

Comparison and Implementation of LOD Frameworks

**Finding evaluation and application of implicit
existing best practise frameworks**

BACHELORARBEIT

zur Erlangung des akademischen Grades

Bachelor of Science

im Rahmen des Studiums

Software und Information Engineering

eingereicht von

Lukas Baronyai

Matrikelnummer 1326526

an der Fakultät für Informatik

der Technischen Universität Wien

Betreuung: Pretitle Forename Surname, Posttitle

Mitwirkung: Pretitle Forename Surname, Posttitle

Pretitle Forename Surname, Posttitle

Pretitle Forename Surname, Posttitle

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Lukas Baronyai

Forename Surname

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BACHELOR'S THESIS

submitted in partial fulfillment of the requirements for the degree of

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in

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by

Lukas Baronyai

Registration Number 1326526

to the Faculty of Informatics

at the TU Wien

Advisor: Pretitle Forename Surname, Posttitle

Assistance: Pretitle Forename Surname, Posttitle

Pretitle Forename Surname, Posttitle

Pretitle Forename Surname, Posttitle

Vienna, 10th July, 2016

Lukas Baronyai

Forename Surname

Kurzfassung

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Abstract

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Introduction

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1.1 Research Question

RQ: *How do common LOD-frameworks look like and how can they be applied?*

1. **RQ1:** What are existing frameworks?
2. **RQ2:** How do they compare against each other? Are there an explicit/implicit existing best practise?
3. **RQ3:** How do Frameworks compare against All-In-One Solutions?
4. **RQ4:** How does an example application of such a best practise framework look like?

1.2 Objective

1.3 Methodology

1.4 Structure of this Paper

State of the art (RQ1)

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2.1 Frameworks

2.1.1 Euclid Project

<http://www.euclid-project.eu/modules/chapter5>

2.1.2 LUCERO

<https://code.google.com/archive/p/lucero-project/wikis/StepByStepDocumentation.wiki>

2.1.3 LD-Patterns

<http://patterns.dataincubator.org/book/linked-data-patterns.pdf>

2.1.4 Linked Data: Evolving the Web into a Global Data Space (Heath, Bizer)

<http://linkeddatabook.com/editions/1.0/#htoc61>

2.2 All-In-One Solutions

2.2.1 D2R Server

<http://d2rq.org/d2r-server>

2.3 Excluded Tools

2.3.1 LOD2 Stack

(too general, only stack of technologies) <http://stack.linkeddata.org/lod2/>

2.3.2 LODUM

(no public available framework) <http://lodum.de/>

Methodology (RQ2 & RQ3)

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3.1 Criterias

3.1.1 General architecture pattern

3.1.2 Strategies

Data Preparation

Data Interlinking

Data Storage

Data Publication

3.2 Why All-In-One Solutions

Comparison (RQ2 & RQ3)

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4.1 Comparison of the Frameworks

4.1.1 General architecture pattern

Multitier/-layer Architecture Typical:

1. Data Source/Input
2. Data Preparation
3. Data Storage (Triple Store)
4. Data Publication

4.1.2 Strategies

Data Preparation

Extractors, RDF-Transformers, Cleansing, Vocabulary Mapping

Data Interlinking

Data Storage

Triple Store, Relational Database, RDF Storage

Data Publication

SPARQL, CMS

4.2 Comparison to All-In-One Solutions

Implementation (RQ4)

TODO: Enter your text here.

5.1 Domain (Publication Database)

5.2 Composed Architecture (Best practise)

5.2.1 Architecture Pattern

5.2.2 Strategies

5.3 Used Technologies

CHAPTER 6

Critical reflection

TODO: Enter your text here.

- 6.1 Existing Best Practice
- 6.2 Analysis of the Implementation
- 6.3 Applicability and Adaptability

Summary and future work

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