

Linked Data: Publishing and Consuming on the Semantic Web

Tsinghua-Southampton Web Science Laboratory at Shenzhen

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19th August 2009

<http://eprints.ecs.soton.ac.uk/17788/>





University of Southampton

- Since 1862 (Hartley Institution)
- Multi-discipline University
 - Arts, Science, Law, Medicine, Engineering, ...
- 25,000 Students
- 5,000 Staff
- “Russell Group”



ECS

- 100+ Faculty
- 1000+ Students (300 Graduate)
- Highly-rated
 - Teaching and Research



Research Groups

- Communication
- Dependable Systems & Software Engineering
- Electrical Power Engineering
- Electronic Systems & Devices
- Information: Signals, Images, Systems
- Intelligence, Agents, Multimedia
- Learning Societies Lab
- Nano
- Optoelectronics Research Centre
- Pervasive Systems Centre
- Science & Engineering of Natural Systems

Semantic Web

- w3.org FAQ:
 - The **Semantic Web** provides a common framework that allows **data** to be shared and reused across application, enterprise, and community boundaries.
- Exposing data for agents to use
 - Including databases
- Interoperable
 - Naming schemes
 - Vocabularies
 - Protocols

RDF (Resource Description Framework)

“Hugh Glaser works for the University of Southampton”

```
person-00021
```

```
  name
```

```
    "Hugh Glaser"
```

```
person-00021
```

```
  works-for
```

```
    Southampton_University
```

```
Southampton_University
```

```
  label
```

```
    "The University of Southampton"
```


RDF (Resource Description Framework)

“Hugh Glaser works for the University of Southampton”

```
<http://southampton.rkbexplorer.com/id/person-00021>
```

```
<http://xmlns.com/foaf/0.1/name>
```

```
"Hugh Glaser" .
```

```
<http://southampton.rkbexplorer.com/id/person-00021>
```

```
<http://aktors.org/ontology/portal#works-for>
```

```
<http://dbpedia.org/resource/Southampton_University> .
```

```
<http://dbpedia.org/resource/Southampton_University>
```

```
<http://www.w3.org/2000/01/rdf-schema#label>
```

```
"The University of Southampton" .
```


RDF (Resource Description Framework)

- RDF Triples constitute a graph
 - <subject-uri> <predicate-uri> <object-uri>
 - <subject-uri> <predicate-uri> “String”
- *ontologies* define vocabularies, types and relationships
- Agreed URIs facilitate linkage between datasets

Linked Data

- Tim Berners-Lee

Tim Berners-Lee speaks on Linked Data

This slide set was presented at the TED 2009 conference, "The Great Unveiling" in Long Beach, CA. USA, 4, Feb 2009.

- <http://www.w3.org/2009/Talks/0204-ted-tbl/>
- “the Semantic Web done right, and the Web done right”



Linked (Open) Data

- The “practical side” of the Semantic Web
- Move from a Web of Text to a Web of Data, where the meaning is specified using metadata (**RDF**)
- Machine to machine communication
 - “Silent revolution” (Tom Ilube @ G20 IdeasLab)
- Facilitates fusion of data sources
 - Maintaining distribution of the data at the providers and others
- Can provide powerful knowledge processing



The Calais initiative is about enabling semantic applications by providing a metadata generation web service, sample applications using that service to jumpstart development efforts, and support for developers.

Guardian opens APIs and 'Data Store'

The Guardian launched its Open Platform with APIs for all of its content and a sets of data collected by its editors.

BBC: <http://www.bbc.co.uk/music/artists/d4d17620-fd97-4574-92a8-a2cb7e72ce42.rdf>

web scale

- REST (ROA, WOA)
 - Web page = Web Service
 - XHTML+RDFa markup for people and machines
 - *resource* as *public record*
 - global visibility and persistence of URI's
- Atom as RESTful API
 - introspection service for feed resource *discovery*
 - HTTP *uniform interface*
 - CRUD analog - PUT/GET/POST/DELETE
 - <entry> as *recordset* </entry> resource state event
- atom+xml and xhtml+xml *representations*
 - ~~Caching, Crawling and Indexing~~
- Web = DB
 - Linked Open Data SPARQL endpoints, XHTML+RDFa

