



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!





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





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... • Ø grouped as sorted

Case study (35)	1 applicatio manageme 1 arts
 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 	3 automotiv 2 broadcast 1 cultural h 2 education Application are
2. A Linked Open Data Resource List Management Tool for Undergraduate Students (Case study), by Chris Clarke,	technologies
Talis Information Limited and University of Plymouth, United Kingdom	13 content di
Activity area: education, learning technology, and publishing	6 content m
Application area of SW technologies: content discovery, content management, data integration, and semantic annotation	3 customiza
SW technologies used: RDF, RDFa, SPARQL, RDF(S), SKOS, public datasets, and public vocabularies	32 data integ
SW technology benefits: explicit content relationships, personalization, reduced time to market, and share and re-	4 domain me
use data	23 improved
 A Semantic Web Content Repository for Clinical Research (Case study), by Chimezie Ogbuji, Eugene Blackstone, and Chris Pierce, Cleveland Clinic, United States 	1 lifecycle n
Activity area: health care and public institution	SW technologie
Application area of SW technologies: data integration	7 Rules
SW technologies used: RDF(S), OWL, GRDDL, Rules, Rules (N3), and public vocabularies SW technology benefits: automation, incremental modeling, and improved search	1 Rules (F-lo
	4 Rules (N3)
 An Intelligent Search Engine for Online Services for Public Administrations (Case study), by Jesús Fernández Ruíz, Municipality of Zaragoza, Spain 	1 SeRQL
Activity area: public institution and eGovernment	5 SKOS
Application area of SW technologies: portal and improved search	19 SPARQL
SW technologies used: RDF(S) and in-house vocabularies	1 WSMO
SW technology benefits: explicit content relationships, identify new relationships, and improved search	





rea of SW

- discovery
- management
- zation
- egration
- modeling
 - d search
- management

gies used



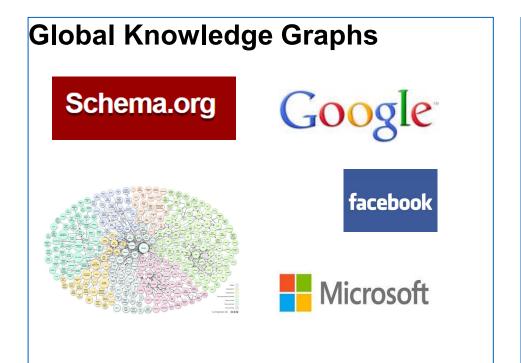


ACTIVITY AREAS application lifecycle management arts automotive broadcasting cultural heritage education eGovernment energy eTourism financial geographic information system health care IT industry learning technology legal library life sciences museum oil & gas public institution publishing search semantic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



Local Applications in Companies and within Communities

W3C Semantic Web

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48 entry	Search facets:
sorted by: entry:type and labels: then by • @ grouped as sorted	Activity area
Case study (35)	1 application lifecy management 1 arts
 A. Digital. Music. Acciver. (DMA). for: the: Neuroption: National. Broadcaster. (HRK) using: Semantic. Web. techniques: Clase truty), by Robert: Engois and Jon Rair Tamenen, IGS and IRA, Intravy Acapitation and early for Monologics: Improved Sector. Conset discovery, and data Integration Site technologies users: ROTS), DNI, SPA002, and im-house socialization Site technologies users: ROTS), DNI, SPA002, and im-house socialization Site technologies users: ROTS), DNI, SPA002, and im-house socialization 	3 automotive 2 broadcasting 1 outportal hemage 2 education Application area of 9 technologies 13 content discover 6 content manage 3 outomization 2 data integration 4 domain modeling 3 immoved search
2. A Linked Cost Tata Resource Lin Massement Tork Infor Undergraduat Suddens (Les nudy). by Chris Carle, Tain Memotion United ad Uniterity (Propus), United Falgedon Activity area education, Sareing lackholing; and publicity of Principal Cost (Principal Cost), and Cost (Principal Cost), and Sareina Cost Cost (Principal Cost), Cost (Principal Cost), Sareing Cost (Principal Cost), Sareing Sareina Cost, Sareina Cost, Sa	
3. A Semantic Web Context Begolitory for Cilicia Research (Case study), by Chimesie Ophuji, Eugene Biackstone, and Orich Penci Centeud Oliciiv. United States Case Study and Case Study and public institutiona Application and e polici institutiona Gala Indepatibility and e gli Net Anniegate Gala Indepatibility and public states and public institutiona Study (Study 1997). ONU, CRDD, Nave, Nare, Nare, North (19), and public search States and Study Study Study (Study 1997). Study Stu	1 lifecvcle manage SW technologies used 7 Rules 1 Rules (F-logic) 4 Rules (N3)
4. An Intelligent Search Experts for Childre Services for Public Administrations (Exe study), by Jesis Fernándes Ruit, Mancipality or Zargen, Spain Agoitotine area of Sir devolvagiers partial and Improved Search Sir Sechologies used: ISF21 and Imbases escabularies Sir Sechologies used: ISF21 and Imbases escabularies	1 SeRQL 5 SKOS 19 SPARQL 1 WSMO





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



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