

TDT44 Semantic Web

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1. Administrative information

Responsible:: Professor Jon Atle Gulla
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Study points: 7.5

2. Course Information

Introduction: 3 September 14.15 -15.00 in ITS236
Organization: No organized lectures, self study

Examination: 27 November 2009 (oral examination)

The students are assumed to know how semantic technologies and ontologies may be applied in real applications. This means that they also need to acquire practical skills in ontology engineering and semantics.

3. Readings

- [1] Dean Allemang & Jim Hendler. Semantic Web for the Working Ontologist. Morgan Kaufmann/Elsevier. 2008, Chapters 1-7, 9-10. 224 pages
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4. Exercise

There are no organized lectures in this course, though the students are encouraged to build their own ontologies in OWL. These ontologies should define the terminologies of some well-defined domain, and they include classes, individuals, properties and various types of constraints. Practical ontology modeling experience may be tested on the exam.

Tool:
Protégé-OWL editor

Appendix. The Protégé open source ontology editor from Stanford

There are numerous editors available on the web for ontology modeling. We will in this course use Protégé from Stanford University. It has more than 90,000 registered users and forms a whole community of users and developers. Users can develop their own plug-ins to Protégé and make them available to other Protégé practitioners.

Protégé was originally developed as a frame-based ontology editor, but has since added facilities for building OWL ontologies:

“The [Protégé-OWL editor](#) enables users to build ontologies for the Semantic Web, in particular in the W3C's [Web Ontology Language \(OWL\)](#).” An OWL ontology may include descriptions of classes, properties and their instances. Given such an ontology, the OWL formal semantics specifies how to derive its logical consequences, i.e. facts not literally present in the ontology, but entailed by the semantics. These entailments may be based on a single document or multiple distributed documents that have been combined using defined OWL mechanisms” (see the [OWL Web Ontology Language Guide](#)).” [Protégé homepage]

Protégé 3.3.1 can be downloaded from the following site (you need to register):

<http://protege.stanford.edu/download/download.html>

Some other interesting links for Protégé users:

- Getting started with Protégé-OWL
<http://protege.stanford.edu/doc/owl/getting-started.html>
- Protégé tutorial (118 pages):
<http://www.co-ode.org/resources/tutorials/ProtegeOWLTutorial.pdf>
- There is a Protégé community of Practice (CoP) with their own WikiHomePage:
<http://protege.cim3.net/cgi-bin/wiki.pl/>
- Introduction to the SPARQL, a language for querying RDF and OWL ontologies:
<http://www.xml.com/pub/a/2005/11/16/introducing-sparql-querying-semantic-web-tutorial.html>

In addition there are many papers about Protégé available on the Web.