



# Ontology Browser

## OVERVIEW

The Papyrus Ontology Browser is a tool that allows the exploration of content drawn from one domain through the point of view of another. As a result, the Papyrus Ontology Browser provides the possibility for cross-discipline information retrieval. It allows the user for exploring the contents of the Knowledge Base through appropriate visualisations, including the ontologies, which are specified for the target domains and enable the mapping of user queries to the actual content.

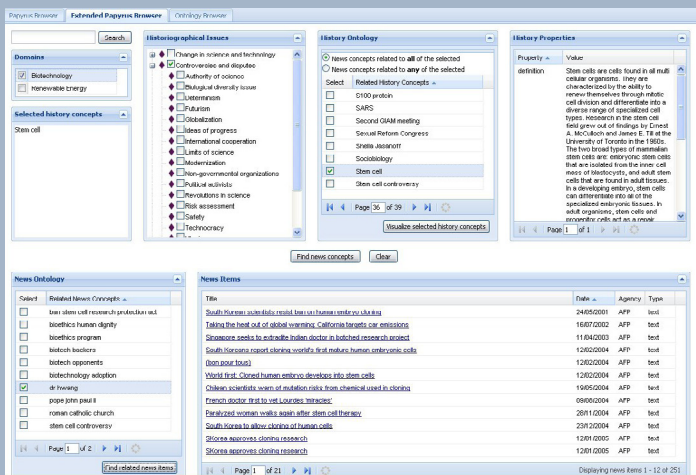
For the purposes of the Papyrus project, the Knowledge Base contains the News and History ontologies, as these domains were selected for the evaluation of the Papyrus concepts. Visual exploration tools are coupled with keyword search tools to combine search and browsing, the two major user requirements on accessing news content for use in historical research.

The Ontology Browser, as well as the accompanying search mechanism, allow the users to start the exploration from the History domain, by browsing through a hierarchical visualisation or searching with keywords in the history ontology. The user is presented with the results of this search and is allowed to move to the News domain, following the mappings between the History and News ontologies. Finally, the user may access the content of the news items related to the initial research question posed to the History ontology.

## INNOVATION

The Papyrus Ontology Browser is not a simple web-based ontology browser. It is a specialised tool which combines two different domain ontologies, as well as the content they describe. It takes advantage of a complex mapping mechanism between them to provide cross-discipline access to the news content.

The innovation of the Ontology Browser in comparison with existing ontology browsing tools has several perspectives. On one hand, as an ontology browsing tool, it is specifically designed



with the needs of non-computer experts in mind. Other approaches, like web Protégé, mostly support ontology designers.

The integrated view of two different ontology domains is another feature specific to the Papyrus Browser. The visualisation of entity change and evolution are also important features as currently there are no other implemented web-based approaches that allow visualisation of ontologies enhanced with time features.

The aforementioned advantages of the Ontology Browser may refer specifically to its search tool as well. The search tools implement keyword search over ontologies and take advantage of the mappings between the different domain ontologies, as well as the entity evolution features.

## BUSINESS IMPACT

As semantic web applications become more and more prominent, the Papyrus Ontology Browser can have an important impact either as a whole solution or as individual components.

Although the History-News domains represent the Papyrus use case, the same approach can be applied in other domains, making the Browser to be a general end user information retrieval tool for cross-discipline access to any type of multimedia content.

Furthermore, both the Papyrus ontology keyword search mechanism, as well as the browsing tools for the News and History ontologies, could be used as individual tools to be used for end user access to any ontology.

## INTEROPERABILITY

The Papyrus Ontology Browser, being a GWT application (i.e. JavaScript files), can be embedded in any website in an easy and straightforward way. The Querying Module of the Papyrus Ontology Browser has been developed with the MVC (Model-View-Controller) pattern in mind, thus it can be incorporated easily in any web or desktop Java application.

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