

Smart POI: Otevřená data pro cestovní ruch

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Body zájmu (Points of Interest)

- „a specific point location that someone may find useful or interesting“
- Navigace, mapové portály, poskytovatelé služeb (letenky, ubytování, atrakce...), gaming aplikace...

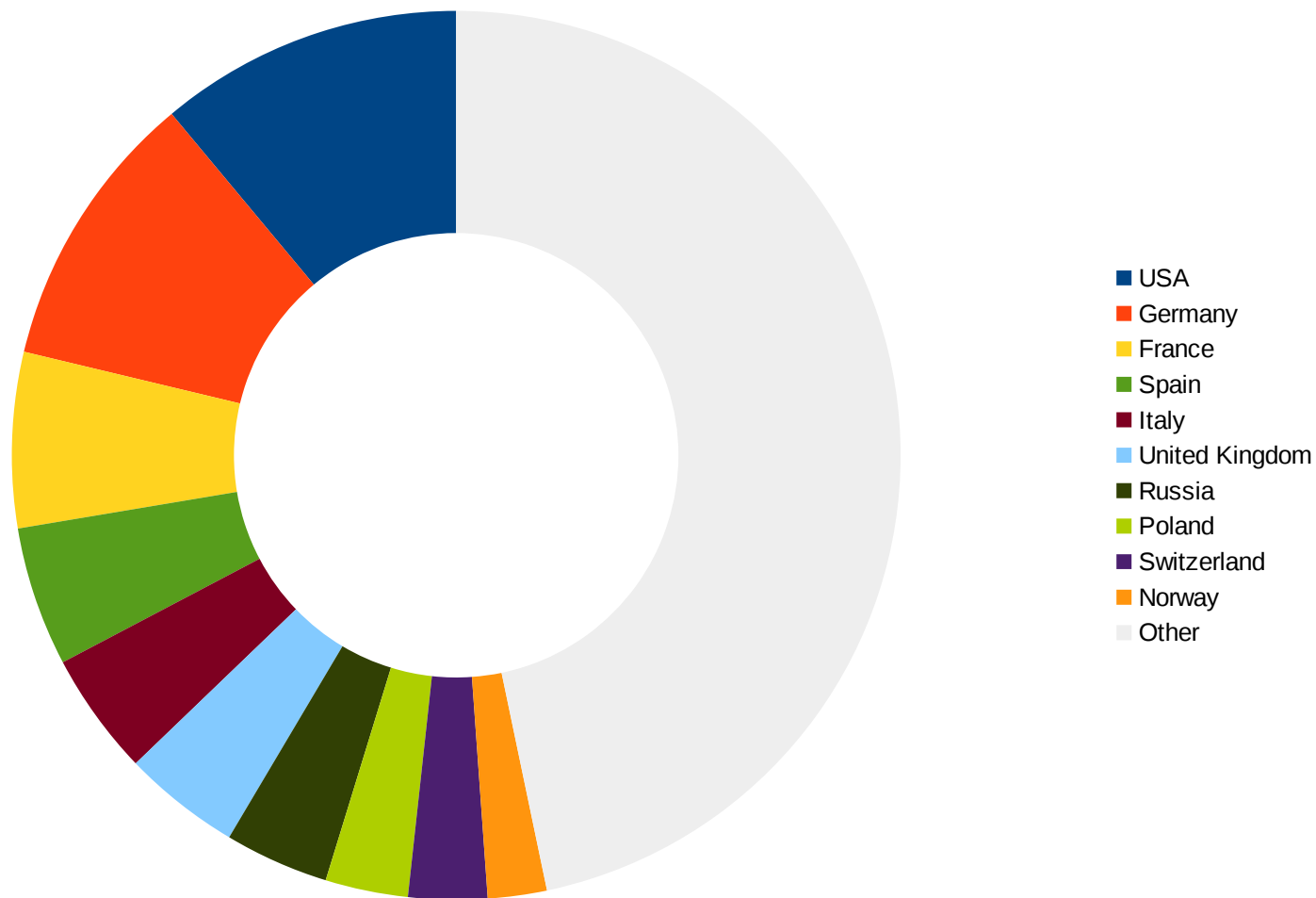
Smart Points of Interest (SPOI)

- Vývoj: projekt SDI4Apps (Pilot II)
- Oblast pokrytí: celý svět
- Oblast zájmu: cestovní ruch a příbuzná odvětví (doprava, služby, životní prostředí...)
- Smart: vazba na další data a informace
- Užití: datová základna pro aplikace a služby
- Licence: ODbL

