DBpedia Navigator

http://navigator.dbpedia.org

A tool for browsing, searching, and navigating in DBpedia and interlinked data sets.

**Backend:**

example search tree:

owl:Thing

Car  Person  Building

... ...

Scientist and (bornIn hasValue USA)

OWL class descriptions

OWL reasoner

heuristics

refinement operator

examples + knowledge base fragment

learning

natural language

fragment selection

DBpedia (or any large knowledge base accessible via SPARQL)

**GUI:**

search and previous results

tag cloud based on YAGO

sorted by #pagelinks

YAGO Classes

Geonames Map displayed for Locations

Photos on Flickr

YAGO taxonomy browser

**Features:**

- navigation suggestions (scalable Machine Learning techniques)
- user friendly instance data display
- REST interface
- search using a simple page rank
- restricting search results by class using tag clouds

**Technologies Used:**

- supervised Machine Learning based on OWL ontologies (DL-Learner)
- Knowledge Base Fragment Selection (DL-Learner)
- OWL reasoning (Pellet)
- SPARQL (Virtuoso)
- AJAX
- Web Service

**Future Work:**

- use new DBpedia ontology for better article display and suggestions
- adapt general OWL ML algorithm to the navigation scenario (restrict to a simple language, e.g. extension of EL)
- improve performance, e.g. keeping the schema in memory instead of querying it on each request
- improve stability: DBpedia Navigator is a research prototype (not yet end user ready)

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