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Towards a Software Metric for OSGi

Graduation Thesis

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Porto Alegre
October 2014

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*“If I have seen farther than others,
it is because I stood on the shoulders of giants.”*

— SIR ISAAC NEWTON

ACKNOWLEDGMENTS

Acknowledgments

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LIST OF ABBREVIATIONS AND ACRONYMS

SMP	Symmetric Multi-Processor
NUMA	Non-Uniform Memory Access
SIMD	Single Instruction Multiple Data
SPMD	Single Program Multiple Data
ABNT	Associação Brasileira de Normas Técnicas

ABSTRACT

Using \LaTeX to Prepare Documents at II/UFRGS Electronic document preparation, \LaTeX , ABNT, UFRGS This document is an example on how to prepare documents at II/UFRGS using the \LaTeX classes provided by the UTUG. At the same time, it may serve as a guide for general-purpose commands. *The text in the abstract should not contain more than 500 words.*

Keywords: Formatação eletrônica de documentos, \LaTeX , ABNT, UFRGS.

RESUMO

Este documento é um exemplo de como formatar documentos para o Instituto de Informática da UFRGS usando as classes \LaTeX disponibilizadas pelo UTUG. Ao mesmo tempo, pode servir de consulta para comandos mais genéricos. *O texto do resumo não deve conter mais do que 500 palavras.*

Palavras-chave: Electronic document preparation, \LaTeX , ABNT, UFRGS.

1 INTRODUCTION

1.1 Context

This section defines the context of the work

1.2 Objectives

This section defines the objectives

1.3 Organization

This section shows how this paper is organized

2 STATE OF ART

This chapter presents an overview of the concepts and technologies that were studied and used on the development of this work. Section 2.1(TODO reference subsection) introduces general *Software Quality*, 2.2 present the concepts of code *Quality Analysis*, 2.3 introduces the concept of *Software Metric*, 2.4 shows the concept of *Program Analysis* and section 2.5 lists well known *Code Quality Analysis Tools*.

2.1 Introduction

This section will talk about general quality analysis

2.2 Software Quality

This section will talk about software quality - functional quality(performed via automated testing) - structural quality(**this is where our work shines**)

2.2.1 Quality Measurement

2.2.1.1 Code Based Analysis

2.2.1.2 Efficiency

2.2.1.3 Maintainability

2.2.1.4 Other kinds of software Quality Measurement

2.3 Software Metric

2.3.1 Common Software Measurements

2.4 Program Analysis

Program analysis is the process of automatically analyzing the behavior of computer programs. Two main approaches in program analysis are **static program analysis** and **dynamic program analysis**. Main applications of program analysis are program correctness and program optimization.

2.4.1 Dynamic Program Analysis

2.4.2 Static Program Analysis

2.5 Quality Analysis Tools

This section will list most used code quality analysis tools.

3 JAVA AND OSGI

This chapter will talk about Java and OSGi

Java in the context of modular applications(OSGi)

4 INTRABUNDLE - AN OSGI BUNDLE INTROSPECTION TOOL

4.1 Implementation Overview

4.2 Collecting Bundle Data

4.3 Metrics Calculation

5 BUNDLE INTROSPECTION RESULTS

This chapter will make a deep analysis of results and prove that my contribution is valid(or not)

6 CONCLUSION

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