



E-D8-2

Spring or Summer School II.2

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Abstract

This document consists of two chapters.

Chapter 1 reports about the teaching material of the Summer School “Reasoning Web 2006”. The Summer School proceedings [Barahona et al., 2006] published in the “Lecture Notes in Computer Science” series by Springer-Verlag, is an appendix to this document and forms an essential part of it.

Chapter 2 describes the tentative plans for the Summer School “Reasoning Web 2007”.

Keyword List

semantic web, reasoning, education and training, summer school

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Spring or Summer School II.2

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Chapter 1

Reasoning Web 2006, Teaching Material

The Summer School “Reasoning Web 2006” will take place at the New University of Lisbon from Monday 4th September 2006 to Friday 8th September 2006 (see <http://reasoningweb.org>). By the time of writing this deliverable (August 2006), preparations for the event are running according to plan and perfectly on schedule.

Deliverable E-D8-1 “Spring or Summer School II.1” [Eisinger and Małuszyński, 2006b] contains a preliminary list of courses with detailed descriptions. The final list of courses differs from the preliminary one only in that one course was withdrawn by its author (*The Rule Interchange Format under development at W3C* by Christian de Sainte Marie) and that many lecturers involved more co-authors than originally announced. This increase of contributors attests to the intensive inter and intra working group co-operation in preparing the Summer School courses.

The final list now consists of ten courses grouped in four topical sections as follows (the classification in parantheses refers to the Semantic Web topic hierarchy proposed in deliverable E-D7 “Graduate Education Curriculum on the Semantic Web – a first draft” [Małuszyński et al., 2006]).

- Semantic Web Query Languages
(v. Semantic Web Query and Update Languages, v.1. Query Languages)
 - *Querying the Web with SPARQL*
by Bijan Parsia
 - *RDF Querying: Language Constructs and Evaluation Methods Compared*
by Tim Furche, Benedikt Linse, François Bry, Georg Gottlob, Dimitris Plexousakis

The SPARQL Query Language for RDF was suggested as a W3C standard in 2006 (see <http://www.w3.org/TR/rdf-sparql-query/>) and is therefore a very up-to-date topic for a Reasoning Web course. However, there exists a huge quantity of suggestions for Semantic Web query languages with many – mostly scattered – ideas and improvements with respect to SPARQL. The second course provides a comparative overview of this large field and can be seen as a continuation of the course at Reasoning Web 2005 by the same authors, this time with a particular focus on RDF querying.

- Semantic Web Rules and Ontologies
(vi. Ontologies for the Semantic Web, vii. Semantic Web Rules + Logic)
 - *Integrating Ontologies and Rules: Semantic and Computational Issues*
by Riccardo Rosati
 - *Reasoning with Rules and Ontologies*
by Thomas Eiter, Giovambattista Ianni, Axel Polleres, Roman Schindlauer, Hans Tompits
 - *Semantic Web and Business Rules*
by Silvie Spreeuwenberg, Rik Gerrits
 - *Composition of Rule Sets and Ontologies*
by Uwe Aßmann, Jendrik Johannes, Jakob Henriksson, Ilie Savga

Reasoning with rules is the central concern of REVERSE, and the combination of rules and ontologies belongs to the hottest Semantic Web issues these days. The first two courses on this issue cover the complementary aspects of how to combine rules and ontologies and how to reason with the combination. The third course illuminates relationships to industrial practice. The last course covers modularisation techniques, thus transferring software engineering concepts to rules and ontologies.