~24 000 000

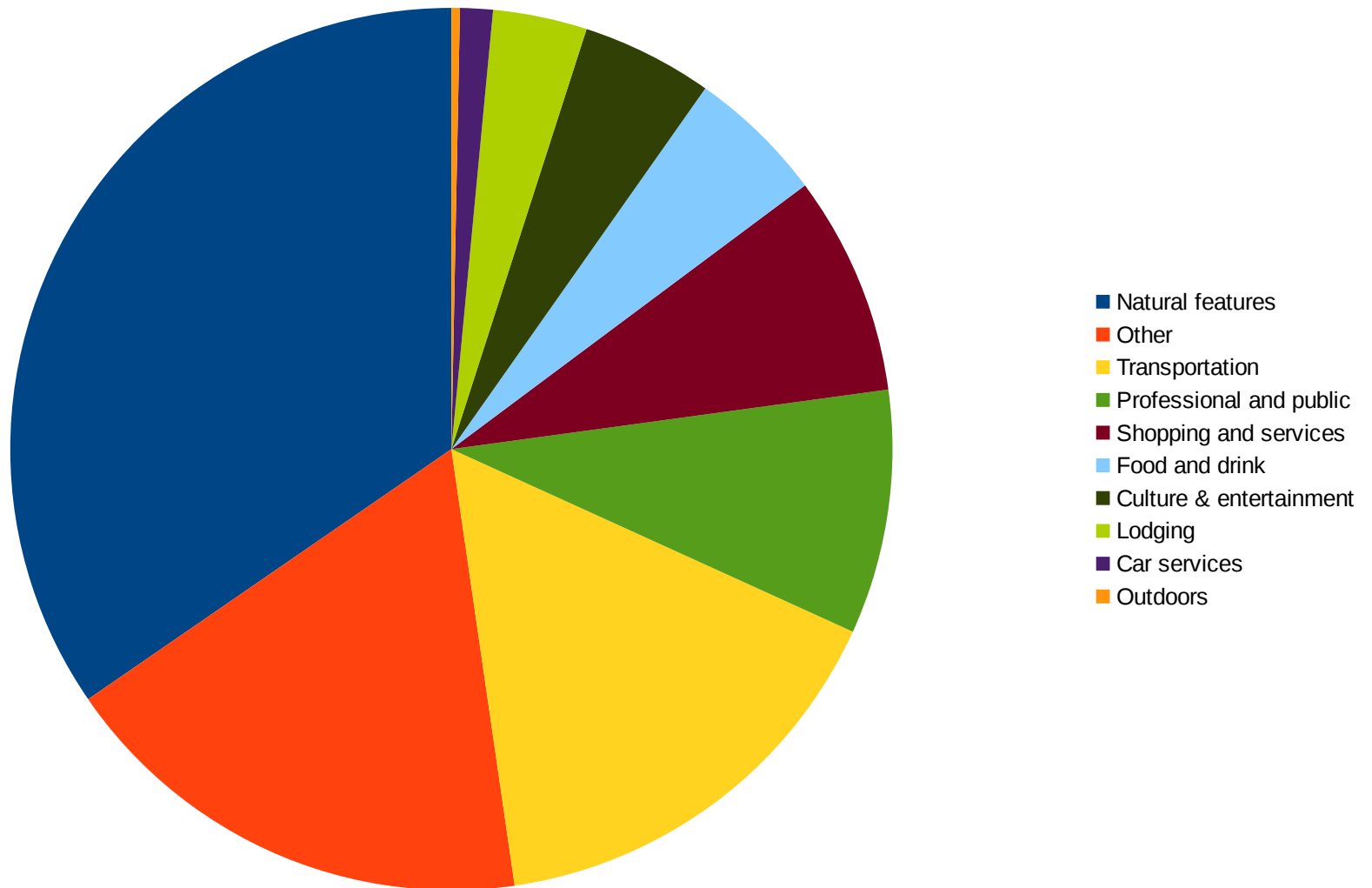
POIs

Kde SPOI najdeme?