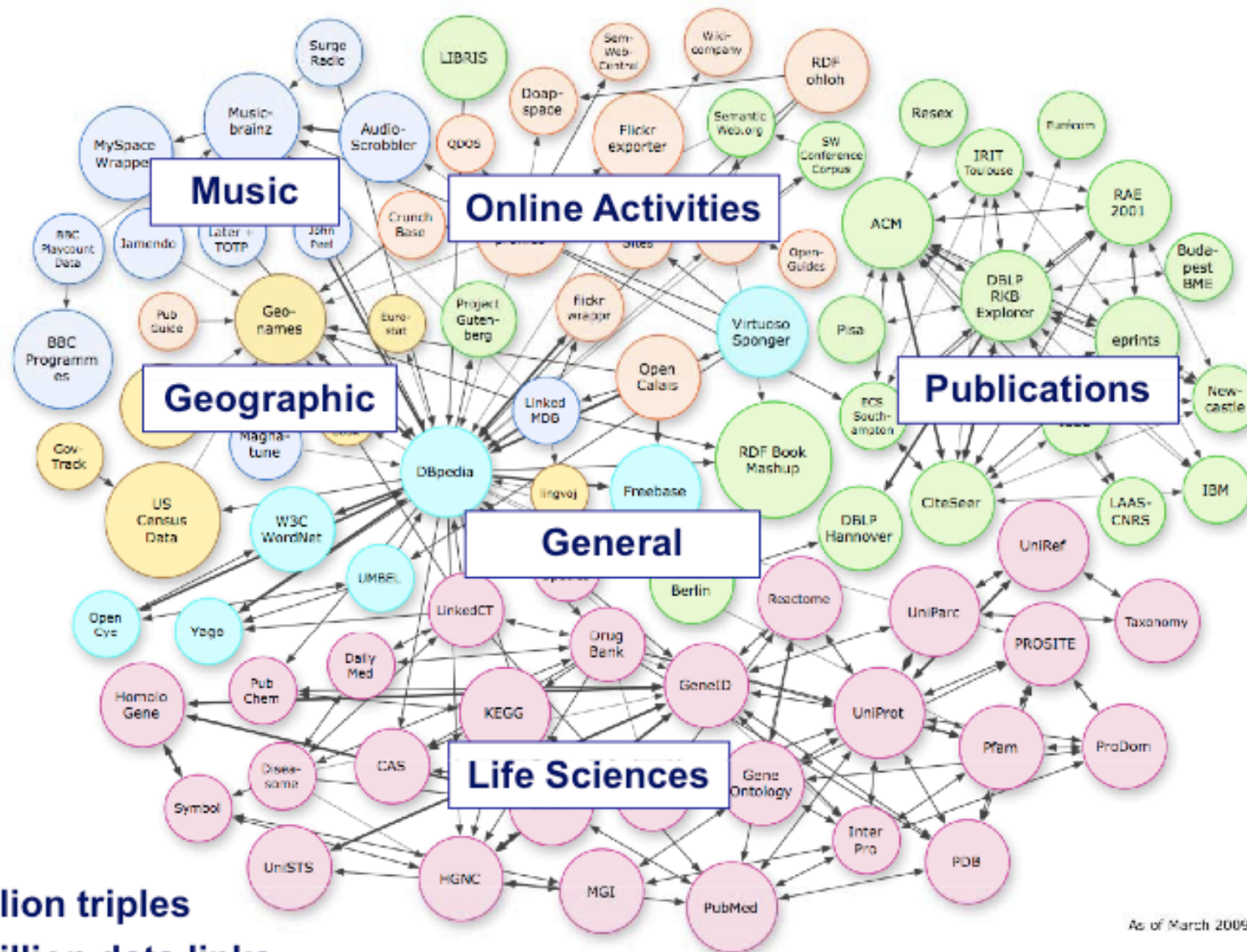
Bi2RDF.org

Semantic web atlas of postgenomic knowledge

UniProt protein, uniprot:P26838

George Thomas
U.S. government's recovery.gov

LOD Datasets on the Web: March 2009



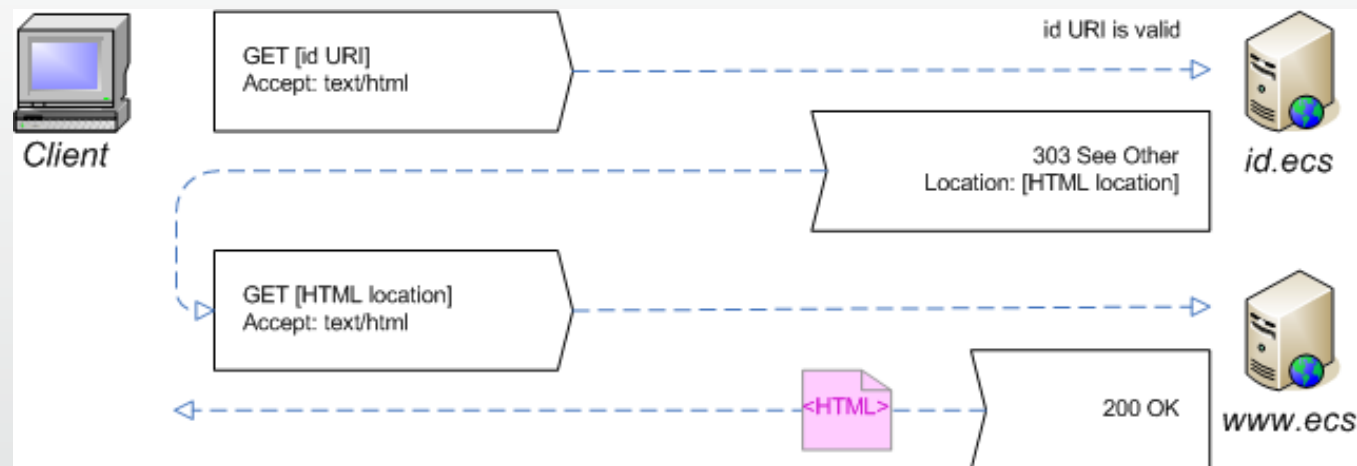
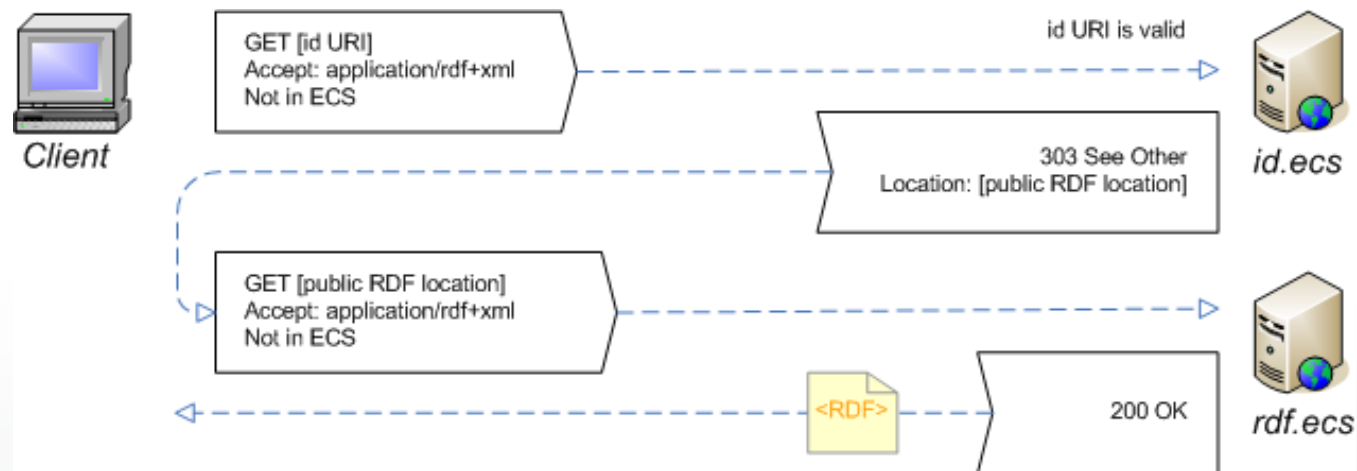
4.5 billion triples
180 million data links

As of March 2009

Linked Data Principles (Berners-Lee)

1. Use URIs as names for things
2. Use HTTP URIs so that people can look up those names
3. When someone looks up a URI, provide useful information, using the standards (RDF, SPARQL)
4. Include links to other URIs, so that they can discover more things

Linked Data URI Resolution



ReSIST Project Knowledge Sources

- Partners
 - Publications
 - Funding Agencies
 - Project Wiki
 - Courseware
 - Resilient-Explicit Computing
-
- Wide range, don't just look where you expect to find

Underlying Sources

acm.rkbexplorer.com

budapest.rkbexplorer.com

citeseer.rkbexplorer.com

cordis.rkbexplorer.com

courseware.rkbexplorer.com

darmstadt.rkbexplorer.com

dblp.rkbexplorer.com

dbpedia.org

deepblue.rkbexplorer.com

deploy.rkbexplorer.com

epsrc.rkbexplorer.com

eurecom.rkbexplorer.com

ft.rkbexplorer.com

ibm.rkbexplorer.com

ieee.rkbexplorer.com

irit.rkbexplorer.com

italy.rkbexplorer.com

kaunas.rkbexplorer.com

kisti.rkbexplorer.com

laas.rkbexplorer.com

lisbon.rkbexplorer.com

newcastle.rkbexplorer.com

nsf.rkbexplorer.com

pisa.rkbexplorer.com

rae2001.rkbexplorer.com

resex.rkbexplorer.com

semanticweb.org

southampton.rkbexplorer.com

ulm.rkbexplorer.com

unlocode.rkbexplorer.com

wiki.rkbexplorer.com

xxx.yyy.zzz

Range from a few 100 to more than 10,000,000 “facts”

For example

- Statistics for repository dblp.rkbexplorer.com
 - Last data assertion 2009-06-01 20:05:10
 - Number of triples 27186150
 - Number of symbols 7227252
 - Size of RDF dataset 2.1G