- Bioinformatics and Medical Ontologies
(x. Semantic Web Applications, x.3. Bioinformatics, x.5. e-health)
 - *Ontological and Practical Issues in using a Description Logic to Represent Medical Concepts: Experience from GALEN*
by Alan Rector, Jeremy Rogers
 - *Ontologies and Text Mining as a Basis for a Semantic Web for the Life Sciences*
by Michael Schroeder, Patrick Lambrix
 - *Integrating Web Resources to Model Protein Structure and Function*
by Ludwig Krippahl

The courses intend to introduce computer scientists into these extremely active fields of Semantic Web applications, which are difficult to access by outsiders. The course on GALEN is based on a well-established and widely-used medical ontology. The second course addresses the very problem that makes life sciences so dependent on Semantic Web techniques: how to find and retrieve relevant information among the intractable plethora of biomedical data sources. The last course covers Semantic Web techniques for the core topic of bioinformatics and molecular biology, the modelling of protein structure and protein function.

- Industrial Aspects
(xi. Semantic Web Special Topics, xi.8. Outreach to Industry)
 - *The Semantic Web from an Industrial Perspective*
by Alain Léger, Johannes Heinecke, Lyndon J.B. Nixon, Pavel Shvaiko, Jean Charlet, Paola Hobson, François Goasdoué

This course will provide feedback from industry to Semantic Web researchers.

For each of these courses a full article was submitted by the lecturers, reviewed by the programme committee, and revised by the lecturers. The revised articles appear in the Summer School proceedings published in the “Lecture Notes in Computer Science” series by Springer-Verlag as LNCS 4126 [Barahona et al., 2006]. This 269 page volume is to be considered an appendix to this deliverable. More detailed publisher information about it can be found at <http://www.springeronline.com/3-540-38409-X>. Each participant of the Summer School will receive a copy of the volume at check-in.

By the time of writing this deliverable, the programme committee has received the slides and other material to be used during teaching for five of the ten courses above. This material has been uploaded or is presently being uploaded to REASE (<http://rease.semanticweb.org>). The material for the remaining five courses is expected to follow before the start of the Summer School.

Chapter 2

Reasoning Web 2007, Tentative Plans

The location and date of Reasoning Web 2007 will be Dresden, 3rd to 7th September 2007.

The people in charge of Reasoning Web 2007 have been appointed by the newly established Summer School board (see deliverable E-Dx1 “Reasoning Web Summer School Board and Charter” [Eisinger and Małuszyński, 2006a]): Nicola Henze (Hannover) is Programme Committee Chairwoman, Michael Schroeder (Dresden) is Local Organisation Chairman.

The programme committee consists of

- Grigoris Antoniou (Heraklion, REWERSE member)
- Uwe Aßmann (Dresden, REWERSE member)
- Cristina Baroglio (Turin, REWERSE member)
- Stefan Decker (DERI Ireland)
- Nicola Henze (Hannover, REWERSE member), chair
- Paula Pătrânjan (Munich, REWERSE member)
- Robert Tolksdorf (Berlin, Knowledge Web member)

The programme chair and programme committee intend to define the programme of Reasoning Web 2007 within the following general focus:

- Reasoning for the Semantic Web (foundations, current approaches, possible future)
- Rule languages, approaches to rule-based reasoning in the Semantic Web (foundations, current approaches, possible future)
- Scalability (issues, problems, solutions)
- Applications of rule languages and reasoning (state-of-the-art in real-world applications, ideas and prototypes for improved achievements)

The programme committee is presently defining the more specific focus of the Summer School.

The tradition of co-operation with Knowledge Web by including Knowledge Web members in the programme committee continues. The programme committee will also try to include Knowledge Web members among the lecturers as the yet-to-be-defined programme may permit.

Like the location Lisbon in 2006, Dresden is a node of the European Master of Science in Computational Logic. This will again encourage interchanges of students between the two communities, thus continuing the co-operation from 2006.

Another co-operation might arise with MUSING (see <http://musing.metaware.it/>), a new Integrated Project in the Sixth Framework Programme of the European Commission. Preliminary discussions between the programme committee of Reasoning Web 2007 and Thierry Declerck (DFKI, Saarbrücken) from MUSING have explored the possibility of a survey on Semantic Web reasoning in the financial domain by a MUSING lecturer at Reasoning Web 2007.

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