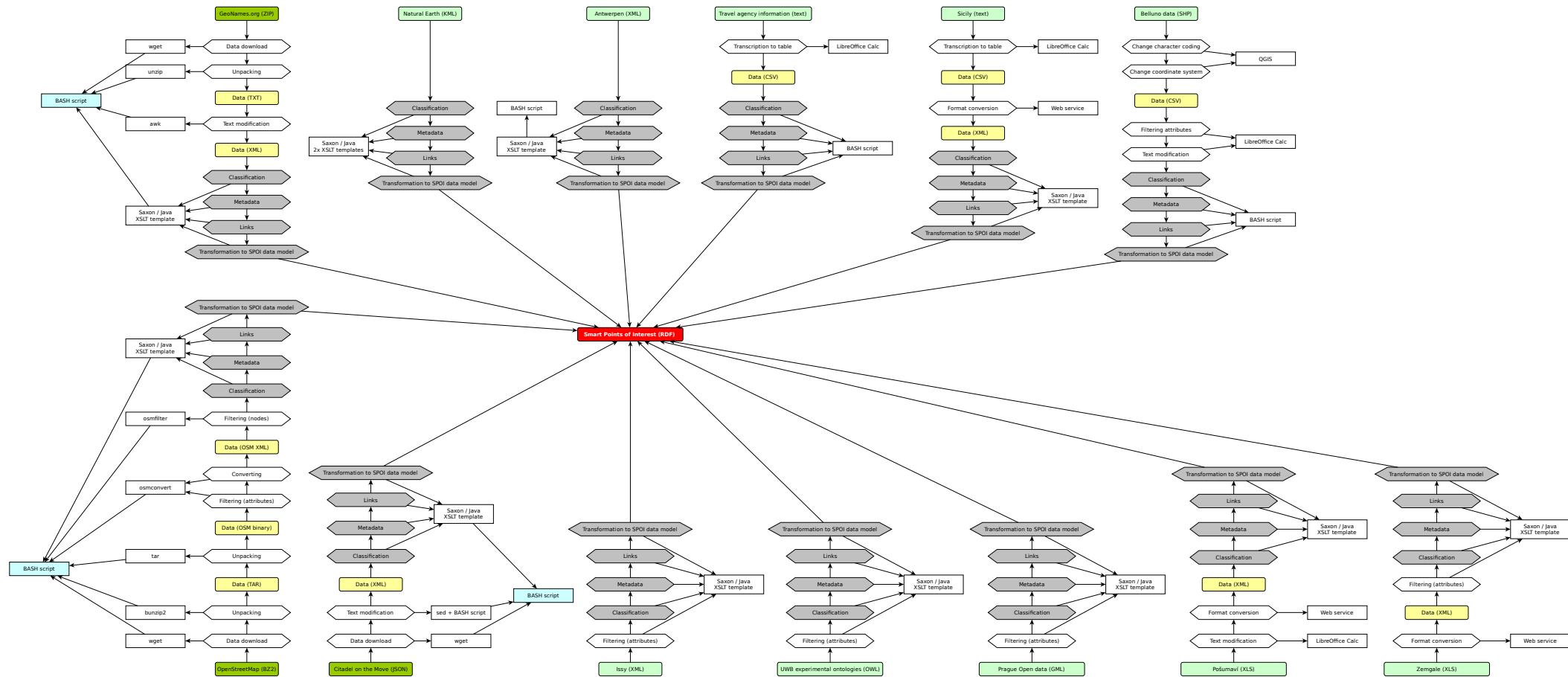


~170 000 SPOIs = 0,71%

Kategorie



Zdroje SPOI

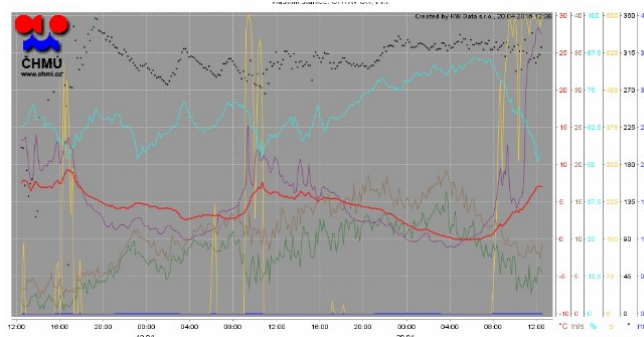
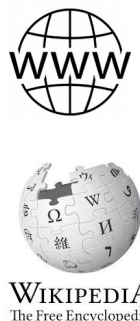