Co-Reference

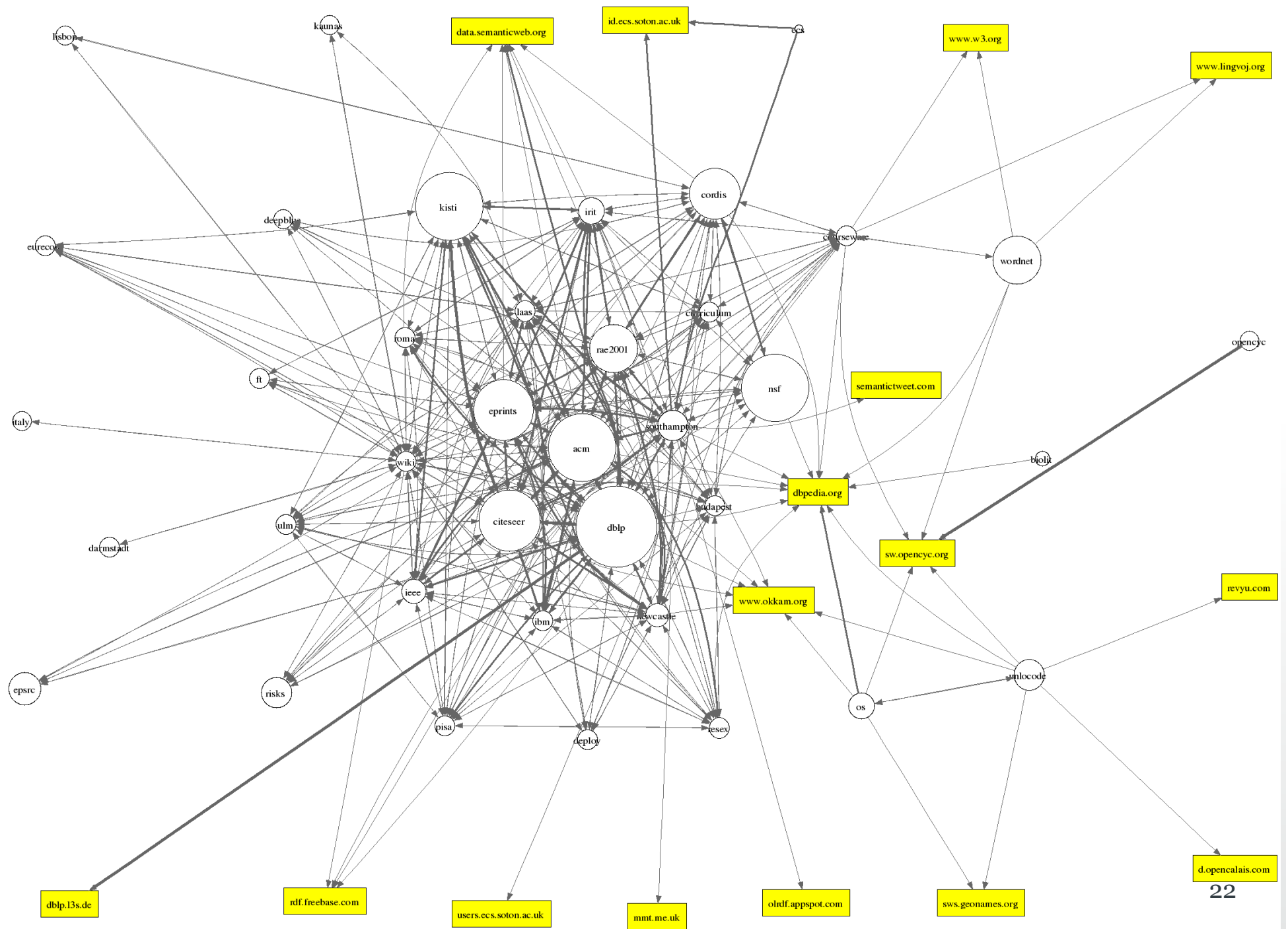
- Datasets have people, publications, etc. which also exist in other datasets
- And vice versa
- Co-Reference is a Big Problem
 - Everything is a URI (not title, name, number...)
 - Identifying multiple URIs for one resource
 - Rejecting incorrectly conflated resources
 - Publishing
 - Using
- Coldstart – a serious problem
 - Nothing is linked to anything
 - Not even (reliably) within most datasets

Co-Reference Service (CRS)

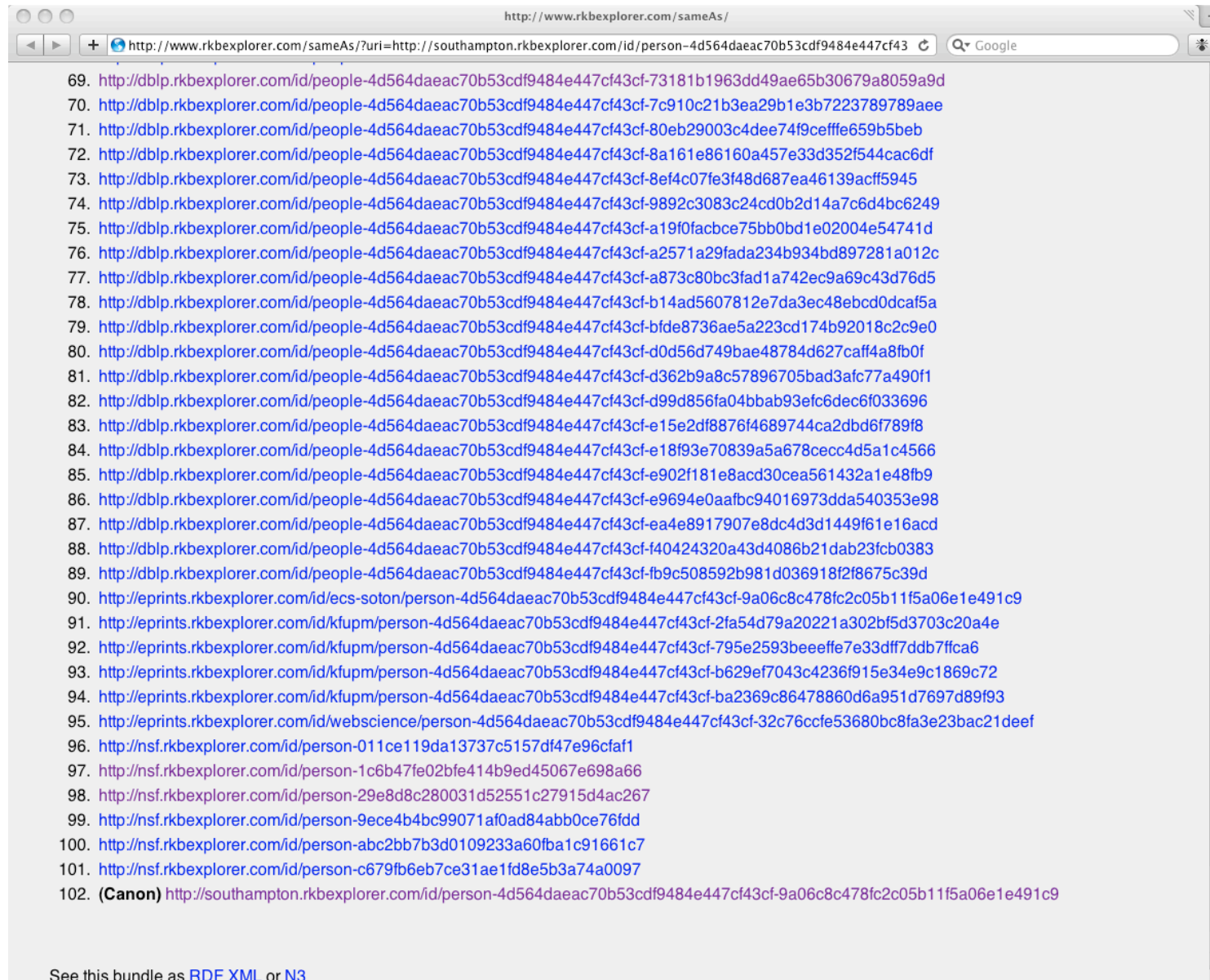
- CRS Subsystem
 - Find co-references
 - Store them
 - Publish them
 - Essentially:
 - $URI_i \rightarrow \{ URI_1, \dots, URI_i, \dots, URI_n \}$
 - Recommend a “Canon”
- Published by the Data Publisher
 - And possibly others
- Middleware aggregates co-references from recognised CRSes

CRS continued

- CRS Policies are defined by context
 - Often one per Triplestore
 - Can be many per Triplestore for different purposes
 - May not be associated with a particular Triplestore
- Maintenance
 - Provenance
 - Rollback
- Can be used to infer owl:sameAs



Who is Carl Lagoze?



http://www.rkbexplorer.com/sameAs/

69. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-73181b1963dd49ae65b30679a8059a9d>

70. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-7c910c21b3ea29b1e3b7223789789aee>

71. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-80eb29003c4dee74f9ceffe659b5beb>

72. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-8a161e86160a457e33d352f544cac6df>

73. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-8ef4c07fe3f48d687ea46139acff5945>

74. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-9892c3083c24cd0b2d14a7c6d4bc6249>

75. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-a19f0facbce75bb0bd1e02004e54741d>

76. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-a2571a29fada234b934bd897281a012c>

77. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-a873c80bc3fad1a742ec9a69c43d76d5>

78. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-b14ad5607812e7da3ec48ebcd0dcdf5a>

79. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-bfde8736ae5a223cd174b92018c2c9e0>

80. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-d0d56d749bae48784d627caff4a8fb0f>

81. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-d362b9a8c57896705bad3afc77a490f1>

82. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-d99d856fa0bbab93efc6dec6f033696>

83. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-e15e2df8876f4689744ca2dbd6f789f8>

84. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-e18f93e70839a5a678cecc4d5a1c4566>

85. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-e902f181e8acd30cea561432a1e48fb9>

86. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-e9694e0aafbc94016973dda540353e98>

87. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-ea4e8917907e8dc4d3d1449f61e16acd>

88. <http://dblp.rkbexplorer.com/id/people-4d564daeac70b53cdf9484e447cf43cf-f40424320a43d4086b21dab23fcb0383>

89. <http://dblp.rkbexplorer.com/id/ecs-soton/person-4d564daeac70b53cdf9484e447cf43cf-fb9c508592b981d036918f2f8675c39d>

90. <http://eprints.rkbexplorer.com/id/person-4d564daeac70b53cdf9484e447cf43cf-9a06c8c478fc2c05b11f5a06e1e491c9>

91. <http://eprints.rkbexplorer.com/id/kfupm/person-4d564daeac70b53cdf9484e447cf43cf-2fa54d79a20221a302bf5d3703c20a4e>

92. <http://eprints.rkbexplorer.com/id/kfupm/person-4d564daeac70b53cdf9484e447cf43cf-795e2593beeeffe7e33dff7ddb7ffca6>

93. <http://eprints.rkbexplorer.com/id/kfupm/person-4d564daeac70b53cdf9484e447cf43cf-b629ef7043c4236f915e34e9c1869c72>

94. <http://eprints.rkbexplorer.com/id/kfupm/person-4d564daeac70b53cdf9484e447cf43cf-ba2369c86478860d6a951d7697d89f93>

95. <http://eprints.rkbexplorer.com/id/webscience/person-4d564daeac70b53cdf9484e447cf43cf-32c76ccfe53680bc8fa3e23bac21deef>

96. <http://nsf.rkbexplorer.com/id/person-011ce119da13737c5157df47e96cfa1f>

97. <http://nsf.rkbexplorer.com/id/person-1c6b47fe02bfe414b9ed45067e698a66>

98. <http://nsf.rkbexplorer.com/id/person-29e8d8c280031d52551c27915d4ac267>

99. <http://nsf.rkbexplorer.com/id/person-9ece4b4bc99071af0ad84abb0ce76fdd>

100. <http://nsf.rkbexplorer.com/id/person-abc2bb7b3d0109233a60fba1c91661c7>

101. <http://nsf.rkbexplorer.com/id/person-c679fb6eb7ce31ae1fd8e5b3a74a0097>

102. **(Canon)** <http://southampton.rkbexplorer.com/id/person-4d564daeac70b53cdf9484e447cf43cf-9a06c8c478fc2c05b11f5a06e1e491c9>

Co-Reference Closure

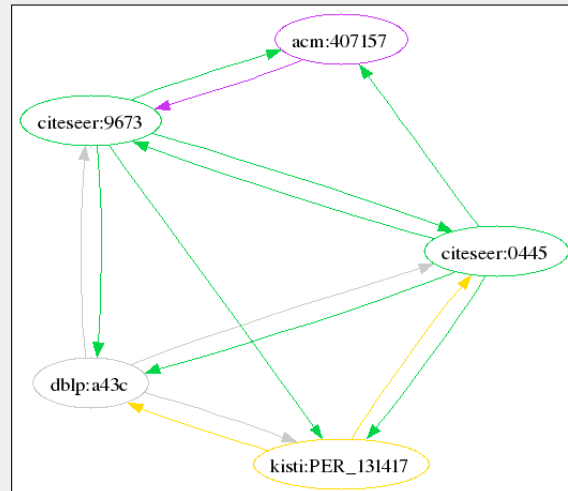
Complete Co-Reference Information

This service computes the equivalence class within the known URIs for a specified URI, by consulting all relevant CRS knowledge bases.

Equivalent URIs...

1. **(Canon)** <http://acm.rkbexplorer.com/id/person-407157>
2. <http://citeseer.rkbexplorer.com/id/resource-CSP179673>
3. <http://citeseer.rkbexplorer.com/id/resource-CSP180445>
4. <http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214f05-90d423eb148125a6e5c573dc5a15a43c>
5. http://kisti.rkbexplorer.com/id/PER_0000000000000131417

The following diagram shows the interconnectivity between the CRS knowledge bases which maintain the context-dependent representation of coreference for each of the RKBExplorer domains.



Seungwoo Lee

Showing information queried from all repositories ...

Showing information queried from all repositories ...

Subject	Property	Object/Value	Source
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	acm-periodicals.rdf >>
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	acm-proceedings.rdf >>
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	dblp-publications-2001.rdf >>
Seungwoo Lee	akt:has-affiliation	Electrical and Computer Engineering Division, Pohang University of Science & Technology (POSTECH), Pohang, South Korea.gblee@postech.ac.kr	acm-periodicals.rdf >>
Seungwoo Lee	akt:has-affiliation	POSTECH, Pohang, Korea	acm-proceedings.rdf >>
Seungwoo Lee	kisti:engNameOfPerson	Seungwoo Lee [Explore]	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	akt:Affiliated-Person	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	akt:Affiliated-Person	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	dblp-publications-2001.rdf >>
Seungwoo Lee	rdf:type	akt:Person	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	akt:Person	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	akt:Person	dblp-publications-2001.rdf >>
Seungwoo Lee	rdf:type	PER_char(20)^^^	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	PER_char(20)^^^	objectproperties.ttl >>
Seungwoo Lee	rdf:type	PER_char(20)^^^	resources.ttl >>

Subject	Property	Object	Source
Automatic acquisition of named entity tagged corpus from world wide web	akt:has-author	Seungwoo Lee	acm-proceedings.rdf >>
A Corpus-Based Learning Method of Compound Noun Indexing Rules for Korean	akt:has-author	Seungwoo Lee	acm-periodicals.rdf >>
SiteQ: Engineering High Performance QA System Using Lexico-Semantic Pattern Matching and Shallow NLP.	akt:has-author	Seungwoo Lee	dblp-publications-2001.rdf >>
A Corpus-Based Learning Method of Compound Noun			dblp-publications-

Finding Co-reference

The screenshot shows a web browser window with the address bar displaying `http://sameas.org/html?q=Les+Carr&x=24&y=22`. The page title is "Les Carr « owl:sameAs". The main heading is "<sameAs> interlinking the Web of Data". Below this, a text block explains the service: "The Web of Data has many equivalent URIs. This service helps you to find co-references between different data sets. Enter a known URI, or use Sindice to search first." There are two search input fields: one for "<sameAs>" containing the URI `http://southampton.rkbexplorer.com/`, and another for "Sindice" containing the name "Les Carr". Below the search results, a section titled "Search results from Sindice, with co-references applied..." shows a list of URIs. The first three are from `http://southampton.rkbexplorer.com/id/person-00060`, `http://southampton.rkbexplorer.com/id/person-98e0f2e8dd84b079a54318...f484814122`, and `http://southampton.rkbexplorer.com/id/person-a635f51b18c81bf1df7dab...84425e0250`. A link "Show 118 more" is present. The 122nd result is `http://kisti.rkbexplorer.com/id/PER_00000000000000081787`. Below this, another search for "Les Carr" on Sindice shows a single result: `http://dblp.l3s.de/d2r/resource/authors/Les_Carr`. At the bottom, it states "Currently serving 23268924 URIs in 8454882 bundles!" and includes links for "about" and "contact", along with a Creative Commons BY-NC-SA license logo.

