Integration of Open Land Use, Smart Point of Interest and Open Transport Map using RDF

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Presentation content

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Motivations

Sir, we have data with whole country coverage for you at very special price.

Are your data available also for rural areas?

Well,...
Motivations

And if you find rural data...

...up to 80% of all costs for establishing a Geographic Information System (GIS) relates to data acquisition...

...so why not to re-use outputs from past European projects?
Open Land Use

- Seamless coverage of the most of Europe (around 45 millions objects)
- Re-use of INSPIRE (2007/2/EC) principles
  - Data model based on INSPIRE Existing Land Use object data model (Annex III Land Use Spatial data theme)
  - Reliable local sources of data are used which have certain quality, certain update period, persistent identifier where possible
  - Detailed object-based metadata
Open Land Use
Open Land Use

Usage of Open Land-Use Map provides you with the certain advantages:

- OPEN, HARMONIZED AND SEAMLESS DATABASE
  The data is open and is available for your download. It is harmonized towards Hierarchical INSPIRE Land Use Classification System (HILUCS). The data has pan-European coverage.

- OPEN AND FLEXIBLE DATA MODEL
  The data model is so far quite simple. It includes original land-use classes (all data use different classification systems for land-use/land-cover) of a feature together with its land-use class harmonized towards HILUCS. Also it includes the reference to original dataset from where the feature is coming together with the feature unique id in that dataset, so without difficulties the data model can be extended in the future to satisfy possible arising needs.

- COMBINATION OF GLOBAL AND LOCAL DATA
  The resulting dataset is composed of global pan-European data combined where available with regional often highly precise data. In this way we provide the most precise land-use map without any gaps.

http://sdi4apps.eu/open_land_use/

Links

- Vector data download
  Download data by countries in .shp format.

- SDI4Apps
  SDI4Apps PROJECT
  S4A is an EU-funded project coordinated by the University of West Bohemia (Pilsen, CZ). It seeks to build a cloud-based framework with open APIs for data integration focusing on the development of 6 pilot applications.

- SPARQL ENDPOINT

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http://sdi4apps.eu/open_land_use/download/

Open Transport Map

http://opentransportmap.info/

Open Transport Map = INSPIRE compatible and routable OpenStreetMap

The Open Transport Map allows routing and dynamic visualization of traffic volumes. It also offers many other ways of innovative exploitation. The underlying data are accessible in an open INSPIRE compatible format.

Visualization
Open Transport Map

- Seamless coverage of Europe (around 45 millions objects)

- Re-use of INSPIRE (2007/2/EC) principles
  - Data model based on INSPIRE Road Transport Networks object data model (Annex I Transport Networks Spatial data theme)
  - OpenStreetMap used as a primary source of information, machinery monitoring
  - Routable
Open Transport Map

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</rdf:Description>
Smart Points of Interest

- Seamless and open Points of Interest database
- More than 27 million objects
- Europe, Africa and South East Asia
Smart Points of Interest

http://sdi4apps.eu/spoi

Over 27,000,000 Points of Interest in the data set

Open and seamless SPOI data set, which is based on Linked data principles, contains over 27 million Points of Interest important for tourism from around the world.

What is SPOI data set?

The Smart Points of Interest data set is the seamless and open resource of POIs that is available for other users to download, search or reuse in applications and services.

Its principal target is to provide information as Linked data together with other data sets containing road network.

The added value of the Smart approach in comparison to other similar solutions consists in implementation of Linked data, using of standardized and respected datatypes properties and development of the completely harmonised data set with uniform data model and common classification.

Why use SPOI data set?

OPEN AND SEAMLESS DATABASE
The SDI4Apps team developed a seamless open database of POIs, which will be distributed as 5-star Linked Open Data to be accessible for all users.

OPEN AND FLEXIBLE DATA MODEL
The essential core of the model was extended by several attributes which are integral components of some original data and could be helpful for tourism purposes.

COMBINATION OF GLOBAL AND LOCAL DATA
The SPOI data set is created as a combination of global data (extracted from OpenStreetMap) and local data provided by the SDI4Apps partners or data available on the web.
Smart Points of Interest

Why use SPOI data set?

OPEN AND SEAMLESS DATABASE
The SDI4Apps team developed a seamless open database of POI, which will be distributed as 3-star Linked Open Data to be accessible for all users.

OPEN AND FLEXIBLE DATA MODEL
The essential core of the model was extended by several attributes which are integral components of some original data and could be helpful for tourist purposes.

COMBINATION OF GLOBAL AND LOCAL DATA
The SPOI data set is created as a combination of global data (selected points from OpenStreetMap) and local data provided by the SDI4Apps partners or data available on the web.

Links

DOWNLOAD
SPOI presentation (pdf, 1.1MB)
SPOI data model - schema (pdf, 1.5MB)
SPOI data model - text (pdf, 1.7MB)
SPOI Ontology (owl, 101.8K)
SPOI data harmonisation schema (pdf, 2.9MB)
SPOI list of changes (xls, MS/NT)
Metadata DOAP PROPOSAL VOID RDF Turbo

SPARQL ENDPOINT
The SPOI data set is published via SPARQL endpoint which enables comfortable, efficient and standardized querying of data.

OWL ontology
SPARQL endpoint
Used software:

- D2RQ for transforming Relational Databases as Virtual RDF Graphs
- RDF for the representation of data
- Ontologies providing the underlying vocabulary and relations
- Virtuoso for storing the semantic datasets
- Sparql for querying semantic data
- Silk for discovery of links
- Hslayers NG for visualisation of data
- Metaphactory for visualisation of data
## Linked OLU/OTM/SPOI

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<th>Dataset Name</th>
<th>Graph in FOODIE endpoint</th>
<th>Source</th>
<th>Triples</th>
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Sparql endpoint: https://www.foodie-cloud.org/sparql
### OLU/OTM/SPOI interfaces


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**Displaying Ranked Entity Names and Text summaries where:**

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<tr>
<td>About: Nh Poznan</td>
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**Faceted search browser:**

- [http://www.foodie-cloud.org/fct/](http://www.foodie-cloud.org/fct/)

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**Faceted search browser:**

- [http://www.foodie-cloud.org/fct/](http://www.foodie-cloud.org/fct/)
Map visualization:

http://ng.hslayers.org/examples/olu_spoi/?hs_panel=info&hs_x=1607799.902082933&hs_y=6462976.717926565&hs_z=16&visible_layers=Base%20layer;Land%20use%20parcels
Map visualisation:

http://ng.hslayers.org/examples/olu_spoi/?hs_panel=info&hs_x=1607799.902082933&hs_y=6462976.717926565&hs_z=16&visible_layers=Base%20layer;Land%20use%20parcels
Business model

- Data already once co-financed from European budget
- Data available free of charge
- Further analyses, data processing, live data etc. is a subject of payment
Conclusions

- DataBio adds value through application logic on top of presented data.
Thank you for your interest in available data sources and DataBio development!

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