An introduction of Knoodl

CSC8711 Project

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(All pictures are borrowed from Knoodl's website)

Knoodl facilitates community-oriented development of OWL based ontologies and RDF knowledgebases. It also serves as a semantic technology platform, offering a JAVA service-based interface or a SPARQL query-based interface so that communities can build their own semantic applications using their ontologies and knowledgebases.

All content in Knoodl is organized into Communities. You can browse the list of Communities by clicking on the Community menu at the top of the screen and selecting Directory. Within Communities, there are regular Wikis and there are Vocabularies. A Vocabulary is a combination of an OWL based ontology editor and a wiki. Wikitext in Knoodl is not semantic, it is there to provide users with the ability to collaborate more effectively and add rich documentation. Each Vocabulary represents an ontology. Every resource (class, property, and instance) in the ontology has its own page in the Vocabulary.

Community:

Communities are formed by people with similar perspectives (or the desire to share a single perspective). Knoodl supports multiple communities, where the members can collaborate on information important to that community.

Communities create Wikis and Vocabularies and use them as a medium to collaborate on creation and management of information content. Community membership can be managed and controlled. Roles and privileges (e.g., reading, writing, administration, etc.) are managed by the community itself.

Wiki:

A Wiki allows users to create pages and add content to and format pages as they see fit. The Knoodl Wiki is a collaborative environment and subscribes to the same functionality that you would find in any wiki. It differs, though, in its wikitext language and authorizations.

The Hawaiian word wiki means quick, and a wiki is a type of web site used for quick collaboration. This term originates with the first wiki product, and is now associated with any web site that has pages that can be modified by the users of the site, using only their browser. Wikis have become popular in recent years for general Web users (e.g., Wikipedia and for companies, as many companies have set up wikis

for use as an editable intranet. A page within a wiki is called a wiki page, and the set of pages are collectively referred to as a wiki.

Vocabulary:

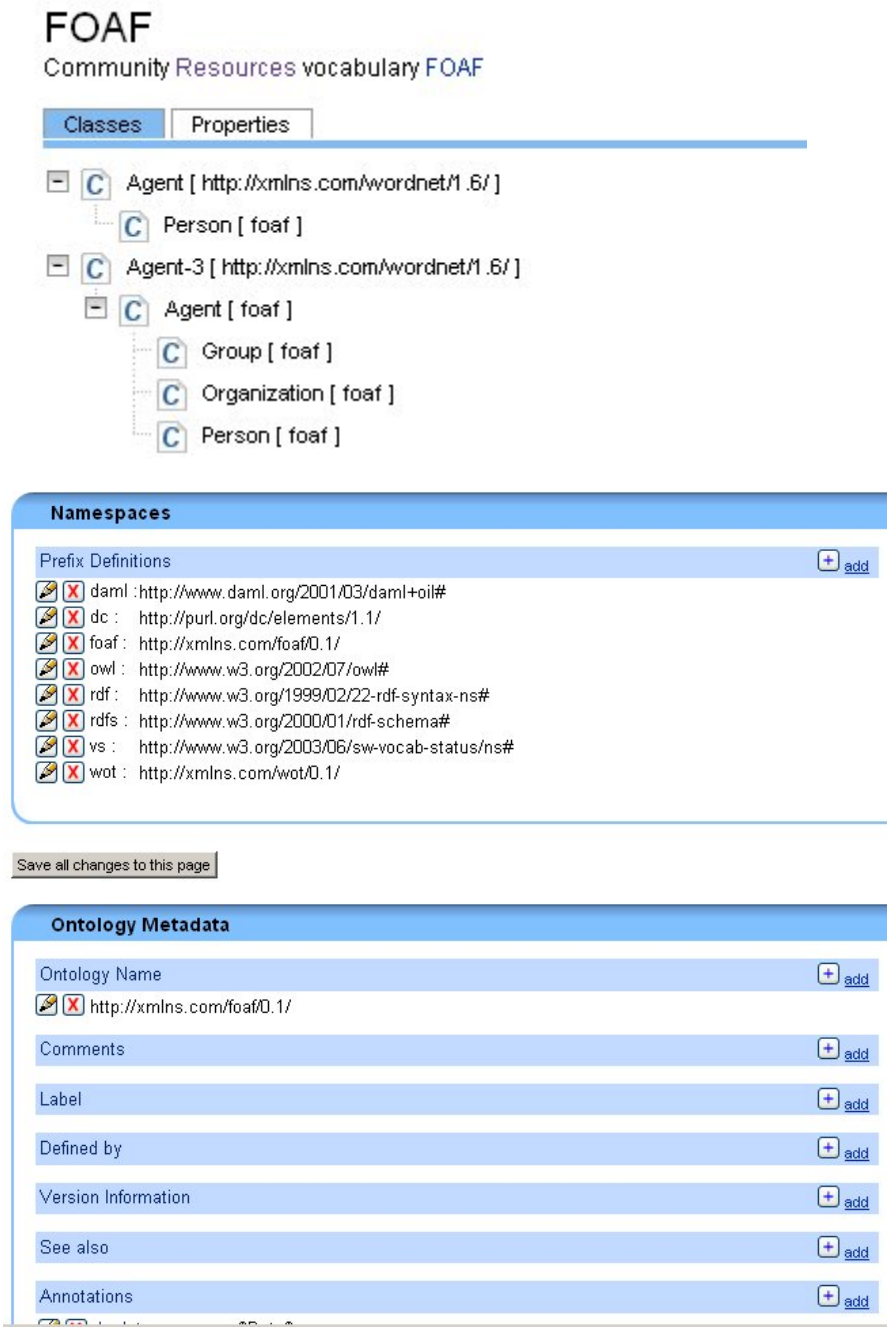
A Vocabulary is used to define a set of concepts and the relationships between those concepts. Thus, through a Vocabulary, a user can give a concept semantic meaning. A Vocabulary is a fully collaborative environment that allows multiple users to add formal semantic content and unstructured wiki content.

