Ontology Tools

Ontology Tools

The i2b2 Hive software is composed of core modules called 'cells' that create a system to allow the use of patient data for research. These cells communicate through web services and use i2b2 standard XML messages to transfer ontology-related metadata. To date, a subset of ICD-9 has been provided with the i2b2 demo software package. There has been a need in the community for access to a complete ICD-9 ontology as well as other clinical-based ontologies.

Extraction tool

NCBO hosts a repository of biomedical ontologies. These ontologies are stored in formats that are not understood by i2b2. A command line tool has been developed to not only extract these ontologies via bioportal REST services, but to transform them into a format that is understood by the i2b2 ONT cell.

Mapping tools

A set of mapping tools have been created for the workbench. These tools were designed to assist users in assigning, editing and verifying mappings between ontologies. These tools consist of a set of workbench plugins and a new Mapper cell (MAP). In version 1.1 of the mapping tools we add the ability to automate mappings to UMLS ontologies.

Integration tool

A command line integration tool has been developed that integrates a source ontology into the hierarchy of a target ontology as dictated by the mappings between the two. The feature has been absorbed into the mapping tool.

Metadata Uploader

A Metadata Uploader tool has been created for the workbench. This tool was designed to assist users in loading metadata to a pre-configured i2b2 project resulting in new root-level categories in the Navigate Terms view. This tool consists of a new workbench plugin. Version 1.7.08 (or later) of the ONT cell is required.

Tutorials

i2b2 Ontology Tutorial - Step by step example of how metadata trees are created and configured using both Edit View and Extraction tool

i2b2 Ontology tools overview - Overview of the extraction, mapping and integration tools and how they work together.