Collaborative Project

GeoKnow - Making the Web an Exploratory for Geospatial Knowledge

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Project Website

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Abstract: This report presents the GeoKnow website. It is based on the OntoWiki application and Virtuoso server. OntoWiki contains the knowledge-base of GeoKnow describing work packages, deliverables, demos, etc. This website takes much inspiration from aksw.org, and provides all necessary features to have a well structured and high quality semantic portal.

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Executive Summary

This report presents the website created for the GeoKnow project. The website will be the main communication channel concerning the GeoKnow project.

The GeoKnow website presents all information about the project, its results (publications, deliverables, dissemination material, etc) in web 3.0 fashion. Besides the website, a web blog was created to communicate consortium activities, and links to GeoKnow profiles in the different social networks and sharing buttons have being integrated. All these communication channels are subject to analytics.

This website is built using the OntoWiki software which provides authoring tools for semantic content and an extension for a website, and Virtuoso triple store. Using an ontology-based approach to manage the project's website is bringing a lot of flexibility on the data presentation and communication of results. We can easily integrate new data and update results for a fast communication.

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1 GeoKnow Website

The GeoKnow website is available at http://geoknow.eu since the project's launch announcement (December 21, 2012). This website is the main communication channel for the project's objectives and results, such as demos, publications, dissemination material, blog posts, etc. A screen shot of the website is presented in Figure 1.

Figure 1: GeoKnow website screenshoot

The website is created using on the OntoWiki[1] software, and uses Virtuoso[2] triple store as a backend. The OntoWiki, allows for ontology authoring and knowledge acquisition. It also provides a website extension for front-end development. One advantage of using OntoWiki is its facility to integrate RDF data and produce web pages enriched with RDFa.

The web server and virtuoso server are hosted by InfAI, and the source code of GeoKnow website is available at GitHub[3]

Herein we will describe in detail the website's data structure and other integrated features for the project's dissemination.

1.1 Site Map

The GeoKnow site map is described as follows:

- Welcome
- Project
  - WorkPackages description

[1] http://ontowiki.net/Projects/OntoWiki
[2] http://virtuoso.openlinksw.com/
[3] https://github.com/AKSW/geoknow.eu

        - Tasks descrption within the WP
    - Consortium
        - Athena Research and Innovation Center
        - brox IT-Solutions GmbH
        - Ontos AG
        - OpenLink Software Ltd
        - Unister GmbH
        - University of Leipzig, Institute of Applied Computer Science
    - Events
        - Event Calendar
        - Past Events posts
    - Dissemination
        - Dissemination Material
        - Press Releases
    - Results
        - Demos (to become visible with the first geoknow demo)
        - Delverables
        - Publications
    - Social Media
    - Blog
    - Internal
    - Contact

The objectives of the GeoKnow project are described in the Project page together with its composition of work packages. Each work package is described by its leading partner, workload and tasks. Each task is described with their deliverable list and a corresponding link to the document if publicly available. Partners are described with their role in workpackages and tasks. The Dissemination page contains downloadable material, clippings and press releases. The Result page holds all demos, deliverables and publications created during the GeoKnow project. The Social Media page contains the links to the social networks where GeoKnow is present. Finally, the website has also a link to the GeoKnow blog, internal wiki (where only partners have access) and a Contact page.

All data provided to populate the previously described pages is structured data and can be managed using OntoWiki. The following sections describe the structure used to store this data.

