

ISWC2010 Lightning Talks: Schedule

1	Andreas Harth	An RDF Storage Scheme on Key-Value Stores for Linked Data Publishing
2	jie Bao	Semantic Web Dogfooding at ISWC 2010
3	Thomas Steiner	Semantic Web Browser Extensions
4	pascal Hitzler	The Semantic Data Web Layer Cake
5	Marian Doerk	Information Visualization for Linked Data
6	mc schraefel	500bucks to the person who creates a persona
7	Mike Bennet	Towards a Consensual Semantic Framework
8	Alexander Garcia	Beyond the RDF
9	Marko Grobelnik	Extracting triples from text and linking to LOD with Enrycher
10	Oktie Hassanzadeh	BibBase
11	Vadym Kramar	universAAL Open Platform
12	Steve Harris	Five (boring) reasons why semantic web technology is good for companies
13	Denny Vrandeic	Linked Open Data Browser Switch
14	Jeff Pan	TROWL Tractable OWL 2 reasoning infrastructure
15	Masahiro Hamasaki	Social Infobox
16	Stefan Schloback	Dealing with the Messiness of the Web of Data
17	Sandro Hawke	Parallel Twin Properties
18	Avi Bernstein	Querying the messy Semantic Web
19	Javier Fernandez	2001 Spanish Census to RDF
20	François Scharffe	Datalift
21	Philippe Cudre-Mauroux	eXascale Infolab

<http://code.google.com/p/cumulusrdf>

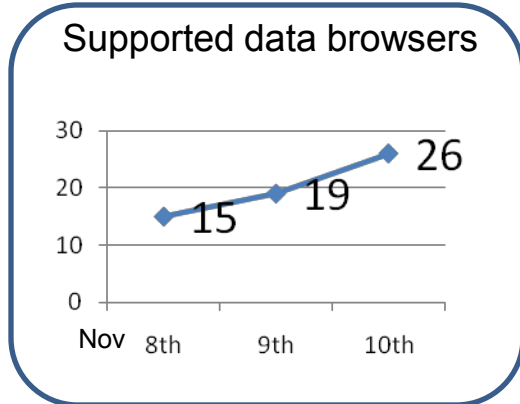
Semantic Web Dogfooding at ISWC 2010

The ISWC 2010 Metadata Project

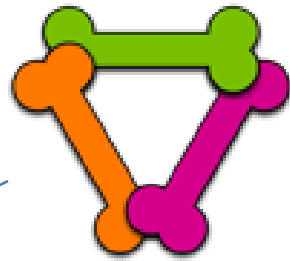
Jie Bao, baojie@cs.rpi.edu
Rensselaer Polytechnic Institute

Conference Website & Apps

Visualization



Linking
ISWC2010
Data
(0.1M Triples)

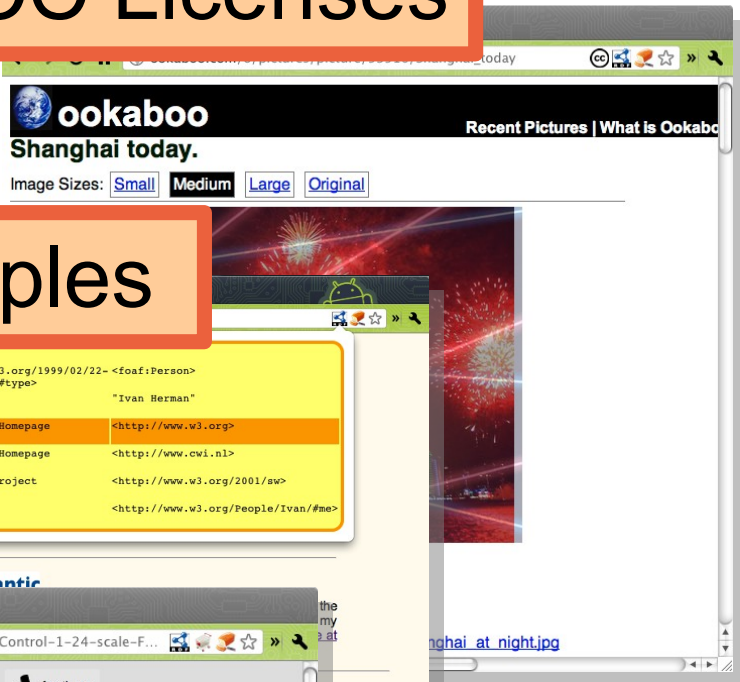



Diverse
Data
Sources

CC Licenses

RDFa Triples

GR Prices



overstock.com

Browse Departments Search

Online Shopping Sports & Toys Toys & Hobbies Remote Control Toys Cars & Trucks

Photos



Taxes, Duties, and Shipping not included in the product price.