Les Carr « owl:sameAs

`http://sameas.org/html?q=Les+Carr&x=24&y=22`

<sameAs>
interlinking the Web of Data

The Web of Data has many equivalent URIs.
This service helps you to find co-references
between different data sets.
Enter a known URI, or use Sindice to search first.

<sameAs> `http://southampton.rkbexplorer.com/`

Sindice Les Carr

Search results from [Sindice](#), with co-references applied...

Sindice "Les Carr"

<sameAs> {

1. `http://southampton.rkbexplorer.com/id/person-00060`
2. `http://southampton.rkbexplorer.com/id/person-98e0f2e8dd84b079a54318...f484814122`
3. `http://southampton.rkbexplorer.com/id/person-a635f51b18c81bf1df7dab...84425e0250`

Show 118 more

122. `http://kisti.rkbexplorer.com/id/PER_00000000000000081787`

rdf+xml · n3 · json · text

Sindice "Les Carr"

<sameAs> 1. `http://dblp.l3s.de/d2r/resource/authors/Les_Carr`

rdf+xml · n3 · json · text

Currently serving 23268924 URIs in 8454882 bundles!

about · contact

CC BY-NC-SA

RKBExplorer – the ReSIST Project

UNIVERSITY OF
Southampton
School of Electronics
and Computer Science

RKBExplorer » Projects » ReSIST Resilience for Survivability in IST

Search...

→ about → system requirements
→ help → data sources
→ contact → acknowledgements

Related projects

Details

Title:
Resilience for survivability in IST

Other Names:
ReSIST Resilience for Survivability in IST

Project Overview:
ReSIST is a NoE that addresses the strategic objective "Towards a global dependability and security framework" of the Work Programme, and responds to the stated "need for resilience, self-healing, dynamic content and volatile environments". It will integrate leading researchers active in the multidisciplinary domains of Dependability, Security, and Human Factors, in order that Europe will have a well-focused coherent set of research activities aimed at ensuring that future "ubiquitous computing systems", the immense systems of ever-evolving networks of computers and mobile devices which are needed to support and provide Ambient Intelligence (AmI), have the necessary resilience and survivability, despite any residual development and physical faults, interaction mistakes, or malicious attacks and disruptions. The objectives of the Network are: 1) Integration of teams of researchers so that the fundamental topics

People

- Jean-Claude Laprie
- Aad van Moorsel
- Abdelmajid Khelil
- Achour Mostefaou
- Adnan Noon Mian
- Afraz Jaffri
- Agnan de Bonneval
- Alberto Pasquini
- Alessia Milani

Organisations

- The University of Newcastle upon Tyne
- LAAS-CNRS
- CITY UNIVERSITY LONDON
- Laboratoire d'Analyse et d'Architecture des Systèmes
- The University of Pisa
- Institut Eurecom
- Technische Universität Darmstadt
- UNIVERSITA DEGLI STUDI DI ROMA "LA SAPIENZA" - UNIVERSITY OF ROME "LA SAPIENZA"

Publications

- Malicious- and Accidental-Fault Tolerance in Internet Applications: conceptual model and architecture
- Conceptual Model and Architecture
- Conceptual model and architecture of MAFTIA
- ASSERT Automated proof based system and software engineering for real-time applications
- Malicious- and Accidental-Fault Tolerance in Internet Applications: reference model and use cases
- Revised version in Predictably dependable computing systems

Research Areas

- Testing
- Safety
- Trust
- Human Made Fault
- Symbolic Execution
- Dependability And Security Provision
- Dependability, High Confidence, Survivability
- Development Fault
- Environment

Applet eu.resist.rkb.RKBExplorer2 started

A Paper

RKBExplorer » Publications » A Web-Based Resource Model for eScience: Object Reuse & Exchange

http://www.rkbexplorer.com/explorer/#display=publication-%7Bhttp%3A//dblp.rkbexplorer.com/id/journals/corr/abs-0811-05%7D

Search... Search

about help contact system requirements data sources acknowledgements

Related publications

Details

Title:
A Web-Based Resource Model for eScience: Object Reuse & Exchange

Author:
[Herbert Van de Sompel](#)
[Simeon Warner](#)
[Michael Nelson](#)
[Pete Johnston](#)
[Robert Sanderson](#)
[Carl Lagoze](#)

Web Address:
<http://arxiv.org/abs/0811.0573>

Journal:

Volume:
abs/0811.0573

People

- [Carl Lagoze](#)
- [Herbert Van de Sompel](#)
- [Michael Nelson](#)
- [Pete Johnston](#)
- [Robert Sanderson](#)
- [Simeon Warner](#)

Organisations

- [Cornell University](#)

Publications

- [Object Re-Use & Exchange: A Resource-Centric Approach](#)
- [Pathways: augmenting interoperability across scholarly repositories](#)
- [A Practical Ontology for the Large-Scale Modeling of Scholarly Artifacts and their Usage](#)
- [Access Interfaces for Open Archival Information Systems based on the OAI-PMH and the OpenURL Framework for Context-Sensitive Services](#)
- [An Architecture for the Aggregation and Analysis of Scholarly Usage Data](#)

Research Areas

No results found

Now Look at an Author

RKBExplorer » People » Carl Lagoze

Search... Search

about system requirements
help data sources
contact acknowledgements

Related people

Details

Full Name:
[Carl Lagoze](#)

Email Address:
lagoze@cs.cornell.edu

Raw Linked Data:
[Resolvable URI](#)
[All Known Co-reference Data](#)

View in external viewer:
[Zitgist Data Viewer](#)
[OpenLink Data Explorer](#)
[Tabulator \(Firefox only\)](#)

People

- [Herbert Van de Sompel](#)
- [Dean Krafft](#)
- [Donna Bergmark](#)
- [James R. Davis](#)
- [John Saylor](#)
- [Pavel Dmitriev](#)
- [Simeon Warner](#)
- [Carol Terrizzi](#)
- [Diane Hillmann](#)
- [Jane Hunter](#)

Research Areas

- [H.3.7. Digital Libraries](#)
- [H.3.5. Online Information Services](#)
- [H.3.3. Information Search and Retrieval](#)
- [H.3.4. Systems and Software](#)
- [H.3.6. Library Automation](#)
- [H.5.3. Group and Organization Interfaces](#)
- [I.7. DOCUMENT AND TEXT PROCESSING](#)
- [C.2.1. Network Architecture and Protocols](#)

