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Applications of Semantic Web

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Learning Objective

- Get an idea of where and when Semantic Web technologies can be applied

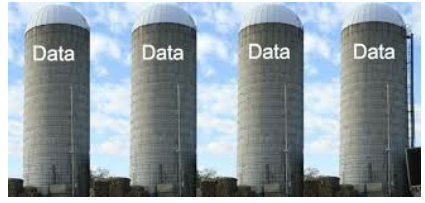
Contents

- Application areas of Linked Data
- Case studies: Sampo portals for Digital Humanities

Application Areas

Benefits of Linked (Open) Data?

- Enriching everybody's data collaboratively from separate silos
  - Everybody wins by collaboration!
- Creating Findable, Accessible, Interoperable, Re-usable data
  - The value of data increases!
- Creating more intelligent applications for the public, curators, and researchers
  - The machine "understands" linked data!



FAIR

GO FAIR

https://www.go-fair.org/fair-principles/

https://www.w3.org/2001/sw/sweo/public/UseCases/

Semantic Web Case Studies and Use Cases

Case studies include descriptions of systems that have been deployed within an organization, and are now being used within a production environment. Use cases include examples where an organization has built a prototype system, but it is not currently being used by business functions.

The list is updated regularly, as new entries are submitted to W3C. There is also an RSS1.0 feed that you can use to keep track of new submissions. Please, consult the separate submission page if you are interested in submitting a new use case or case study to be added to this list.

48 entry

sorted by: entry-type and labels; then by... • grouped as sorted

Case study (35)

1. A Digital Music Archive (DMA) for the Norwegian National Broadcaster (NRK) using Semantic Web techniques (Case study), by Robert Engels and Jon Roar Tønnesen, ESIS and NRK, Norway
   Activity area: broadcasting
   Application area of SW technologies: improved search, content discovery, and data integration
   SW technologies used: RDF(S), OWL, SPARQL, and in-house vocabularies
   SW technology benefits: improved search, identify new relationships, and share and re-use data
2. A Linked Open Data Resource List Management Tool for Undergraduate Students (Case study), by Chris Clarke, Talis Information Limited and University of Plymouth, United Kingdom
   Activity area: education, learning technology, and publishing
   Application area of SW technologies: content discovery, content management, data integration, and semantic annotation
   SW technologies used: RDF, RDFa, SPARQL, RDF(S), SKOS, public datasets, and public vocabularies
   SW technology benefits: explicit content relationships, personalization, reduced time to market, and share and re-use data
3. A Semantic Web Content Repository for Clinical Research (Case study), by Chimezie Ogbuji, Eugene Blackstone, and Chris Pierce, Cleveland Clinic, United States
   Activity area: health care and public institution
   Application area of SW technologies: data integration
   SW technologies used: RDF(S), OWL, GRDDL, Rules, Rules (N3), and public vocabularies
   SW technology benefits: automation, incremental modeling, and improved search
4. An Intelligent Search Engine for Online Services for Public Administrations (Case study), by Jesús Fernández Ruíz, Municipality of Zaragoza, Spain
   Activity area: public institution and eGovernment
   Application area of SW technologies: portal and improved search
   SW technologies used: RDF(S) and in-house vocabularies
   SW technology benefits: explicit content relationships, identify new relationships, and improved search

Search facets:

Activity area

- 1 application lifecycle management
- 1 arts
- 3 automotive
- 2 broadcasting
- 1 cultural heritage
- 2 education

Application area of SW technologies

- 13 content discovery
- 6 content management
- 3 customization
- 32 data integration
- 4 domain modeling
- 23 improved search
- 1 lifecycle management

SW technologies used

- 7 Rules
- 1 Rules (F-logic)
- 4 Rules (N3)
- 1 SeRQL
- 5 SKOS
- 19 SPARQL
- 1 WSMO

ACTIVITY AREAS

application lifecycle management
arts
automotive
broadcasting
cultural heritage
education
eGovernment
energy
eTourism
financial
geographic information system
health care
IT industry
learning technology
legal
library
life sciences
museum
oil & gas
public institution
publishing
search
semantic desktop
service management
telecommunications
utilities
Web accessibility

APPLICATION AREAS

content discovery
content management
customization
data integration
domain modeling
improved search
lifecycle management
modeling
natural language interface
portal
provenance tracking
repair and diagnostic help
schema mapping
semantic annotation
service integration
simulation and testing
social networks
text mining

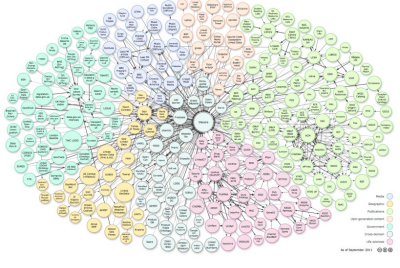
Applications May be Targeted Globally or Locally

Logic-based semantics is domain-agnostic!
The approach is designed to cover all contents of WWW
But linked data is typically applied locally within a company or community

Global Knowledge Graphs

Schema.org

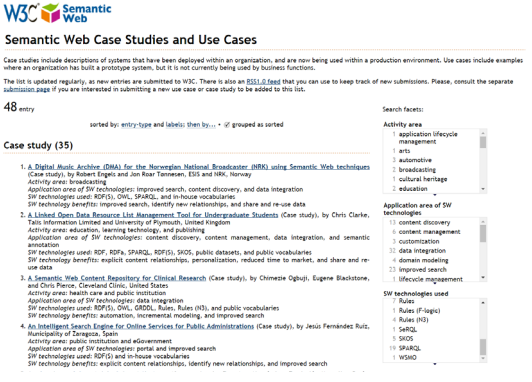
Google



facebook

Microsoft

Local Applications in Companies and within Communitíes



IBM

ebay

Case Study:
Sampo Series of Semantic Portals for Digital Humanities

See Videos about Selected Sampo Portals

Case: WarSampo - Finnish WW2 on the Semantic Web
https://vimeo.com/212249404

Case: BiographySampo – AI Reading Biographies for the Semantic Web
https://vimeo.com/328419960

Case: LetterSampo - Reassembling the Republic of Letters
https://vimeo.com/461293952

Case: AcademySampo: Academic People in Finland 1640-1899
https://vimeo.com/462993654

Summary

Semantic Web technologies can be Applied Different Domains

- Logic-based semantics is domain-agnostic!
- The approach is designed to cover all contents of WWW

Applications can have global or local scope

Digital Humanities is one area that benefits from Linked Data