Ontohub

Open based on open source software

Flexible supporting OWL, UML, FOL/TPTP, HOL/THF, and more

Distributed OMS alignments, mappings, networks, combinations using DOL

Ontohub

Ontohub is available at `http://ontohub.org`. Read more about the Ontohub team. A test version with latest features is available at `http://develop.ontohub.org` (but note that the contents there can be deleted at any time!).

Ontohub architecture

The Ontohub infrastructure is powered by the open-source web framework Ruby on Rails for building dynamic web applications. The source code is available at github. The Ontohub git repository has separate branches development, staging and master. Software developers are introducing new features of Ontohub on its develop branch. After going through all necessary tests for stability, new features are merged to the staging (and master, i.e. visible website). In that way, the UI on the main page is always stable.

HETS

The parsing and inference backend of Ontohub is the Heterogeneous Tool Set. you can find a detailed architecture of Ontohub on page 8 of Ontohub preprint paper.

Ontohub accesses the Heterogeneous Tool Set Hets via a RESTful web service interface for having the structure of ontologies analyzed. Hets already supports a large number of basic ontology languages and logics, and is capable of describing the structural outline of an ontology from the perspective of DOL, which is not committed to one particular logic.

DOL

The Distributed Ontology, Modelling and Specification Language (DOL) covers all state-of-the-art ontology languages, and provides a meta level on top of these. This meta level allows for the representation of logically heterogeneous ontologies. DOL ontologies may comprise of modules written in ontology languages with different underlying logics. Moreover, the DOL meta level constructs allow for links between ontologies such as relative interpretations or conservative extensions.

Since the Ontohub infrastructure supports DOL, it allows the Ontohub users to relate ontologies that are written in different formalisms;

- to re-use ontology modules even if they have been formulated in a different formalism;

- to re-use ontology tools like theorem provers and module extractors along translations between formalisms.

- DOL is currently being standardised within the OntoIOp working group.

LoLa Ontology

LoLa is an ontology of (ontology) Logics and Languages. Onthub implements LoLa for structuring the repository content. The OWL core of the LoLa ontology comprises classes for ontology languages, logics, mappings (translations or projections) between ontology languages and between logics, as well as serialisations. The LoLa properties relate all of the former classes to each other. Besides its OWL module, LoLa includes additional FOL axioms for closure rules not expressible in OWL, such as non-expressible role compositions and circumscription rules for minimising the extension of default translations.