

Welcome to Semantic eScience 2011 Fall!

Scribe: Amar Kannan

Next week's Scribe: Apurva Tiwari

==Agenda==

*Class is focussed on describing the tools to aid Semantic Web Development

==Attendance==

*Amar Kannan

*Weijing

*Linyun

*Han

*David Molik

*Michael

*Katie Dunn

*Amruta Akut

*Sumitra

*Deborah

*Kathyayani

==Past Action Items==

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==Action Items==

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==Notes==

Highlights on tools - Ontology Tools, Pellet, OWL-S, SAWSDL, Wine Agent

Assignment 2 clarifications

At the using tools portion from the Methodology diagram

Languages to be described - RDFS, OWL, SKOS-Simple Knowledge Organization System, RIF-Rule Interchange Framework, SPARQL, OWL-S : OWL for Services

XML aimed at schemas and so it has little expressive power as an ontology language.

RDFS on the other hand is recognizable as an ontology language because it supports

--Classes and properties

--Sub/super-classes(of properties)

--Range and domain of properties

Despite the above mentioned uses, RDFS is still weak when describing :

---No localized range and domain constraints

---No existence/cardinality constraints

---No transitive, inverse or symmetrical properties

OWL Requirements:

Desirable features for Web Ontology:

Extends existing web standards

--such as XML,RDF,RDFS

Easy to understand and use

Formally specified

Of 'adequate' expressive power
Be able to provide automated reasoning support

OWL Class constructs and OWL axioms overview

OWL Layering: OWL Lite, OWL DL, OWL Full

See <http://www.w3.org/TR/owl-features/> section 2 for features and relation to RDF or OWL species.

OWL 2 :

Extends OWL with a small set of features

---That are motivated from application usage

---Semantics and reasoning techniques are well understood

---Tool builders are willing and able to support

Is fully **backwards compatible** with OWL

New OWL 2 Features :

Expressiveness:

Metamodeling

Annotations

New Features : Syntactic Sugar

Profiles :

-EL, QL and RL profiles

SKOS properties (Simple Knowledge Organization System)

--- For keeping log of things and tracking things

---SKOS Vocabulary Elements

skos:mappingRelation

skos:closeMatch

skos:exactMatch

skos:broadMatch

skos:narrowMatch

skos:relatedMatch

If you want to use SKOS then check

<http://www.w3.org/2006/07/SWD/SKOS/reference/20081001/skos.txt>

Editors:

Protege (<http://protege.stanford.edu>) would be , by far the best tool

CMap (<http://cmap.ihmc.us/>

Query Languages :

OWL-QL

SPARQL

XQUERY

SeRQL

RDFQuery

SPARQL

SPARQL has 4 result forms:

-**SELECT**

-**CONSTRUCT**

-**DESCRIBE**

-**ASK**

What happens when query is written and executed

Discussion on the differences between a database and a RDF graph

Discussing Rules, RIF

Using Jena, SWRL with Protege
Triple Stores

Discussion on various standards, services, reasoners, Software development tools and Triple Stores

----Break for 10 mins-----

Prof. Luciano's talk on Scottish Healthcare (Use Case development)
e-Health

The age of the average human being has increased , this means more spending per family on treatment.

e-health motivations

- aging population
- healthcare costs

Medicine being more personalized is becoming a reality
Health = P4 + C^n

The P's:

Personalized
Participatory
Preventative
Predictive

The C's

Co-development

Communicating
Crowd Wisdom
Collaborating
Co-Creating

An overview of the datasets which will be used for the healthcare project

A demo on the visualization for smoking/tobacco/tax

<http://logd.tw.rpi.edu/demo/tax-cost-policy-prevalence>