



EnviLOD

Semantic Enrichment and Search using Linked Open Data: A Use Case in Environmental Science





EnviLOD Objectives

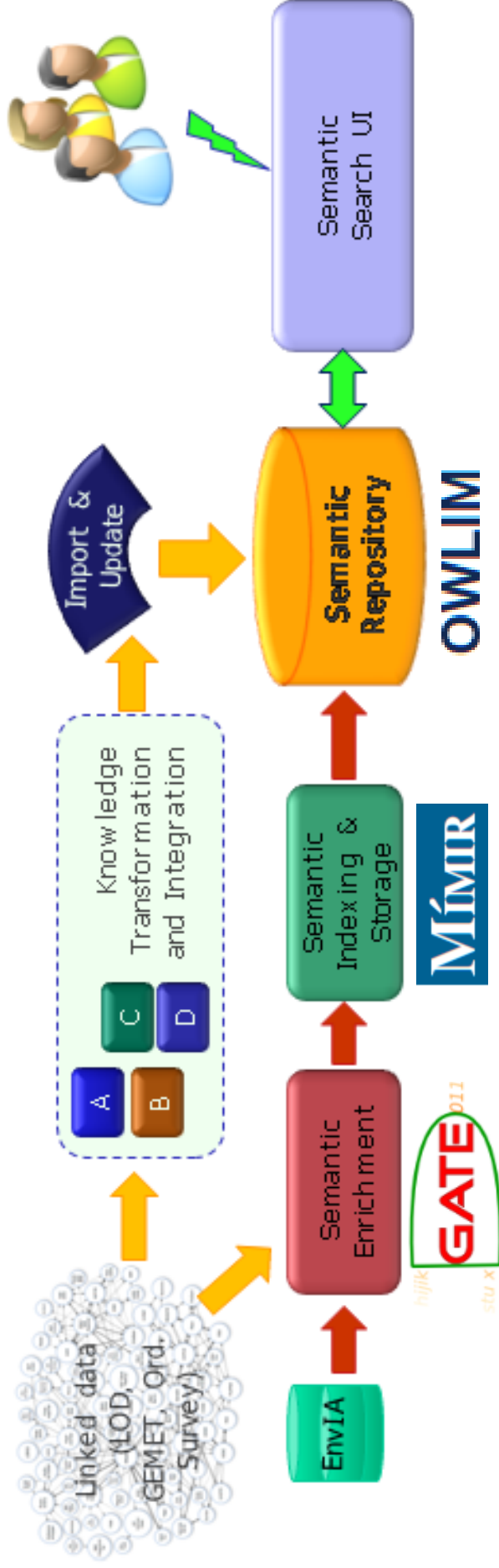
- Address the problem of LOD domain vocabulary enrichment and interlinking
- Develop intuitive semantic search methods
- Case study: the new British Library infomation discovery tool for environmental science, Envia.
- Engage with domain experts and other stakeholders.



User Survey: Key Findings

- Types of search queries related to flooding
 - Regulation & policy; Research; Risk; Spending, etc.
 - Location-based search needed
 - Language/keyword-based searches
- **Example queries:**
 - How is flood defence spending prioritised in non UK countries?
 - The top ten flood risk areas in Oxfordshire
 - Where has surface water flooding taken place since 2007

EnviLOD Architecture



FRM Act annual report to Parliament ... : Flood Risk Management (Scotland) Act 20

EDINBURGH : SCOTTISH GOVERNMENT

DOWNLOAD DOCUMENT



LINK



<http://www.scotland.gov.uk/Publications/Recent>

CONTENT TYPE

continuing
Electronic

DATE

2010

SUBJECT

- Flood damage prevention--Scotland--Periodicals
- Floods--Risk assessment--Scotland--Periodicals
- Flood control--Scotland--Planning--Periodicals
- Other social problems and services
- Flood
- Act
- Scotland
- risk
- plans
- Risk Management
- Scottish Government
- local authorities
- National Park
- flood protection



Docs on climate change & Oxfordshire

Searching Index "bl-geo-metadata-15102012"

climate rootchange AND {Sem_Location name REGEX("Oxfordshire(*)")}

Search



Documents 1 to 2 of 2:

meta4360.xml_00E9F of ecosystems to climate change. This study investigated the relati ... deciduous ancient semi-natural woodland at Wytham Woods in central

meta1709.xml_0031D is controversial. Climate change adds further uncertainty to decisio ... on growth, photosynthesis and phenology at Wytham Woods, a

1

Mimir 4.2-SNAPSHOT, © GATE 2012.





Searching Index "bl-geo-metadata-15102012"

```
{?inst rdf:type :Country. ?inst :populationDensity ?x. FILTER(?x > 500)}"}
{?inst Location country:Code="GB" dbpedia:Spaql="select distinct ?inst where
```

Search

Docs mentioning locations in UK where the population density is more than 500 people per square km

Documents 1 to 8 of 8:

- meta1161.xml_000BD Lambourn catchments, **Berkshire**, UK. Chalk catchments in **Berkshire** (UK) Lambourn catchments, **Berkshire**, UK Article
- meta1172.xml_000C9 808), **Stoke-on-Trent** (n = in Coventry and **Stoke-on-Trent**) to greater
- meta756.xml_01543 Upper Thames in **Berkshire**, UK,
- meta5901.xml_011B2 , Lambourn, **Berkshire**, UK (
- meta2247.xml_00573 industrial heartlands of **Greater Manchester**, south Lancashire
- meta2359.xml_005EF Sandstone aquifer of **South Yorkshire** between January 2002





Next Steps

- Index full-text articles and web pages
- Intuitive search UI, including location-based search
- Implement more geo-queries: flooding near Sheffield; to the south of Sheffield, ...
- Evaluation: users + gold standard
- Publications

JISC



Questions?

- <http://gate4ugc.blogspot.co.uk/search/label/%23EnviLOD>
- <http://gate.ac.uk/kalina>
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