environment (IDE)). All other occurrences are replaced by the acronym (IDE). The glossaries package also supports plural—IDEs.

Sometimes you want to make sure, that the long version is used, even if Integrated Development Environment (IDE) was inserted before.

3.2 Citation

There are several types of literature. The most citations are workshop and conference papers. Please use the inproceedings-tag for those citations (e.g., [KAK09]). You should have short-hands for workshop and conference names to be sure the naming is consistent and uniform (see our BibTeX files how to do that).

Slightly different are articles published in journals (e.g., [KG06]). Make sure you that the volume and number-tags are present and that no inproceeding is tagged as article or vice versa.

You might want to take a look at the example BibTeX file to find out how to cite books [CE00], technical reports [KCH⁺90], websites [CDT09], PhD theses, or master theses [Beu03, Ros09].

¹<http://www.ovgu.de/tthuem>

3.3 Formulas

There are different types of mathematical environments to set formulas. The equation $E = m \cdot c^2$ is an inline formula. But you can also have formulas at a separate line (see Equation 3.1).

$$P = (\mathcal{A} \Rightarrow (\mathcal{B} \Leftrightarrow \mathcal{C}) \wedge (\mathcal{B} \Leftrightarrow \mathcal{D})) \wedge (\mathcal{B} \Rightarrow \mathcal{A}) \wedge (\mathcal{C} \Rightarrow \mathcal{A}) \wedge (\mathcal{D} \Rightarrow \mathcal{A}) \quad (3.1)$$

If you need multiple lines that are aligned to each other, you might want to use the following code.

```

GraphLibrary
 $\wedge$  (GraphLibrary  $\Rightarrow$  Edges)  $\wedge$  (Edges  $\vee$  Algorithms  $\Rightarrow$  GraphLibrary)
 $\wedge$  (Edges  $\Leftrightarrow$  Directed  $\vee$  Undirected)  $\wedge$  ( $\neg$ Directed  $\vee$   $\neg$ Undirected)
 $\wedge$  (Algorithms  $\Leftrightarrow$  Number  $\vee$  Cycle)
 $\wedge$  (Cycle  $\Rightarrow$  Directed).
```

3.4 Graphics

In Figure 3.1, we give a small example how to insert and reference a figure.

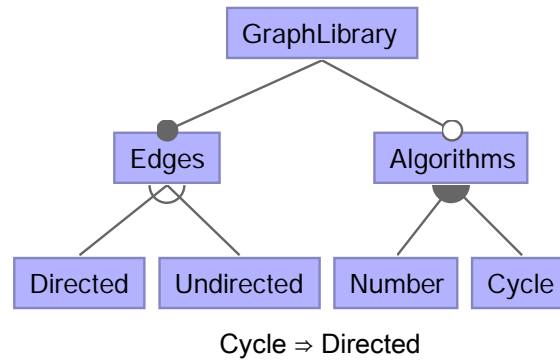


Figure 3.1: A feature model representing a graph product line

3.5 Tables

Table 3.1 on the facing page shows the result of a simple tabular environment.

3.6 Code Listings

In 3.1 on the next page, we give an example of a source code listing.

Group Type	Propositional Formula
And	$(P \Rightarrow C_{k_1} \wedge \dots \wedge C_{k_m}) \wedge (C_1 \vee \dots \vee C_n \Rightarrow P)$
Or	$P \Leftrightarrow C_1 \vee \dots \vee C_n$
Alternative	$(P \Leftrightarrow C_1 \vee \dots \vee C_n) \wedge \text{atmost1}(C_1, \dots, C_n)$

Table 3.1: Mapping a feature model to a propositional formula

```

1 class A extends Object {
2     A() { super(); }
3 }
4 class B extends Object {
5     B() { super(); }
6 }
7 class Pair extends Object {
8     Object fst;
9     Object snd;
10    Pair(Object fst, Object snd) {
11        super(); this.fst=fst; this.snd=snd;
12    }
13    Pair setfst(Object newfst) {
14        return new Pair(newfst, this.snd);
15    }
16 }

```

Listing 3.1: Java source code

4. Experiment Setup

5. Evaluation

[...]

6. Related Work

[...]

7. Conclusion

[...]

8. Future Work

[...]

A. Appendix

[...]

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Eidesstattliche Erklärung:

[Text anpassen an Brief] Hiermit versichere ich an Eides statt, dass ich diese Masterarbeit selbständig und ohne Benutzung anderer als der angegebenen Quellen und Hilfsmittel angefertigt habe und dass alle Ausführungen, die wörtlich oder sinngemäß übernommen wurden, als solche gekennzeichnet sind, sowie dass ich die Masterarbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegt habe.

Name

Passau, den 31. März 2013