Remote Control 1:24-scale Full Function Yellow/ Blue Big Foot Monster Truck

Rating 5 stars 1 reviews
Read Reviews / Write a review

Today: EUR 31.49

Find the following Products from this Site on Amazon:

Remote Control 1:24-scale Full Function Yellow/ Blue Big Foot Monster Truck

Powered by

RDFa API



Semantic Web



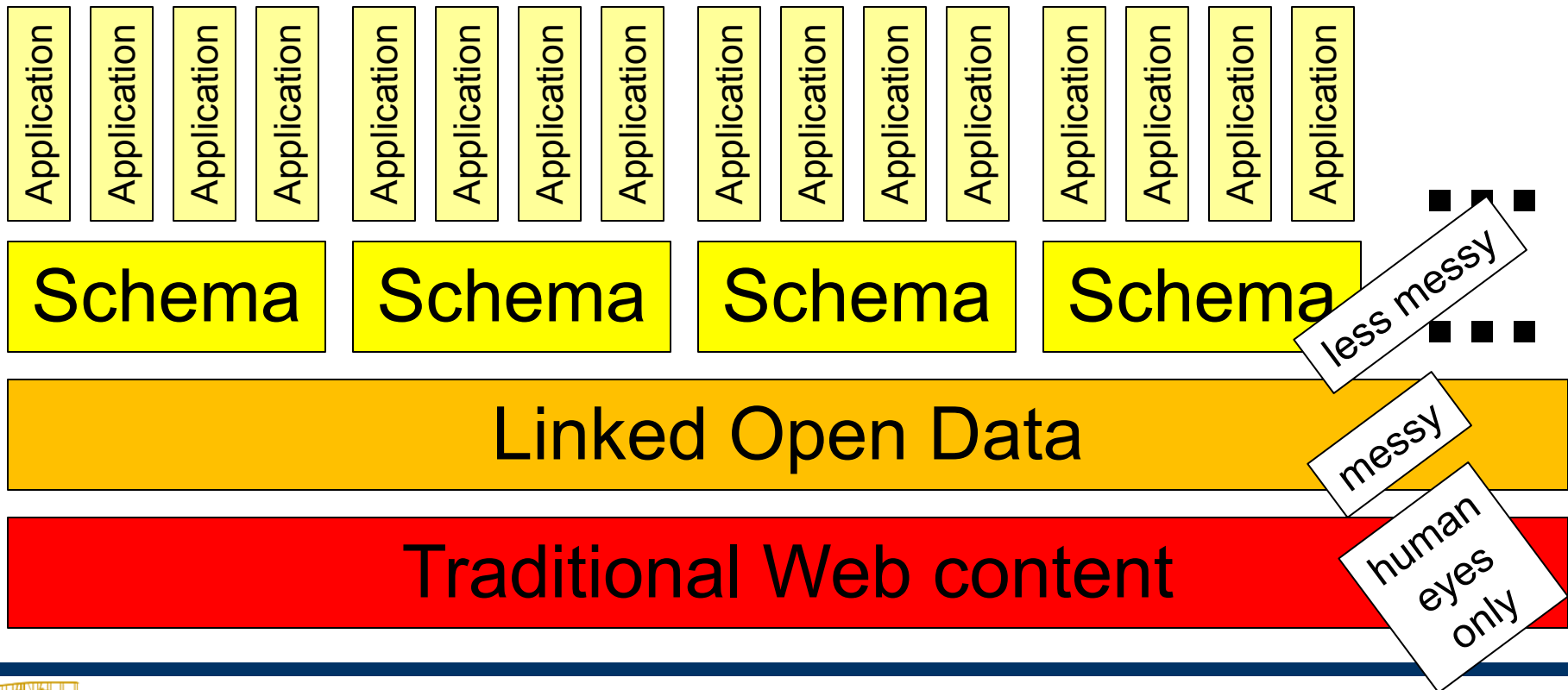
Browser Extensions

```
var items = document.getItemsByProperty('gr:name');
items.forEach(function(x, i) {
  console.log('Item ' + i + ': ' + x.get('gr:name'));
});
```

