Publishing Linked Open Data about University Scientific Outputs using the VIVO Ontology

Experience at Universitat de Lleida, Spain

Roberto Garcia, Jordi Virgili-Gomá and Rosa Gil

Supported by project InDAGuS
Infrastructures for Sustainable Open Government Data with Geospatial Features
Spanish Government TIN2012-37826-C02
Motivation

• Research annual reports
  • University, Research Center, Research Group,…

• Individual CVs
  • Project proposals, research productivity assessments,…

• Institutional Web sites
  • Department, Research Group,…
Requirements

• Articles, conference papers, projects,…
• Focus on articles, their impact and QUARTILES
  • Example: Spanish research assessment each 6 years, criteria Computer Science area:
    • Considering JCR impact factor for publication year (or last available):
      • 2 Q1/Q2 plus 1 Q3 or
      • 1 Q1/Q2 plus 3 Q3 or
      • 5 Q3
“State of the Art”

But no Impact Factor or Quartile!!!
Starting Point

- However, all this data available from institutional databases
- Requested and provided as XLS dumps
- Then mapped to RDF using OpenRefine
RDF Schema Alignment

The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.

Base URI: http://indagus.udl.cat/linkedudl/edit

Available Prefixes:

- rdfs
- rank
- foaf
- dct
- bibo
- xsd
- owl
- rdf
- vivo

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### RDF Schema Alignment

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#### Available Prefixes:
- rdfs
- rank
- foaf
- dct
- bibo
- owl
- xsd
- rdf
- vivo

### CODI_REVISTA URI
- x => rank:journalRankInCategory
- add rdf:type

### CODI_area URI
- x => dct:subject
- add rdf:type

### CODI_ISI
- x => dct:identifier

### ANY_ISI
- x => rank:total
- add rdf:type

### POSICIO
- x => rank:quartile
- add rdf:type

### NUM_REVISTES
- x => vivo:rank
- add rdf:type

### QUARTIL
- add property

### CODI_AREA
- add rdf:type
Results

- **Publish RDF** data for users, tools, web sites,...
- Align with transparency initiatives, **open data**
  - Publish as **Linked Open Data**
  - Also available from **SPARQL Endpoint**
    - Facilitate integration with other tools like Drupal
- Also provide **user interface for interactive data exploration and analysis**
Information Professor

Name: Virgí Goma, Jordi
Category: part-time associate T1
Area of Knowledge: LSI
Office:
Phone: +34,973
Web page:

SUBJECTS
WEB SYSTEMS AND TECHNOLOGY

CURRICULUM
Degree in Computer Engineering

RECENT PUBLICATIONS
Emotions Ontology for Collaborative Learning and Modelling of Emotional Responses
YEAR
2015

More articles from this person
Publishing with Rhizomer

• Deployed on top of SPARQL endpoint
• Publish as Linked Data for machine and human consumption
  • Automatic user interface generation from data shape and ontologies

• Winner Intelligent Data Exploration (IESD) Challenge 2013
  • IESD year collocated with International Semantic Web Conference (ISWC’15), Bethlehem, Pennsylvania
What does Rhizomer propose?

**Automatic user interface components** generated from the underlying data structure. Explore data in 3 steps:

1. **Overview**
2. **Filter**
3. **Visualize**

I’m writing about “Films I Like”. I want to reuse DBpedia… but how?

It describes 3.7 million things of 359 different types using 1775 different properties!
Overview

What is a dataset about?

Navigation menus, Treemap, site map...

Is DBpedia relevant for films? And compared with the LinkedMDB dataset?

Film
Number of instances: 71715
Subclasses: 0

Film
Number of instances: 85620
Subclasses: 0
### Automatic Generation

#### Rhizomer

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<th>organisation (134972)</th>
<th>person (317015)</th>
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<tr>
<td>Other place</td>
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<td></td>
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</tbody>
</table>

#### Place (413404)  Species (141660)  Work (320048)  Other (113563)  Contact

<table>
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<th>place</th>
<th>(32780)</th>
<th>archaea (164)</th>
<th>album (94033)</th>
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<td>Other Animal</td>
<td>(15930)</td>
<td></td>
<td>Other MusicalWork (37003)</td>
<td>Other Other (18935)</td>
</tr>
</tbody>
</table>
Filter

Facets, pivoting, breadcrumbs...

DBPedia films have actors that have birthplaces, LinkedMDB doesn’t...

With DBPedia I can filter films directed by Herzog starring actors born in places in Germany!

[Image of a webpage with filters and relations]

Filter Agent by:
- Birthdate
  - Search values...
- Common values
- Birthplace
  - Search Place values...
- Common values
- Caps
  - Search Agent values...
- Common values
- Clubs
  - Search Agent values...

Showing Agent
has Film where Director is Werner Herzog
has birthPlace Place where Country is Germany

Timeline (3)

Udo Kier a Person, agent, person, Person, Thing
comment Udo Kier (born Udo Kierspe; 14 October 1944) is a German actor, known primarily for his work in horror and exploitation movies.

Volker Prechtl a Person, agent, Thing, person, Person
comment Volker Prechtl (9 August 1941 – 7 August 1997) was a German actor. He appeared in 52 films and television shows between 1974 and 1997.

Werner Herzog a Person, agent, person, Thing, Person
comment Werner Herzog Stipetić (born 5 September 1942), known as Werner Herzog, is a German film director, producer, screenwriter, actor, and opera director. He is often considered one of the greatest figures of the New German Cinema, along with Rainer Werner Fassbinder, Margarethe von Trotta, Volker Schlöndorf, Werner Schröter, and Wim Wenders.
Visualise Services and Plugins

Visualisations declaratively associated to data

Timelines to show anything with a date, like actors’ birth dates

Maps for things geolocated, like actors’ birth places

And charts for numbers, like Herzog films runtimes...
Thank you for your attention

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Contact:
roberto.garcia@udl.cat
http://rhizomik.net/~roberto/
@rogargon

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