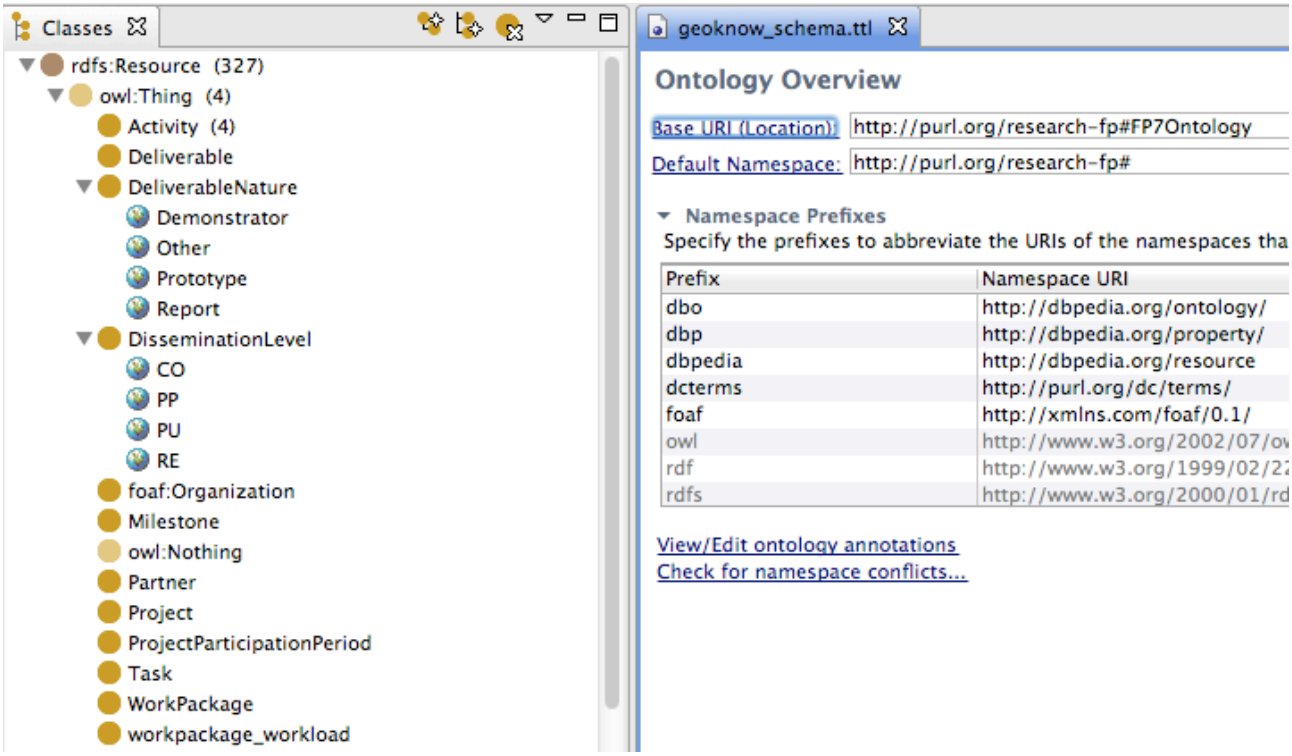

Figure 2: project-fp ontology

1.2 Project and Website Data Modeling

As mentioned before we use OntoWiki to manage data and the front-end of the GeoKnow website. The project's data has been "transformed" from the unstructured DoW documents to a structured version and presented in RDF. We tried to reuse existing vocabularies and ontologies to describe this data, however due to the EU project nature we found necessary to create an ontology that fulfil FP7 project's structure. This research-fp (http://purl.org/research-fp#) ontology, created by Konrad Höffner, was submitted for public use at purl.org and can be used for other PF7 projects. Meanwhile this ontology is under revision at purl.org, the schema can be found here[4]

A general depiction of this ontology is presented in Figure 2. The project-fp ontology describes the project, workpagkages, tasks, deliverables, milestones, partner's roles, etc. Besides the project-fp ontology, we used other vocabularies such as FOAF, SIOC, Skos, DC, etc.

The ontology and data can be managed using the OntoWiki web interface, which is described in the next section.

1.3 Data Management with OntoWiki

OntoWiki is an ontology editor and provides an extension for website building. All content from a website can be visualised and edited in place with the corresponding credentials. On each page of the GeoKnow website, visitors can access resource and templates directly from the links presented at the bottom of the pages. Then, it is possible to modify, or add instances, or add new concepts.

Data from the GeoKnow project is presented in the website using templates that will render this data with

[4] research-fp ontology https://github.com/AKSW/geoknow.eu/blob/master/site/data/geoknow_schema.ttl

