Índice

[1 Introduction 5](#_Toc392451964)

[1.1 Motivation 6](#_Toc392451965)

[1.2 Vision 6](#_Toc392451966)

[1.3 Goals 7](#_Toc392451967)

[1.4 Development context 7](#_Toc392451968)

[1.5 Dissertation Structure 7](#_Toc392451969)

[2 State of the Art / Related Work 9](#_Toc392451970)

[2.1 Concept Relation Quantification 9](#_Toc392451971)

[2.2 Ontology Learning 9](#_Toc392451972)

[2.2.1 Association rules 9](#_Toc392451973)

[2.3 Building & Construction 9](#_Toc392451974)

[3 Theoretical and Technical Foundation 10](#_Toc392451975)

[3.1 Association Rules 10](#_Toc392451976)

[3.1.1 Frequent Pattern Growth 10](#_Toc392451977)

[3.1.2 The (Association Rules) Algorithm 12](#_Toc392451978)

[3.1.3 Association Rules Metrics 12](#_Toc392451979)

[3.2 Vector Space Model 13](#_Toc392451980)

[3.2.1 Term Weighting – The TF-IDF 14](#_Toc392451981)

[3.3 Similarity Measure in Information Retrieval 15](#_Toc392451982)

[3.3.1 Cosine Similarity Measure Algorithm 17](#_Toc392451983)

[4 Building & Construction Domain Ontology 18](#_Toc392451984)

[4.1 Ontology 18](#_Toc392451985)

[4.1.1 Construction Methodology 19](#_Toc392451986)

[4.1.2 Ontologic enrichment Dynamics 19](#_Toc392451987)

[4.1.3 The E-COGNOS Project – Ontology in Building and Construction 19](#_Toc392451988)

[5 Design and Implementation 20](#_Toc392451989)

[5.1 Tools and Technologies 20](#_Toc392451990)

[5.2 Conceptual & Technical Architectures 21](#_Toc392451991)

[5.2.1 Document Analysis 21](#_Toc392451992)

[5.2.2 FP-Growth 23](#_Toc392451993)

[5.2.3 Association Rules 23](#_Toc392451994)

[5.2.4 Frequent Itemset Mapping 23](#_Toc392451995)

[5.2.5 Ontology Enrichment 24](#_Toc392451996)

[5.3 Front end 24](#_Toc392451997)

[6 Evaluation 25](#_Toc392451998)

[6.1 Use cases 25](#_Toc392451999)

[6.2 Cientific publications 25](#_Toc392452000)

[7 Conclusion and Future Work 26](#_Toc392452001)

[8 Bibliography 27](#_Toc392452002)

[9 Appendices 30](#_Toc392452003)

[Figure 5.1 - Rapidminer Main Process 20](#_Toc392451959)

[Figure 5.2 - Conceptual Architecture 21](#_Toc392451960)

[Figure 5.3 - Vector Creation 21](#_Toc392451961)

[Figure 5.4 - Document Analysis 22](#_Toc392451962)

[Figure 5.5 - Entity Relation Model 24](#_Toc392451963)

[Table 5‑1 - Numerical to Binomial regulation 22](#_Toc392451951)

[Table 5‑2 - Association Rules Database Structure 23](#_Toc392451952)