### ISWC2010 Lightning Talks: Schedule

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http://code.google.com/p/cumulusrdf
Semantic Web Dogfooding at ISWC 2010
The ISWC 2010 Metadata Project

Jie Bao, baojie@cs.rpi.edu
Rensselaer Polytechnic Institute

Conference Website & Apps
Visualization
Supported data browsers

Linking ISWC2010 Data (0.1M Triples)

Diverse Data Sources
```javascript
var items = document.getItemsByProperty('gr:name');
items.forEach(function(x, i) {
    console.log('Item ' + i + ': ' + x.get('gr:name'));
});
```
To leverage LoD, we require schema knowledge

- application-type driven (reusable for same kind of application)
- less messy than LoD (as required by application)
- overarching several LoD datasets (as required by application)
Information Visualization for Linked Data

- Semantic Web about machines, reasoning, and question answering
- Time to put human into the loop: overviews, patterns, and relationships
- Make Linked Data more comprehensible, explorable, and appealing

@nrchtct
mariandoerk.de
mdoerk@ucalgary.ca
What problem are we solving for whom?

500 euro Challenge: create a rich Citizen persona, (inc. a specific scenario)

Person with the most external uses of their semanticweb.org published persona (with scenario)
by an group other than theirs in an ISWC 2011 paper
where use is:
using persona to validate a problem: would this work for X?
wins 500 Euros (and maybe more)

Proof against persona, truth against scenario?

mc - ecs - usouthampton
Semantic Technology Framework

Operational Framework

Consensus on Ontology meta-terms
Published set of ontologies
Refer to

Tools

Ontology Partitioning / Lattice
Shared Upper Ontologies
Ontologies of Industry Driven Concepts

Bottom up knowledge discovery

Common Theory of Meaning
Business Rules

LD / Ontology Reference
Linked Data (RDF etc.)
Informal tagging (MOAT etc.)

User Interfaces / Data Viz techniques
Extracting triples from text and linking to LOD (DBpedia, OpenCyc, Yago) with Enrycher (http://enrycher.ijs.si/)

Plain text

"Enrycher" is available as a web-service generating Semantic Graph, LOD links, Entities, Keywords, Categories, Text Summarization

Diego Maradona Semantics:
owl:sameAs: http://dbpedia.org/resource/Diego_Maradona
owl:sameAs: http://sw.opencyc.org/concept/Mx4rvofERZwpEbGdrcN5Y9ycA
rdf:type: http://dbpedia.org/class/yago/ArgentinianInternationalFootballers
rdf:type: http://dbpedia.org/class/yago/ArgentineExpatriatesInItaly
rdf:type: http://dbpedia.org/class/yago/ArgentineFootballManagers
rdf:type: http://dbpedia.org/class/yago/ArgentineFootballers

Robbie Keane Semantics:
owl:sameAs: http://dbpedia.org/resource/Robbie_Keane
rdf:type: http://dbpedia.org/class/yago/CoventryCityF.C.Players
rdf:type: http://dbpedia.org/class/yago/ExpatriateFootballPlayersInItaly
rdf:type: http://dbpedia.org/class/yago/F.C.InternazionaleMilanoPlayers
http://bibbase.org

• Publish high-quality Linked Data about your publications from within your homepage
• In just a few minutes:
  – You will have a nice publication page on your own website
    • Group by year, type, keyword, etc.
    • Provide RSS feeds for your publications
    • Keep track of page visits and paper downloads
  – Your publications will be on the Web of Data
    • Get RDF triples describing (part of) your publications
    • Query the data using SPARQL
    • Get links to other existing bibliographic data sources
      – Such as DBLP, Semantic Web Dog Food, ACM and CiteSeer
• Help us build the largest bibliographic data source controlled and maintained by the authors, not third parties
  – Will use crowd-sourcing to validate discovered duplicates and links

Presentation by: Oktie Hassanzadeh - oktie@cs.toronto.edu
universAAL open platform

- Semantic Web
- Artificial Intelligence
- Ubiquitous/Pervasive Computing
- Cloud Computing
- Ambient Intelligence \(\rightarrow\) Ambient Assisted Living
- Web is (going to be) everywhere. How much different are problems those sciences are trying to solve?
- Platforms, frameworks, platforms again... How many more are needed?