The Semantic Data Web Layer Cake

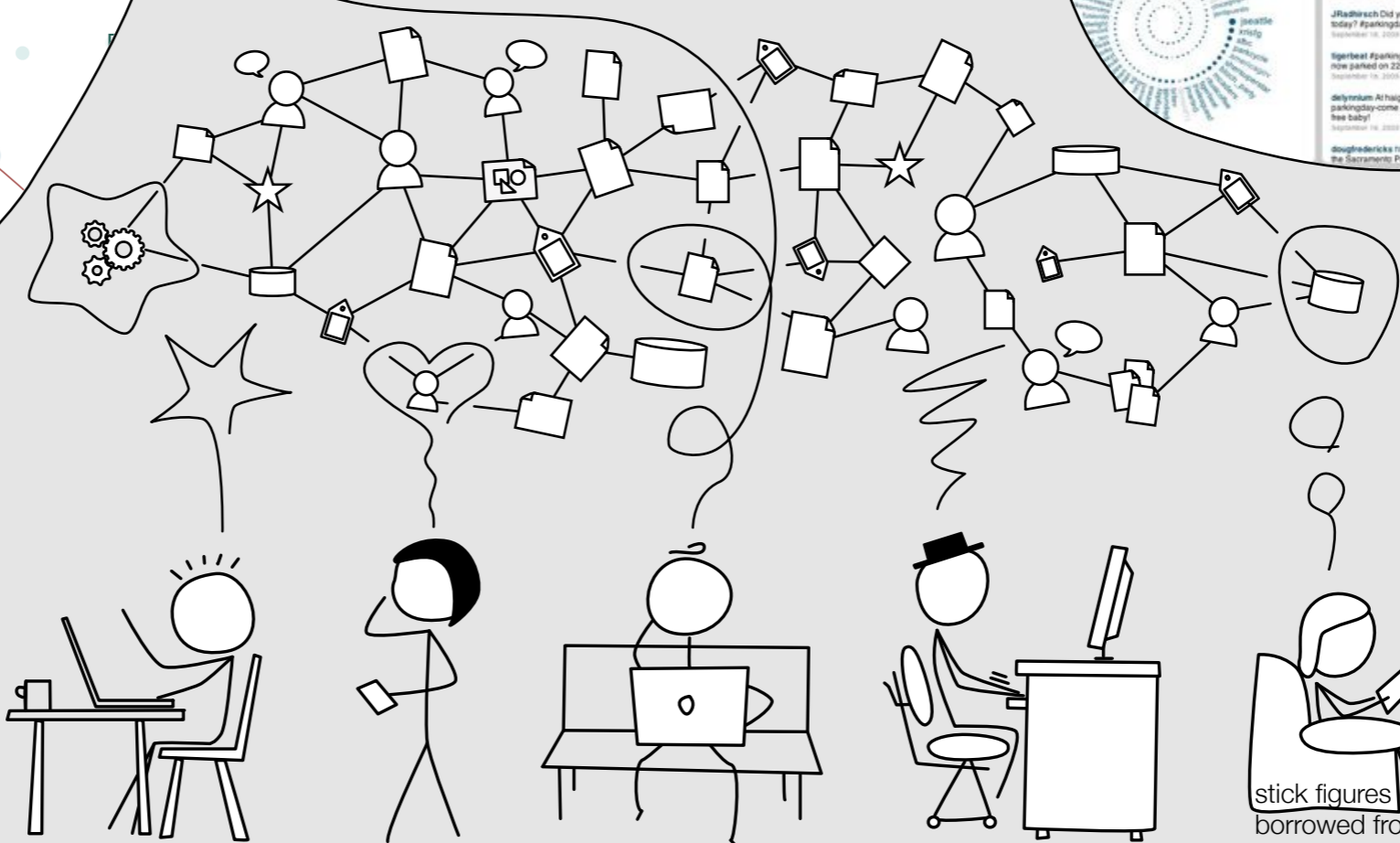