Smart = Linked data



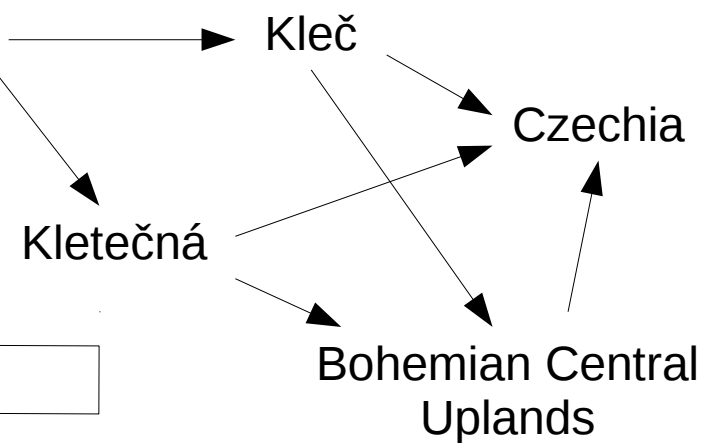
LOD 5-star rating system

Linked data – příklad



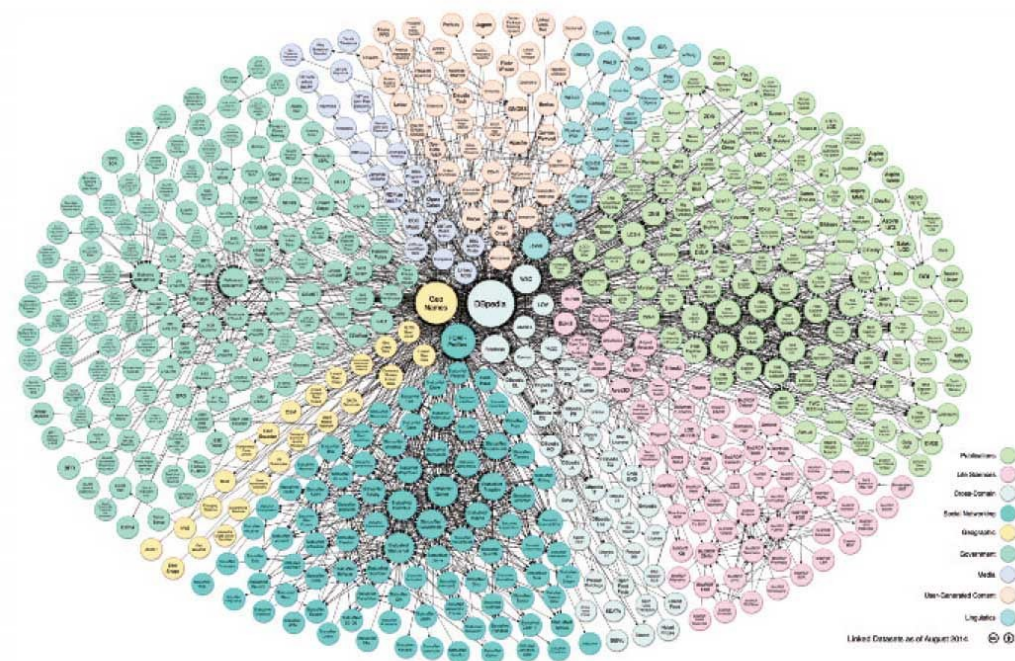
Hora
Meteorologická stanice
Lakolit
Národní přírodní rezervace...
...planetka