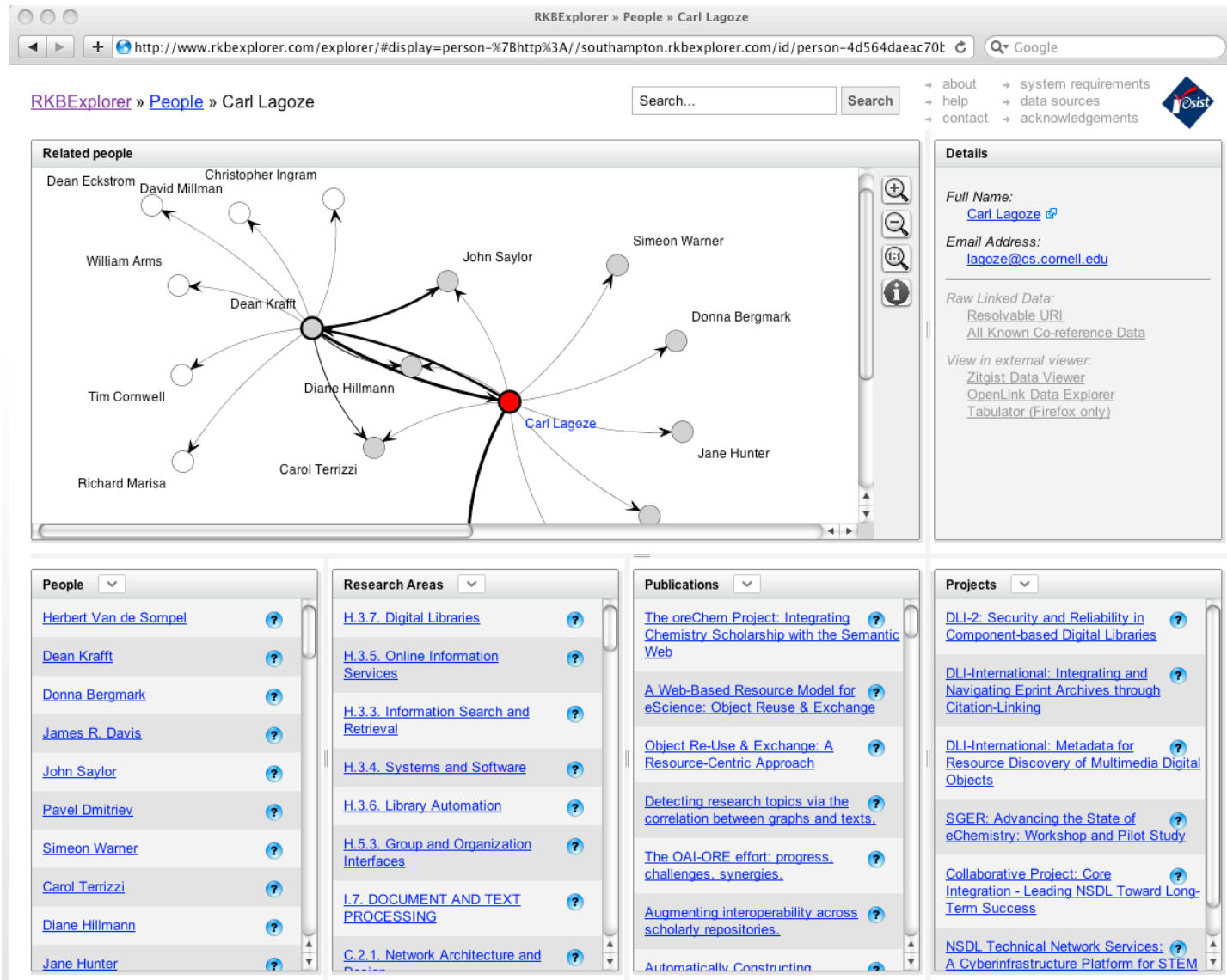
Publications

- [The oreChem Project: Integrating Chemistry Scholarship with the Semantic Web](#)
- [A Web-Based Resource Model for eScience: Object Reuse & Exchange](#)
- [Object Re-Use & Exchange: A Resource-Centric Approach](#)
- [Detecting research topics via the correlation between graphs and texts.](#)
- [The OAI-ORE effort: progress, challenges, synergies.](#)
- [Augmenting interoperability across scholarly repositories.](#)
- [Automatically Constructing](#)

Projects

- [DLI-2: Security and Reliability in Component-based Digital Libraries](#)
- [DLI-International: Integrating and Navigating Eprint Archives through Citation-Linking](#)
- [DLI-International: Metadata for Resource Discovery of Multimedia Digital Objects](#)
- [SGER: Advancing the State of eChemistry: Workshop and Pilot Study](#)
- [Collaborative Project: Core Integration - Leading NSDL Toward Long-Term Success](#)
- [NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM](#)

Or a Couple of People



And how
they are
linked

And Why they are Linked?

The screenshot shows a web browser window with the URL <http://www.rkbexplorer.com/cop/>. The browser's address bar and search bar are visible. The website header includes the **resist** logo and the URL www.rkbexplorer.com. The main content area displays a connection between **Carl Lagoze** and **Dean Krafft**, stating they are linked by 9 relations. Below this, three sections are shown: **Publications**, **Affiliations**, and **Projects**. The **Publications** section lists three co-authored papers: "Core services in the architecture of the national science digital library (NSDL)", "An information network overlay architecture for the NSDL", and "Metadata aggregation and 'automated digital libraries': A retrospective on the NSDL experience", with a link to "(3 more)". The **Affiliations** section states they are both affiliated with **Cornell University**. The **Projects** section lists two projects: "NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM Education" and "Collaborative Project: Core Integration - Leading NSDL toward Long-Term Success".

Publications

They have co-authored 6 papers:

- [Core services in the architecture of the national science digital library \(NSDL\)](#)
- [An information network overlay architecture for the NSDL](#)
- [Metadata aggregation and 'automated digital libraries': A retrospective on the NSDL experience](#)

[\(3 more\)](#)

Affiliations

They are both affiliated to [Cornell University](#).

Projects

They are both members of 2 projects:

- [NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM Education](#)
- [Collaborative Project: Core Integration - Leading NSDL toward Long-Term Success](#)

Open System

- RKBExplorer is only one interface
 - And not a required part
- Other Interfaces (using the services)
 - Either as RDF, or JSON, csv, etc.
- Services

Cross-Dataset Services

- Search
- Aggregated summary view

- <http://www.rkbexplorer.com/detail/?uri=http://southampton.rkbexplorer.com/id/eprints-12614>