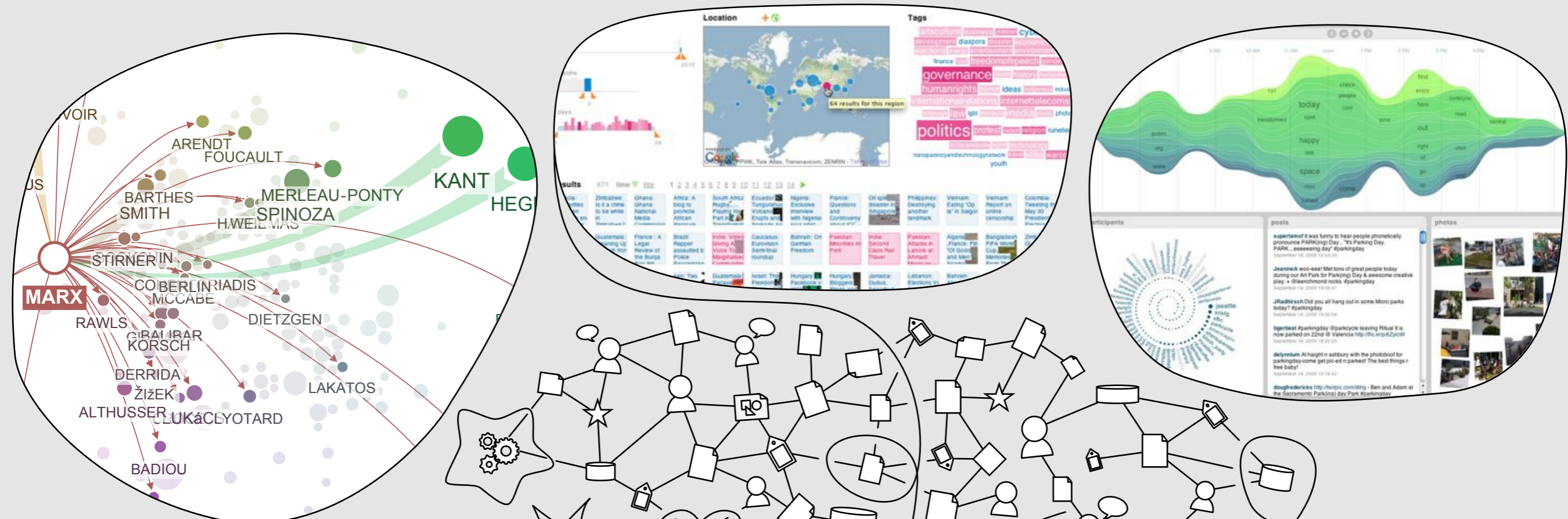
To leverage LoD, we require **schema knowledge**

