

SEXTANT

Linked geospatial data are receiving growing attention as researchers and practitioners are using the matured semantic web technologies to publish and structure web data. New data are constantly produced, but also changes in form of updates occur over the existing data sets and the temporal dimension has started to play a crucial role. While the list of geospatial and temporal data made available as linked data is growing, the need of managing and using this information to address broad environmental or social needs across geographic scales has emerged. Applications for exploiting this abundance of geospatial information have started to emerge, that focus on browsing and exploring linked geospatial datasets and combine them with other heterogeneous geospatial data to create thematic maps that are useful for analyzing or assessing an event or situation.

In this article, we present the definitive version of Sextant that tries to remedy the shortcomings of the original version. Both the user interface and the server components were redesigned and re-implemented. Two clients were developed in parallel, the web-client that is designed to be cross-platform and cross-browser, and a mobile-client that runs on Android 4.2 and up. Many new features were added and new functionality has been introduced in an attempt to create a user-friendly application and allow both domain experts and non-experts to use all features provided. In this manner we manage to expose semantic web technologies to users from various domains, and even convince them to adopt these technologies by presenting the benefits of the linked open geospatial Web through the use of Sextant.

This new release is focused on introducing semantic web technologies to non-expert users and assist them on using the features the old version provided along with the new additions in an intuitive way. This is achieved by hiding from the user all the interaction with the SPARQL endpoints and providing a friendly interface for creating SPARQL queries.

The additional features of this release are the following:

1. Support for **GeoTIFF** images.

2. **User added points and polygons** along with their metadata such as title, creator, description and more.
3. **Feature Coloring.** Using this addition, users can give different colors to each placemark of a KML file according to the value of a specified feature. Using this feature we can create color maps that are used to understand the layer's data in a quick look of the map.
4. **Search for Maps.** The map ontology was enhanced with a list of metadata such as title, creator, geographic extent, theme and more, that the user can use to search for maps.
5. **Predefined Queries.** This feature gives access to various predefined queries that the user can select from a list, only by providing the URL of an endpoint. Each predefined query is presented with a description in plain text that anyone can understand without the need of knowing SPARQL.
6. **Statistical Charts.** Using RDF Data Cube Vocabulary we have introduced a technique for enhancing and existing ontology and allow users to create charts in an intuitive way. Using this feature, users can create charts without the need of writing SPARQL queries, just by using the friendly interface of Sextant to select the dimensions they want to fix and the measures they need to visualize.
7. **Mobile client**, that allows to run Sextant on Android 4.2 and up.

This is a link http://test.strabon.di.uoa.gr/Sextant2/?mapid=men53fuucsr6qakd_ to a map with all the types of layers we can create using the new release of Sextant, along with some charts.