Aligning Biomedical Ontologies

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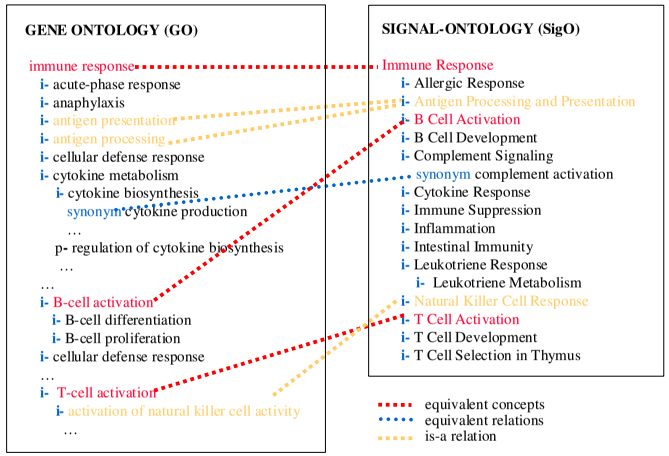
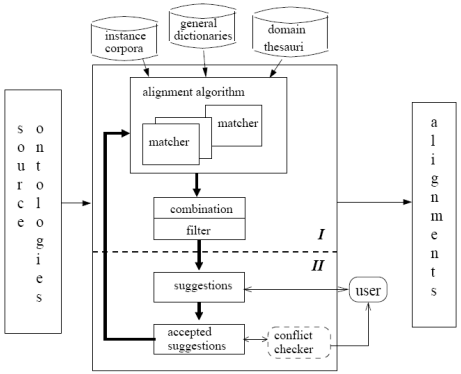
Due to the recent explosion of the amount of on-line accessible biomedical data and tools, finding and retrieving the relevant information is not an easy task. The vision of a Semantic Web for life sciences alleviates these difficulties. A key technology for the Semantic Web are ontologies. In recent years many biomedical ontologies have been developed and many of these ontologies contain overlapping information. Often we would therefore want to be able to use multiple ontologies. For example, applications may need to use ontologies from different areas and from different views on one area. Ontology builders may want to create a new ontology using existing ontologies or combining knowledge from small ontologies. To obtain good results, we need to find the relationships between terms in the different ontologies, i.e. we need to align them.

Aligning Ontologies



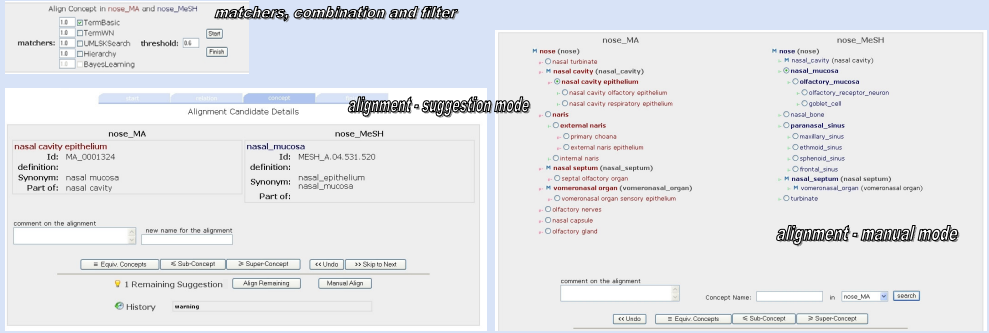
An Ontology Alignment Framework

- Use as a basis for building ontology alignment systems
- Provide support for experimenting with different alignment strategies and their combinations

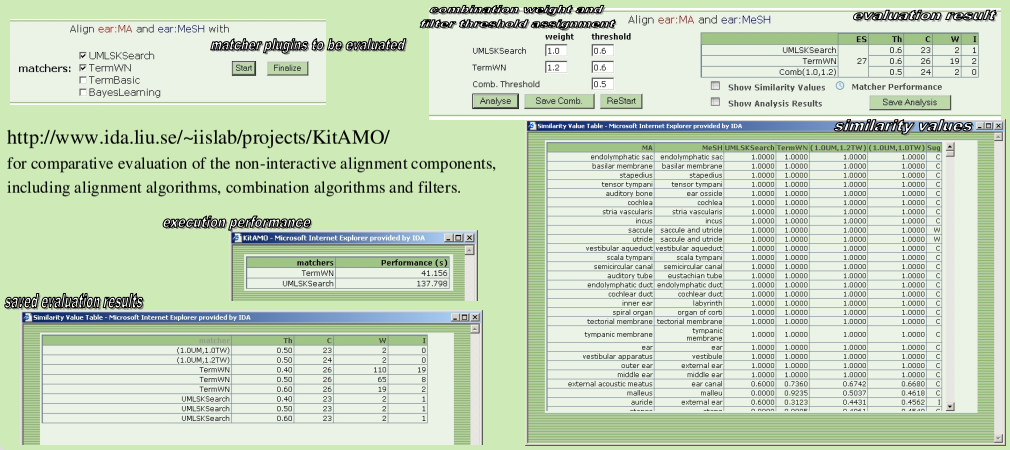


SAMBO System for Aligning and Merging Biomedical Ontologies

http://www.ida.liu.se/~iislab/projects/SAMBO/



KitAMO toolKit for Aligning and Merging Ontologies



http://www.ida.liu.se/~iislab/projects/KitAMO/

for comparative evaluation of the non-interactive alignment components, including alignment algorithms, combination algorithms and filters.

Book Chapters:

Lambrix P, Tan H, 'Ontology alignment and merging', chapter 6 in Burger, Davidson, Baldock, (eds), *Anatomy Ontologies for Bioinformatics: Principles and Practice*, 133-150, Springer, 2008.

Lambrix P, Tan H, Jakoniene V, Strömbäck L, 'Biological Ontologies', chapter 4 in Baker, Cheung (eds), *Semantic Web: Revolutionizing Knowledge Discovery in the Life Sciences*, pp 85-99, Springer, 2007.

Journal Publications:

Lambrix P, Tan H, 'SAMBO - A System for Aligning and Merging Biomedical Ontologies', *Journal of Web Semantics, Special issue on Semantic Web for the Life Sciences*, 4(3):196-206, 2006.

Lambrix P, Tan H, 'A Tool for Evaluating Ontology Alignment Strategies', *Journal on Data Semantics*, LNCS 4380, VIII:182-202, 2007.