- **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



stick figures
borrowed from xkcd

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

Person with the most external uses
of theirsemanticweb.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)

What problem are we
solving **for whom?**

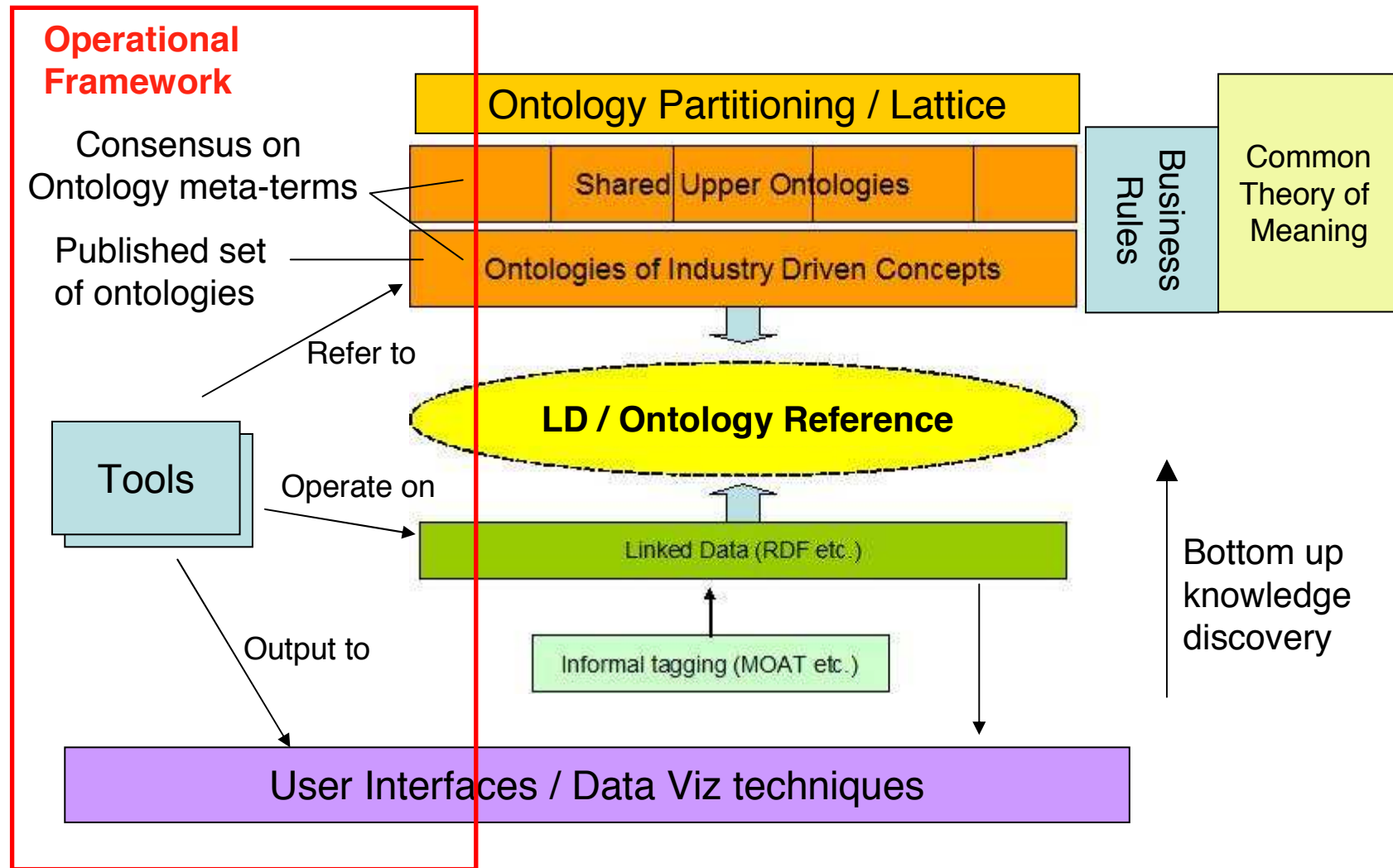


Proof against persona,
truth against scenario?

mc - ecs - usouthampton



Semantic Technology Framework

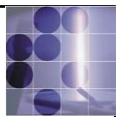


Extracting triples from text and linking to

LOD (DBpedia, OpenCyc, Yago) with

Enrycher (<http://enrycher.ijs.si/>)

Tadej Stajner
Delia Rusu
Blaz Fortuna
Marko Grobelnik
Jozef Stefan Institute
Ljubljana, Slovenia

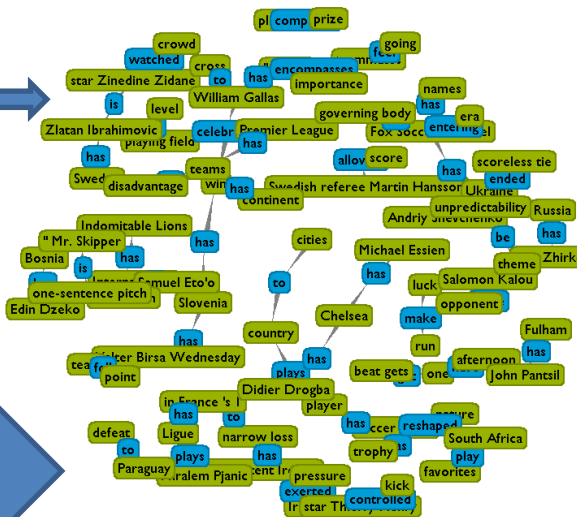


Plain text

Slovenia's dramatic win over Russia Wednesday, and to a lesser extent Ireland's narrow loss to France, capped off a grueling two-year qualifying period that saw some of the smallest countries in the world kick some of soccer's biggest names in the teeth. After a century of near domination from the likes of Brazil, Italy and Germany, international soccer is entering the era of the Cinderella. It may not happen this time, but given the increasing flow of talent, training and infrastructure across borders, it's almost certain that a small upstart nation built on athletic and better luck will make a legitimate run at the coveted trophy.

Russia's Yuri Zhirkov, right, fights for the ball with Slovenia's Valter Birsa Wednesday.