Something has already started: universAAL

See: www.universaal.org
www.aaloa.org

Also in Finland: universAAL_FI, contact Vadym Kramar @ OAMK.fi
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<tr>
<th>Strong Standards</th>
<th>Interoperability comparatively good</th>
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<tr>
<td></td>
<td>Less vendor lock-in</td>
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<td>SPARQL Protocol</td>
<td>HTTP based</td>
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<td></td>
<td>Fits well in SoA</td>
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<td>Schemaless Data</td>
<td>MI / BI</td>
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<td></td>
<td>Flexibility</td>
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<td>Scalability</td>
<td>Billions of triples with open source software, on basic hardware</td>
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<td>I18N</td>
<td>UTF-8</td>
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<td></td>
<td>Language tags</td>
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LOD Browser Switch

Examples:
http://dbpedia.org/resource/Lady_Gaga
http://www.etsy.com/listing/66414390/orange-and-white-scarf?ref=sr_gallery_1_4
http://www.flickr.com/photos/56563081@N07/6701434943
http://www.ebay.com/sch/i.html?_nkw=orange+and+white+scarf
http://www.amazon.com/s?k=orange+and+white+scarf
http://www.google.com/search?q=orange+and+white+scarf
http://www.myspace.com/56563081
http://www.facebook.com/56563081
http://www.last.fm/user/56563081
http://www.flickr.com/photos/56563081@N07/
http://www.etsy.com/shop/56563081
http://www.ebay.com/sch/i.html?_nkw=56563081
http://www.amazon.com/s?k=56563081
http://www.google.com/search?q=56563081
http://www.myspace.com/56563081
http://www.facebook.com/56563081
http://www.last.fm/user/56563081
http://www.flickr.com/photos/56563081@N07/
http://www.etsy.com/shop/56563081
http://www.ebay.com/sch/i.html?_nkw=56563081
http://www.amazon.com/s?k=56563081
http://www.google.com/search?q=56563081
http://www.myspace.com/56563081
http://www.facebook.com/56563081
http://www.last.fm/user/56563081
http://www.flickr.com/photos/56563081@N07/

Remember selection for 7 days
TrOWL: Tractable OWL 2 reasoning infrastructure

- Quality guaranteed transformations (such as modularisation, **faithful approximations**, forgetting)
  - OWL 2 DL -> OWL 2 QL (semantic approximation)
  - OWL 2 DL -> OWL 2 EL (syntactic approximation)
- Ontology reasoners (supporting OWL2-DL, OWL2-EL, and OWL2-QL via OWL API)
- Explanation/Justification
- Stream / incremental reasoning
- NBox (Negation as failure box)
- ONTOSEARCH2 serves as its front end
  - supporting keyword plus entailment search
Background: How do crowds construct ontology?

- Popular approach is: a small number of individuals carefully constructs the representation of the domain of discourse
  - Wikipedia’s Infobox is too. It uses pre-defined template
- But most of domain experts are not ontology experts

Proposed method: Social Property Tagging

- Ex. What do you tag “Tim B. Lee”?
- General social tagging: WWW, W3C, Southampton
  - System suggests tags e.g., internet, people, inventor
- Social property tagging: creator:WWW, affiliation:W3C, Southampton
  - System suggests properties e.g., age, interest, role.
- Popular set of properties = Quasi Class
  - Property first, class later

Dealing with the Messiness of the Web of Data

Special Issue: Journal of Web Semantics
Deadline: 1 February 2011

Editors: Stefan Schlobach, Craig A. Knoblock
Email: schlobac@few.vu.nl
Let's Make Them Interoperable!

For more: bit.ly/twinprop
Putting the Spirit of the Web back into SemWeb Querying

• Problems
  – Web of Data is growing: LoD ~5B triples
  – Unknown Hosts for any given triple
  – Lack of (high) quality statistics (join estimations)
  – Physical constraints (bandwidth, latency, availability)

• Our solution
  – Interleaved discovery, query planning, and execution

• What is yours?
The 2001 Spanish Census to RDF

Javier D. Fernández, Miguel A. Martínez-Prieto, Claudio Gutierrez

**Diagram Description:**
- **People** connected to **nucleus**
- **Home** connected to **nucleus**
- **House** connected to **building**
- **SPARQL** connected to **RDF Store**
- **RDF** connected to **100% population (41M)**
  - 2.4 B triples

**Data Statistics:**
- **5% population (2M)**
  - 120 M triples
  - 147 predicates

**Contact:** jfergar@infor.uva.es
Data interconnexion

Data publication

Data conversion and URI generation

Vocabulary selection

http://datalift.org
open Ph.D. / PostDoc positions

http://diuf.unifr.ch/xi

pcm@csail.mit.edu