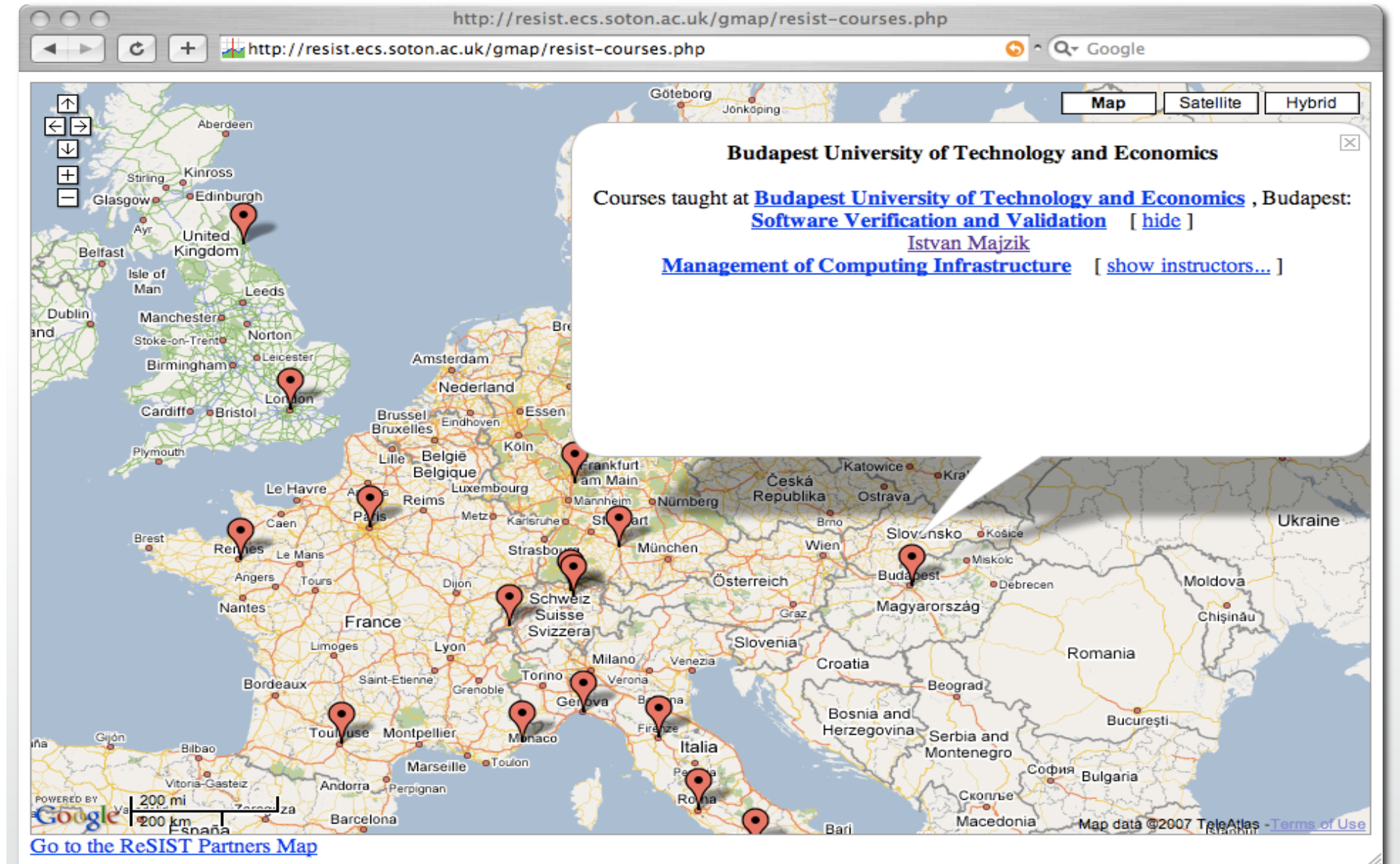
- Networks of related URIs

- <http://www.rkbexplorer.com/network/?uri=http://southampton.rkbexplorer.com/id/eprints-12614&type=publication-person>

- Co-reference
- ...

Where are Courses Taught?

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Gadget – find out about people



The image shows three overlapping screenshots of the RKBExplorer application, which is used for finding information about people. The application has a title bar that reads "RKBExplorer » Networks (Communities of Practice)".

The leftmost screenshot shows a search for "Carl Lagoze". The search bar contains "Carl Lagoze", and the results section displays "Found 1 result for 'Carl Lagoze'" followed by a link to "Carl Lagoze". Below this, there is a list of names: James Allan, Massoud Amin, Ross Anderson, William Arms, Jeroen Bekaert, Donna Bergmark, Les Carr, Tim Cornwell, Lorrie Cranor, James R. Davis, Pavel Dmitriev, Naomi Dushay, Doug Dyer, Dea Eckstrom, Adam Finkelstein, J. French, and Stone.

The middle screenshot shows a search for "Les Carr". The search bar contains "Les Carr", and the results section displays "Les Carr" followed by a link to "Display Metadata". Below this, there is a list of names: Christopher Bailey, David Barron, Sean Bechhofer, Donna Bergmark, Tim Brody, Grainne Conole, Hugh Davis, David De Roure, Samhaa El-Beltagy, Quentin Gee, Nicholas Gibbins, Lester Gilbert, Yves Gingras, Hugh Glaser, Carole Goble, Simon Grange, Christopher Gutteridge, Wendy Hall, Stevan Harnad, Stephen Harris, Jessie Hey, G Hill, Steve Hitchcock, Neil Jefferies, Zhuoan, and Timothy.

The rightmost screenshot shows a detailed view of "Les Carr". The search bar contains "Les Carr", and the results section displays "Les Carr" followed by a link to "Display Metadata". Below this, there is a list of names: Christopher Bailey, David Barron, Sean Bechhofer, Donna Bergmark, Tim Brody, Grainne Conole, Hugh Davis, David De Roure, Samhaa El-Beltagy, Quentin Gee, Nicholas Gibbins, Lester Gilbert, Yves Gingras, Hugh Glaser, Carole Goble, Simon Grange, Christopher Gutteridge, Wendy Hall, Stevan Harnad, Stephen Harris, Jessie Hey, G Hill, Steve Hitchcock, Neil Jefferies, Zhuoan, and Timothy.

The detailed view for "Les Carr" includes the following information:

- Full Name:** [Les Carr](#)
- Telephone:** +44 (0)23 8059 4479
- Email Address:** lac@ecs.soton.ac.uk
- Web Address:** <http://www.ecs.soton.ac.uk/~lac/>
- Raw Linked Data:** [Resolvable URI](#), [All Known Co-reference Data](#)

Mark Borkum did this

⏪ ⏩ +  http://www.google.com/ig?refresh=1

📖

🔍 Google

iPhone ▾ Single (50) ▾ And ▾ ECS ▾ UoS ▾ DH ▾ ReSIST ▾ MacOS X ▾ Football ▾ RKB ▾ iPhone App ▾ dwb ▾ Benny Uni ▾ Air ▾ Canada ▾ P ▾ SWC ▾ GPS ▾ IPK ▾ >>

iGoogle

Web [Images](#) [Videos](#) [Maps](#) [News](#) [Shopping](#) [Gmail](#) [more ▾](#)

hugh.glaser@gmail.com | [Classic Home](#) | [My Account](#) | [Sign out](#)



Google Search

I'm Feeling Lucky

[Advanced Search](#)
[Search Preferences](#)
[Language Tools](#)

New! Add social gadgets to post updates and play games with friends.

[Change theme from Classic](#) | [Add stuff >](#)

Home

Weather

Gmail

My Gadgets

BBC News | News F...

Slashdot

Search YouTube

RKBGadget » People

RKBGadget » Project

Google Translate

RKBGadgets

Updates

Friends

Chat

Search, add, or invite

Hugh Glaser

Set status here ▾

Chat with friends in undefined!

Rather stay offline?

[Sign out of chat.](#)

Christopher Gutte

new [splashurl.net](#)

Valanto Kousetti

Andrew Landells

Joyce Lewis

[Options ▾](#) [Add friends](#)

Google Translate

Enter text to translate here

Detect langu ▾ >> English ▾ Translate

[Translate Homepage](#) | [Dictionary Homepage](#)

RKBGadget » Project

Search Reset

KNOWLEDGE WEB

Title:
Realizing the semantic web

Other Names:
KNOWLEDGE WEB

Project Overview:
The current World Wide Web (WWW) is, by its function, the syntactic web where structure of the content has been presented while the content itself is inaccessible to computers. The next generation of the Web (the Semantic Web) aims to alleviate such problem and provide specific solutions targeted the

RKBGadget » People

Berners-Lee

Search Reset

Found 3 results for "Berners-Lee"

[M Berners-Lee](#) [Mary Lee Berners-Lee](#) [Lee](#) [Tim Berners-Lee](#)

Tim Berners-Lee

Full Name:
[Tim Berners-Lee](#)

Email Address:
timbl@w3.org

Web Address:
http://en.wikipedia.org/wiki/Tim_Berners-Lee

My Gadgets

Gadget

[dictionary.xml](#)

