

First Semantic Web Experiments

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October 5, 2017

1 Introduction

Let's start exploring the semantic web. There are plenty of different tools to handle semantic web, e.g.:

ontology editors , like Protégé (NeON Toolkit, TopBraid Composer and other) serve for authoring semantic web ontologies and data, they vary in features and languages, but Protégé remains the first-choice open-source system.

semantic repositories , like OpenRDF Sesame (Virtuoso, Parliament, and other) serve for storing RDF ontologies and data sets. These repositories typically offer SPARQL endpoints (see e.g. <http://dbpedia.org/snorql>)

linked-data publishing platforms , like Pubby (D2R, and other) serve for publishing linked data,

semantic web crawlers , like LDSpider (crOWLer, and other) serve for crawling (semantic) web, typically producing RDF,

semantic query interfaces , like Sig.ma (Watson, Swoogle, and other) serve for querying semantic web.

Today we only touch the first one, leaving the rest for the next lectures and seminars.

2 Protégé

Protégé is an open-source ontology editor, available at <http://protege.stanford.edu>. Currently, it ships in three natures:

- Protégé 3.x is a frame/RDF/OWL 1 editor. It contains plenty of plugins involving database access, thesauri authoring, ontology matching, ontology comparison, and many other,

- Protégé 5.x is an OWL 2 editor. It has a better parser (for OWL, RDF in various formats) than Protégé 3, see AEM33RZN crash course (https://cw.felk.cvut.cz/wiki/_media/courses/ae4m33rzn/protege-crash-course.pdf)
- WebProtégé is a web application for ontology management.

3 Experiments with RDF

3.1 Playing with BBC WildLife finder

1. See on the content <http://www.bbc.co.uk/nature/life/Mammal>
2. Start Protégé 5 and open <http://www.bbc.co.uk/nature/life/Mammal.rdf>
3. Explore other BBC WildLife pages.

3.2 Exploring DBPedia

1. Using online DBPedia service at <http://live.dbpedia.org/page/Mammal>, try to find the corresponding DBPedia term for *mammal*.
2. Explore other DBPedia resources.

3.3 Exploring the Aviation Safety Ontology

1. Using Protégé explore the ontology at <https://goo.gl/ebNH5c>

4 Relevant References

- Getting Started with Protégé 5: <https://goo.gl/3NLrqn>
- A Practical Guide to Building OWL Ontologies Using Protégé 5 and CO-ODE Tools, Ed. 1.3, <https://goo.gl/hZj5sN>
- A list of ontology authoring and management tools, <https://goo.gl/pTcbXn>.