FCAView Protege Tab Plug-in

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Introduction

FCAView Tab plug-in provides Protégé users a novel way to visualize their ontologies using the formal concept analysis (FCA) technique.

FCA, a mathematical approach to data analysis based on lattice theory, has been advocated to support ontology building in several studies. Generally speaking, there are three elements to form a formal context: a set of formal objects, a set of formal attributes and the binary relations between them. The formal context is usually formed using a cross table, and graphically it also can be visualized using a lattice diagram. The two ways contain the same information about the formal context.

In the FCAView Tab, we hooked the protégé-2000 with an open source software Concept Explorer version 1.2. We developed two versions of visualization tools as follows.

FCAView Tab for core Protégé ontology

In the FCAView Tab, we assume that the instances (i.e. the formal objects) of a class in protégé-2000, together with its own slots (i.e. the formal attributes), could form a formal context that would interests the users. In particular, two kinds of formal context can be formed: 1) the instances of a class with its slots in Boolean type; 2) the instances of a class with its slots in Multiple Instance type.
In the OWLFCAView Tab, we developed a property-oriented way for visualization of OWL ontology in Protégé-2000. There are three basic specifications implemented in current version of our tool. The first perspective focused on one of the properties in a selected set of the classes. Here, the selected set of the classes was used as the formal objects and the fillers of the restriction of the selected property were used as the formal attributes. The second perspective focused on all asserted restrictions in a selected set of the classes. Here, the selected set of the classes was used as the formal concepts and the fillers of all asserted restrictions defined for the classes were used as the formal attributes. The third perspective focused on all super-classes of a selected set of the classes. Here, the selected set of the classes was used as the formal objects and the super-classes of each class were used as the formal attributes.
Downloads
The FCAView Tab plug-in (Ver 1.0) can be downloaded. Last updated: May 12, 2006.
The OWLFCACView Tab plug-in (Ver 1.1) can be downloaded. Last updated: May 12, 2006.

Documentation
The FCAView Tab plug-in is only compiled for protégé-3.0. A manual is provided and an example project can be downloaded.
The OWLFCACView Tab plug-in is only compiled for protégé-3.1. A manual is provided.

Level of Support
The FCAView Tab plug-in is developed and maintained by Guoqian Jiang. We would like to obtain any comments and advice from you.
Any questions about the tab, please contact to: Guoqian Jiang or Harold R. Solbrig, Division of Biomedical Informatics, Mayo Clinic, Rochester, MN.

License
The FCAView Tab plug-in will become open source soon.

References


