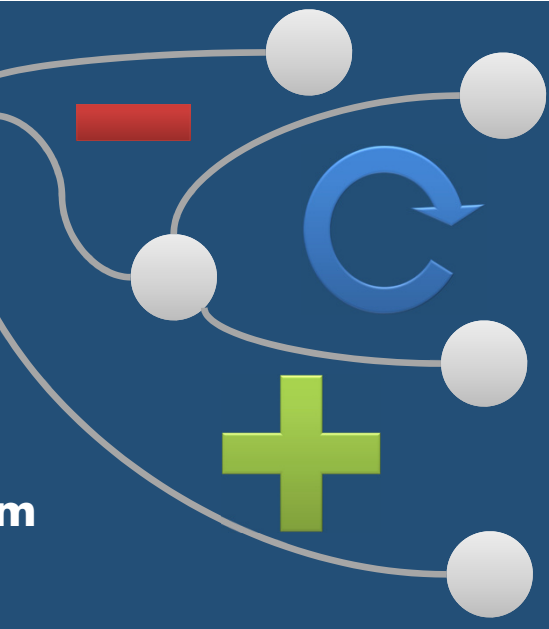


CODEX

COMPLEX ONTOLOGY DIFF EXPLORER

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<http://www.izbi.de/codex>

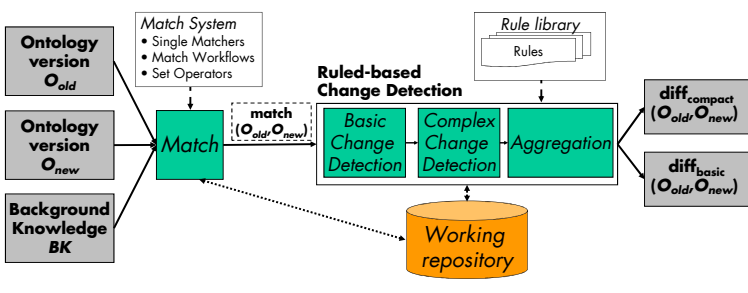
Use CODEX to explore online semantic changes between different versions of your ontologies

Motivation

- Ontologies evolve to meet changed requirements and to incorporate new knowledge
 - *Diff*: set of changes between two ontology versions
 - Helpful for mapping adaptation or collaborative ontology curation
 - Diff should be compact and human-understandable especially for large life science ontologies
 - Small number of semantic changes rather than a long list of "simple" element additions/deletions
- ⇒ *Tool to interactively explore a semantically rich diff between ontology versions*

Approach

- COnto-Diff to determine basic and compact diffs using matching and rules
- Supported changes: merge, split, addSubgraph, move, ...



Features

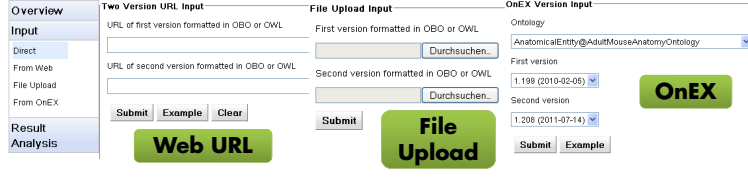
- Web GUI and web service interface available
- Multiple input possibilities
 - Support for OBO and OWL ontologies
 - File upload, copy/paste, URL, OnEX repository
- Several exploration facilities
 - Customizable overview statistics via pie charts
 - Tag clouds to visualize changes and modified content
 - Tree-based change explorer
 - Impact analysis: Are my categories affected by changes?

Demonstration

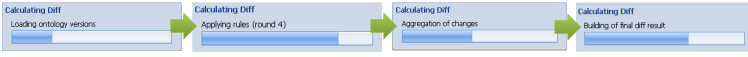
Diff computation and exploration for different life science ontologies and their versions

- Examples: Sequence Ontology, Adult Mouse Anatomy, Gene Ontology, ...

I. Different input possibilities



II. Diff Computation



III. Multiple exploration facilities

References

- [1] M. Hartung, A. Groß, E. Rahm: CODEX: Exploration of semantic changes between ontology versions. *Bioinformatics* 28(6), 2012
- [2] M. Hartung, A. Groß, E. Rahm: COnto-Diff: Generation of Complex Evolution Mappings for Life Science Ontologies. *Journal of Biomedical Informatics (In Press)*, 2012
- [3] M. Hartung, T. Kirsten, A. Groß, E. Rahm: OnEX: Exploring changes in life science ontologies. *BMC Bioinformatics* 10:250, 2009