When building a Vocabulary, a user is able to reference concepts and relationships defined in other Knoodl Vocabularies. This allows users to separate and organize their content in many ways. For example, a community could create a general Vocabulary defining "Road Vehicles" and more specific vocabularies defining cars and trucks. This directly relates to the creation of domain ontologies and upper ontologies.

A Vocabulary is stored using the OWL ontology language. This allows user to export there Vocabulary for use in other semantic applications.

You can either create a new vocabulary or upload an existing vocabulary. Existing vocabulary can be deleted.

You can view the class tree and properties of vocabulary and edit them.

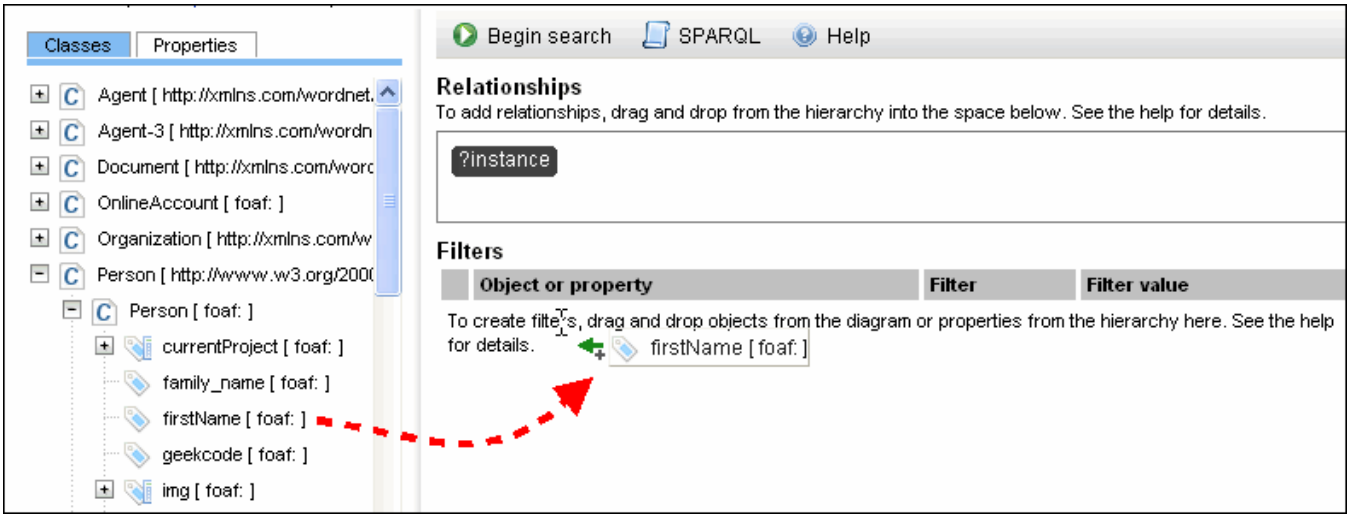


How to make queries in Knoodl?