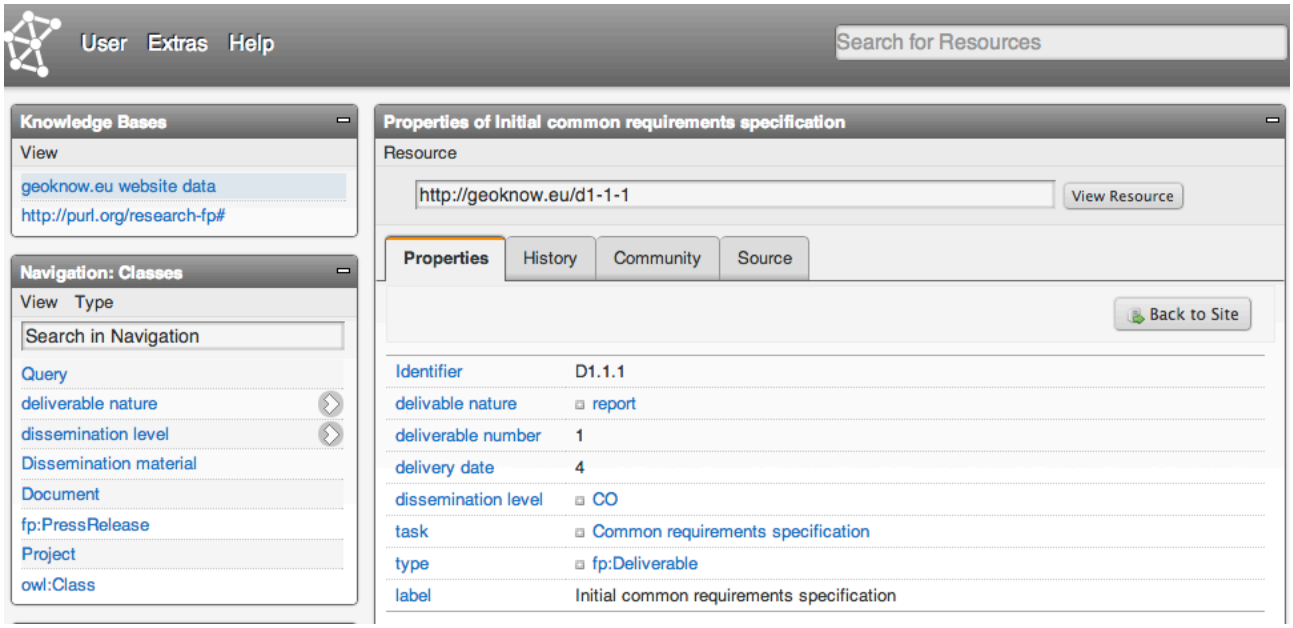

Figure 3: OntoWiki interface

its corresponding RDFa annotations. All changes made on the data are reflected immediately on the website. For instance, updating deliverables availability by adding `owl:seeAlso` indicating the url of the document, will automatically make them accessible on the website (only if they are public, of course). A screen shoot of the OntoWiki knowledge-base management is presented in Figure 3.

The documentation of OntoWiki is available on github[5].

1.4 Bibliographical Data

To collect all publications created within the project, we are using the Bibsonomy system[6]. This service is specialised in publication sharing of bibliographic data. A group for GeoKnow has been created in Bibsonomy. People registered in Bibsonomy can tag publications that are relevant for the GeoKnow group, making those publications automatically available on the website at `http://geoknow.eu/Results.html`. To be able to show GeoKnow's publications on the website, they should be added to Bibsonomy service and tagged relevant for the GeoKnow group, following these instructions:

1. Create an account at Bibsonomy
2. Make a request to join the GeoKnow group at `http://www.bibsonomy.org/group/geoknow`
3. Tag relevant publications with sys:relevantFor:geoknow

1.5 Blog

The GeoKnow blog, available at `http://blog.geoknow.eu`, is a separate website based on Wordpress; this is because managing a web blog requires different functionalities. All GeoKnow partners can contribute to

[5]https://github.com/AKSW/OntoWiki/wiki/Getting-Started-Users
[6]http://www.bibsonomy.org/

the blog by logging in with the same credentials as in the wiki.geoknow.eu thanks to the LDAP protocol. All publications on the blog are visible on the website via RSS feed, and they can also be shared on the social networks using the sharing buttons.

2 Dissemination Analytics

It is important to be able to measure GeoKnow's dissemination activities on the web. To achieve this we have selected several free analytics tools that will allow tracking and measuring consortium activities.

Table 1 presents the dissemination channel and tools used to perform analytics. For the website and the blog the most convenient tool is Google analytics. For Twitter we choose two different tools because they provide different insights. Twitonomy[7] tracks the average tweets per day, the number of tweeted links, the percentage of tweets that are retweeted, the users that retweet most often, the users that replayed the most, the top hashtags, etc. Vizify[8] provides a more visual representation of the Twitter activity by presenting an info-graphic. Finally, LinkedIn and Facebook provide their own analytics, while Google+ currently does not offer any tools but there is a rumour that Google will soon provide integrated analytics[9].

Channel	Tool
Website	Google Analytics http://www.geoknow.eu
Blog	Google Analytics http://blog.geoknow.eu
Twitter	twitonomy and vizify https://www.vizify.com/geoknow http://www.twitonomy.com/
LinkedIn	LinkedIn Group Analytics http://www.linkedin.com/groups?groupDashboard=&gid=4748293&trk=anet_ug_anlytx
G+	Google Analytics (as soon as available) https://plus.google.com/u/0/s/geoknow
Facebook	Facebook Insights https://www.facebook.com/geoknow

Table 1: List of analytics tools used in GeoKnow

Besides analytics tools, we have added Google alerts to monitor relevant Google results about the website. We already have all these tools in place. The results will be submitted for every status deliverable of the project.

[7] http://www.twitonomy.com/
[8] https://www.vizify.com/
[9] http://www.google.com/+/business/

3 Conclusions

In this document we presented the GeoKnow website. This website was created using OntoWiki software which provides structured data and easy data management that facilitates the website's maintenance. We also presented the initial structure and content of the website. The GeoKnow website will evolve to include research results, demos, presentations, and all material produced during the project. Finally, we listed the analytics tools of the different web channels that will be used to report dissemination activities.