Extracted graph of triples from text



Text Enrichment

entities

- [Brazil](#)
- [Italy](#)
- [Germany](#)
- [Cinderella](#)
- [Paris](#)
- [John O'Shea](#)
- [Manchester United](#)
- [Robbie Keane](#)
- [Shay Given](#)
- [Greece](#)
- [Portugal](#)
- [Bosnia-Herzegovina](#)
- [Cristiano Ronaldo](#)
- [Uruguay](#)

keywords

Sports, Soccer, CONCACAF, Competitions, United States, Sports and Hobbies, Kids and Teens, World Cup, Women,

categories

- [Top/Kids_and_Teens/Sports_and_Hobbies/Sports/Soccer](#)
- [Top/Sports/Soccer/Competitions](#)
- [Top/Sports/Soccer/Competitions/World_Cup](#)
- [Top/Sports/Soccer/CONCACAF](#)

Diego Maradona Semantics:

owl:sameAs: http://dbpedia.org/resource/Diego_Maradona

owl:sameAs: <http://sw.opencyc.org/concept/Mx4rvofERZwpEbGdrcN5Y29ycA>

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>

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

<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

universAAL open platform

- Semantic Web
- Artificial Intelligence
- Ubiquitous/Pervasive Computing
- Cloud Computing
- Ambient Intelligence → 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.aalooa.org

Also in Finland: **universAAL_FI**, contact Vadym Kramar @ OAMK.fi



Five (boring) reasons why SW technology is good for companies

Strong Standards	Interoperability comparatively good Less vendor lock-in
SPARQL Protocol	HTTP based Fits well in SoA
Schemaless Data	MI / BI Flexibility
Scalability	Billions of triples with open source software, on basic hardware
I18N	UTF-8 Language tags

LOD Browser Switch

Examples:

- http://dbpedia.org/resource/Lady_Gaga
- <http://data.nytimes.com/N12930380387917339601>
- <http://rdf.freebase.com/ns/guid.9202a8c04000641f80000000000003b0aa>
- <http://xmlns.com/foaf/0.1/knows>

The Tabulator

OPENLINK
SOFTWARE
Data Explorer

tripplr
ntriples

fluid
Operations
Information
Workbench

DisCO

tripplr
turtle

VisiNav

Graphite

tripplr
html

marbles

EXPLORATOR

tripplr
json

Zitgist

```
<rdf:RDF>
<!-- Ontology head
- <owl:Ontology rdf:al
<swivt:creationDa
<owl:imports rdf:r
-/owl:Ontology>
```

tripplr
rdf

Remember selection for 7 days

Highlight all Match case

Next Previous

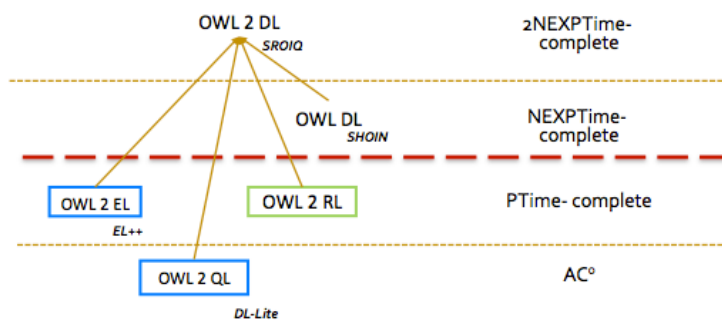
Find: mark

Done

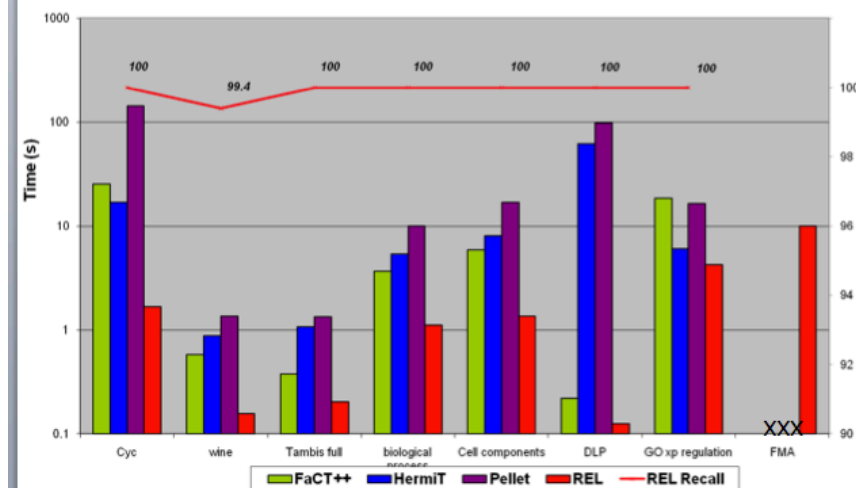
Tor Disabled

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



Evaluations: the Oxford Hermit Benchmark (REL reasoner in TrOWL)