Inlined Cached

☐

☒

Weather

Southampton, England

 13°C Current: Clear
Wind: SE at 3 km/h
Humidity: 94%

Tue Wed Thu Fri

 21° | 13°  24° | 16°  20° | 11°  18° | 9°

Search YouTube




Best Silverlight Apps

Zingals uses Silverlight apps to enhance user experience. READ

Ads by Google

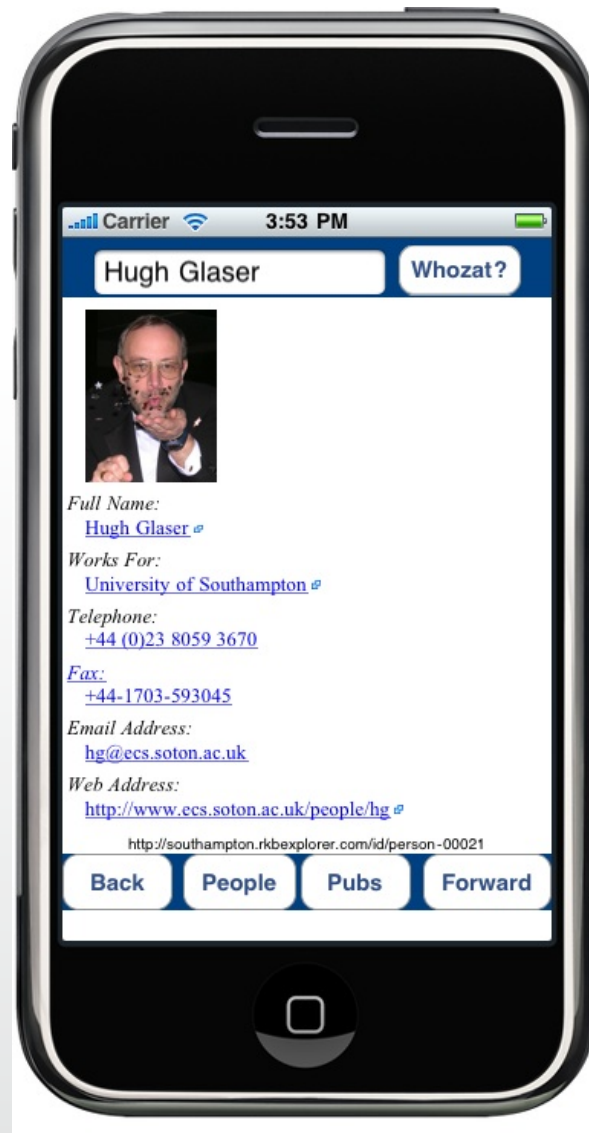
  [Confucius Quotes](#)



Gmail

Loading "http://www.google.com/ig?refresh=1", completed 20 of 22 items

iPhone App



IPK

- New collaboration
 - Tsinghua/Southampton
- IP Knowledge Base
 - Facilitate IP take-up by SMEs
- Augment planned portal with Linked Data capabilities

“The” IPK

- In fact many sub-IPKs
 - Every source published separately
 - IP owners and SMEs (cf the LOD diagram)
 - Supported by the Project
 - As a service
 - Can be pushed out to stakeholders
- Central added value of knowledge processing for recommendation
- “Push”, not just search
 - Represent knowledge about customers

Concluding Remarks

- Linked Data is not hard
 - Producing - easy
 - Publishing – not quite so easy
 - Using - easy
- Powerful data integration technology
- Major adoption now happening
 - Eg US & UK governments

RKBExplorer.com – Try it!

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RKBExplorer » People » Tim Berners-Lee

Search... Search

about system requirements
help data sources
contact acknowledgements

Related people

Henrik Frystyk Nielsen
Nigel Shadbolt
James A Hendler
Danny Weitzner
R. Cailliau
Dan Connolly
J.-F. Groff
Gerald J. Sussman
Lalana Kagal
Wendy Hall

Details

Full Name:
[Tim Berners-Lee](#)

Email Address:
timbl@w3.org

Web Address:
http://en.wikipedia.org/wiki/Tim_Berners-Lee

Description:
Sir Timothy John Berners-Lee OM KBE FRS FREng FRSA (born 8 June 1955) is an English computer scientist, who is credited with inventing the World Wide Web. On 25 December 1990 he implemented the first successful communication between an HTTP client and server via the Internet with the help of Robert Cailliau and a young student staff at CERN. He was ranked Joint First alongside Albert Hofmann in The Telegraph's list of 100 greatest living geniuses. Berners-Lee is the director of the World Wide Web Consortium, which oversees the Web's continued development, the founder of the World Wide Web Foundation and he is a senior researcher and holder of the 3Com Founders Chair at the MIT

People

- [Danny Weitzner](#)
- [Nigel Shadbolt](#)
- [R. Cailliau](#)
- [James A Hendler](#)
- [Dan Connolly](#)
- [Lalana Kagal](#)
- [Wendy Hall](#)
- [J.-F. Groff](#)
- [Gerald J. Sussman](#)
- [Henrik Frystyk Nielsen](#)

Organisations

- [MASSACHUSETTS INSTITUTE OF TECHNOLOGY](#)
- [World Wide Web Consortium](#)

Publications

- [Interacting with eHealth: towards grand challenges for HCI](#)
- [Twenty Years: Looking Forward, Looking Back](#)
- [Information accountability](#)
- [Linked data on the web \(LDOW2008\)](#)
- [N3Logic: A Logical Framework For the World Wide Web](#)
- [Web Science Emerges](#)
- [Web Science: An Interdisciplinary Approach to Understanding the Web](#)

Research Areas

- [H.3.4. Systems and Software](#)
- [C.2.1. Network Architecture and Design](#)
- [C.2.1.6. Network communications](#)
- [C.2.2. Network Protocols](#)
- [C.2.m. Miscellaneous](#)
- [H.1.2. User/Machine Systems](#)
- [H.1.2.0. Human factors](#)
- [H.4.3. Communications Applications](#)
- [H.5.0. General](#)

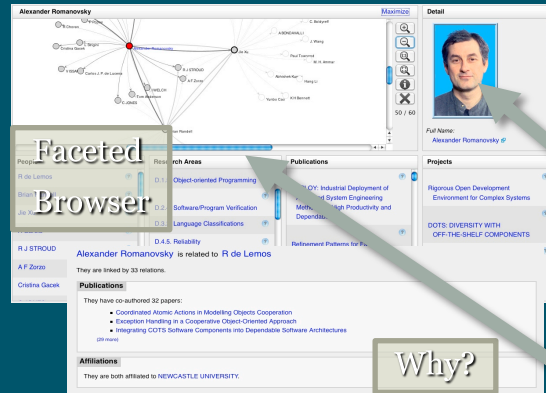
Applet eu.resist.rkb.RKBExplorer2 started

<http://eprints.ecs.soton.ac.uk/17788/>

Knowledge-Enabled Research Support: RKBExplorer.com
Ian Millard & Hugh Glaser, {icm,hg}@ecs.soton.ac.uk

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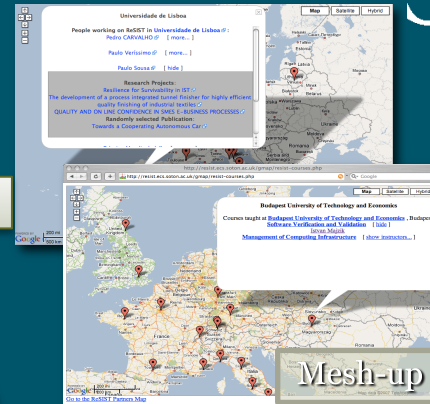
Why?

Fresnel renderer

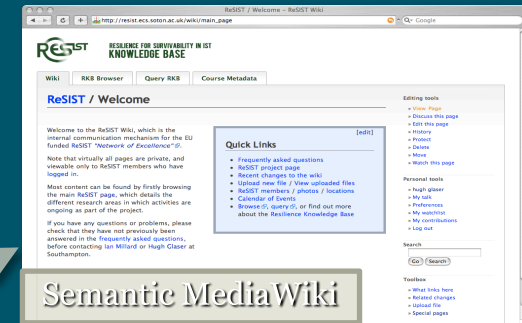
Community of
Practice Analyser

Machine Learning

Manual classification of IEEE DSN papers
NLP
AJAX-based
Data Entry



Mesh-up



Semantic MediaWiki

Coreference Analysis

Offline Conversion
& Versioning

Ontology Mapping Service

Ontologies

Resolving URIs
KISTI, dbpedia, etc.

CiteSeer, CORDIS, DBLP,
Partners, UN LoCode, ...

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Linked Data