Querying is a method of obtaining specific data from an RDF knowledgebase. Users are able to query knowledgebases by using the SPARQL querying language, which has been implemented in Knoodl via the `ASK` function. Say you want to obtain a list of Spanish Merlots from the Wine vocabulary, and you want to order them by the tannin contents from highest to lowest. In Knoodl you would write a query using the `ASK` function, or you could use the Ontology Guided Search.

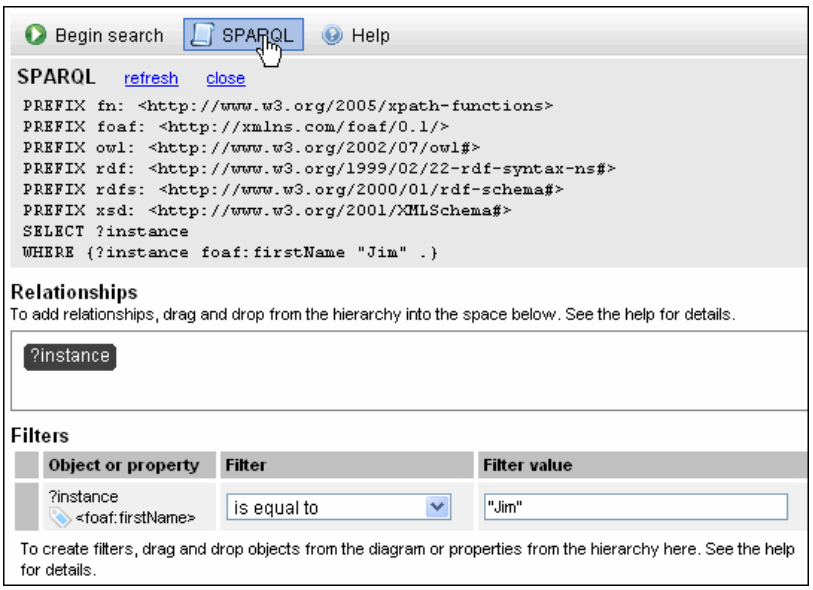
Knoodl supports querying of Vocabularies using SPARQL. It offers two ways to do this: the ASK function and the ontology guided search. The ASK function is a simplified form of SPARQL but has lot of predefined parameters. The ontology guided search allows you to search for instances in a more user-friendly graphic view.

If you just want to find all instances that have a specific property value, yYou start by locating the property in the left pane of the page, either in the class hierarchy or the property list. When you click on the property and drag it into the filter table, the filter gets added and you can enter the property value you want to find.



enter the value that you want to search for.

The search editor constructs simple SPARQL queries. You can view the SPARQL syntax by clicking the SPARQL script icon in the toolbar.



Some new features of Knoodl:

Graphics

OntVis updates our graph visualization tool to give a new level of accuracy in representations of OWL DL ontologies. It will already work for any vocabulary in Knoodl. To start, go to a resource page and click the "graph" tab

RSS Feeds

Use your RSS reader to monitor the changes that occur to communities, wikis, and vocabularies. To subscribe, click on the image/RSS_Feed_Icon.png RSS icon appearing in the menu. The community home page has a link to subscribe to activities within the entire community, including changes to any of its wikis or vocabularies. The vocabulary or wiki summary page has a link to subscribe to activities on any of its pages. Each individual page has a link to subscribe to activities only on that specific page.

Permissions

It is now possible to control what users can see and do within your community. Community administrators can now grant and limit the privileges for each of the community members. In fact, they can even control what non-members and users that haven't logged into Knoodl can do and see within the community.

By default, every member of a community should be able to do what they've been able to do. However, community administrators can change this, so please be aware that your community administrator may be changing your privileges.