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

DEMO: <http://bit.ly/cYT8NE>

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

Direct + Indirect: Twin Properties

Tim Himself

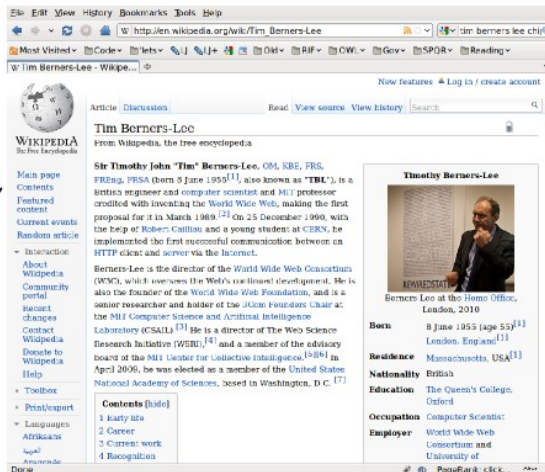


ns1:age
(direct property)

The number
fifty-five

55

A page
about
Tim



ns2:age
(indirect property)

"55"

The two-
character
string five
five

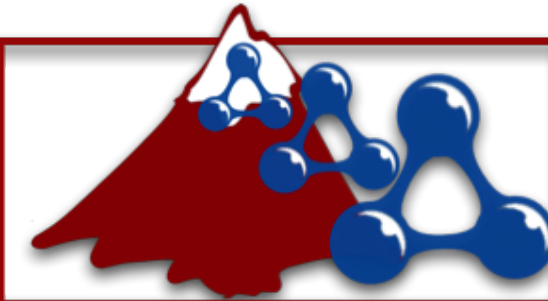
Simplified
RDF

facebook

Let's Make Them Interoperable!

For more: bit.ly/twinprop

avalanche



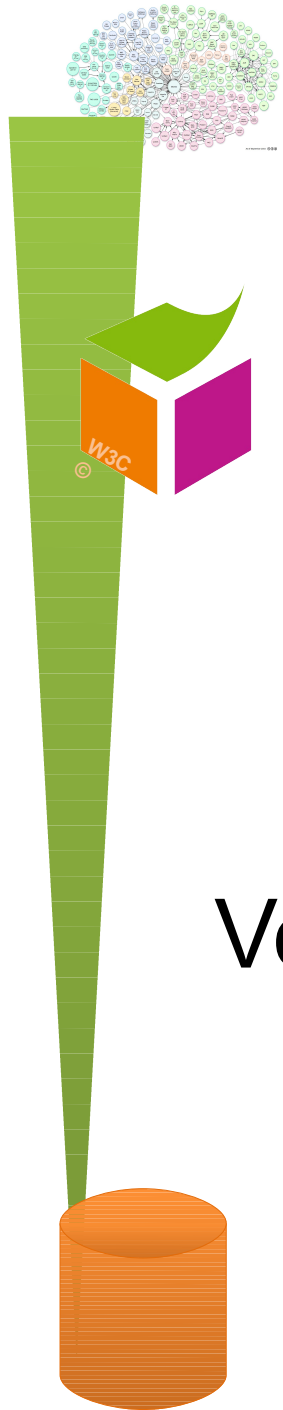
University of
Zurich^{UZH}



Dynamic and Distributed
Information Systems

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?



Data interconnexion

Data publication

Data conversion and URI generation

Vocabulary selection

DATALIFT



<http://datalift.org>



eXascale Infolab

 **SciDB**
Arrays

TrajStore
GPS Analytics

SlinkStore
LoD Analytics

open Ph.D. / PostDoc positions

<http://diuf.unifr.ch/xi>

pcm@csail.mit.edu