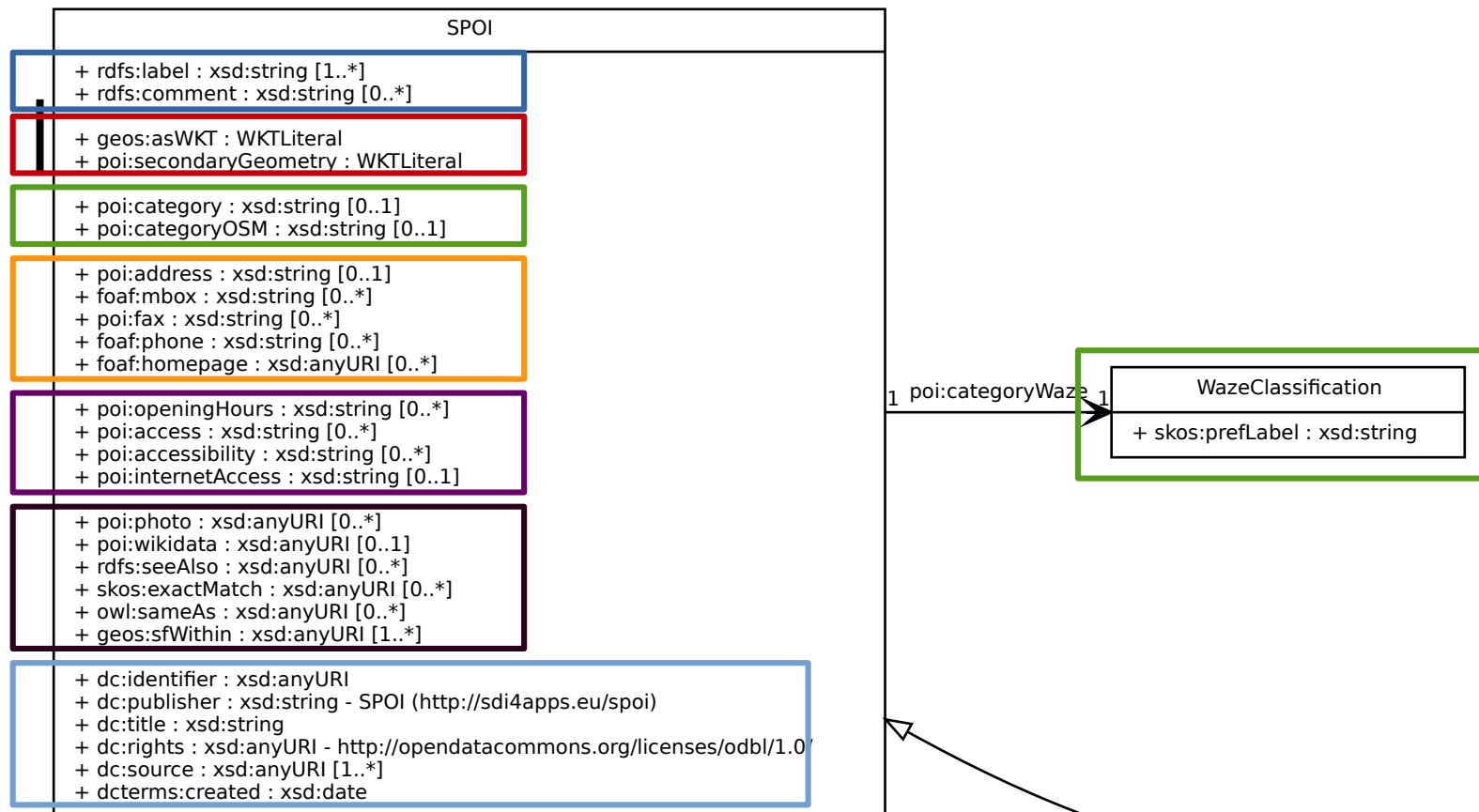
Milešovka
(837,
Milleschauer,
Donnersberg...)



Výhody Linked data

- Nové informace a souvislosti
- Více explicitní sémantiky
- Zodpovědnost za data má poskytovatel
- Grafový model vs. reprezentace reálného světa





Labels & descriptions

Geometry

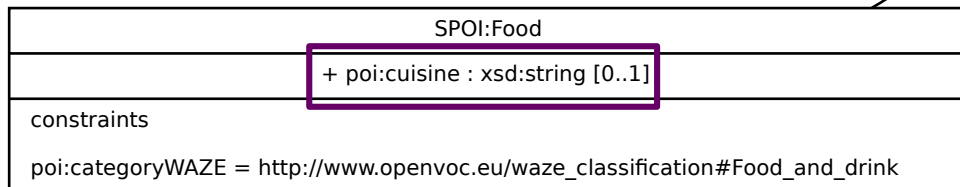
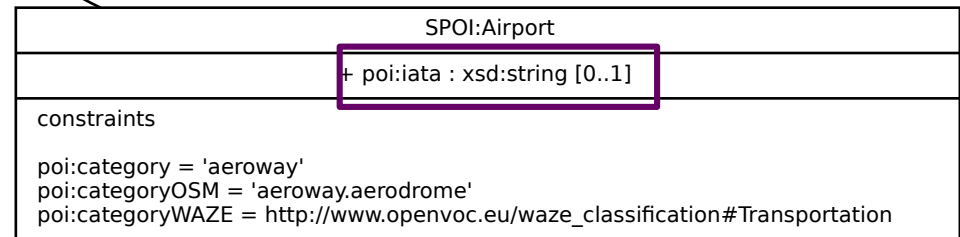
Classification

Contact information

Tourist information

Links

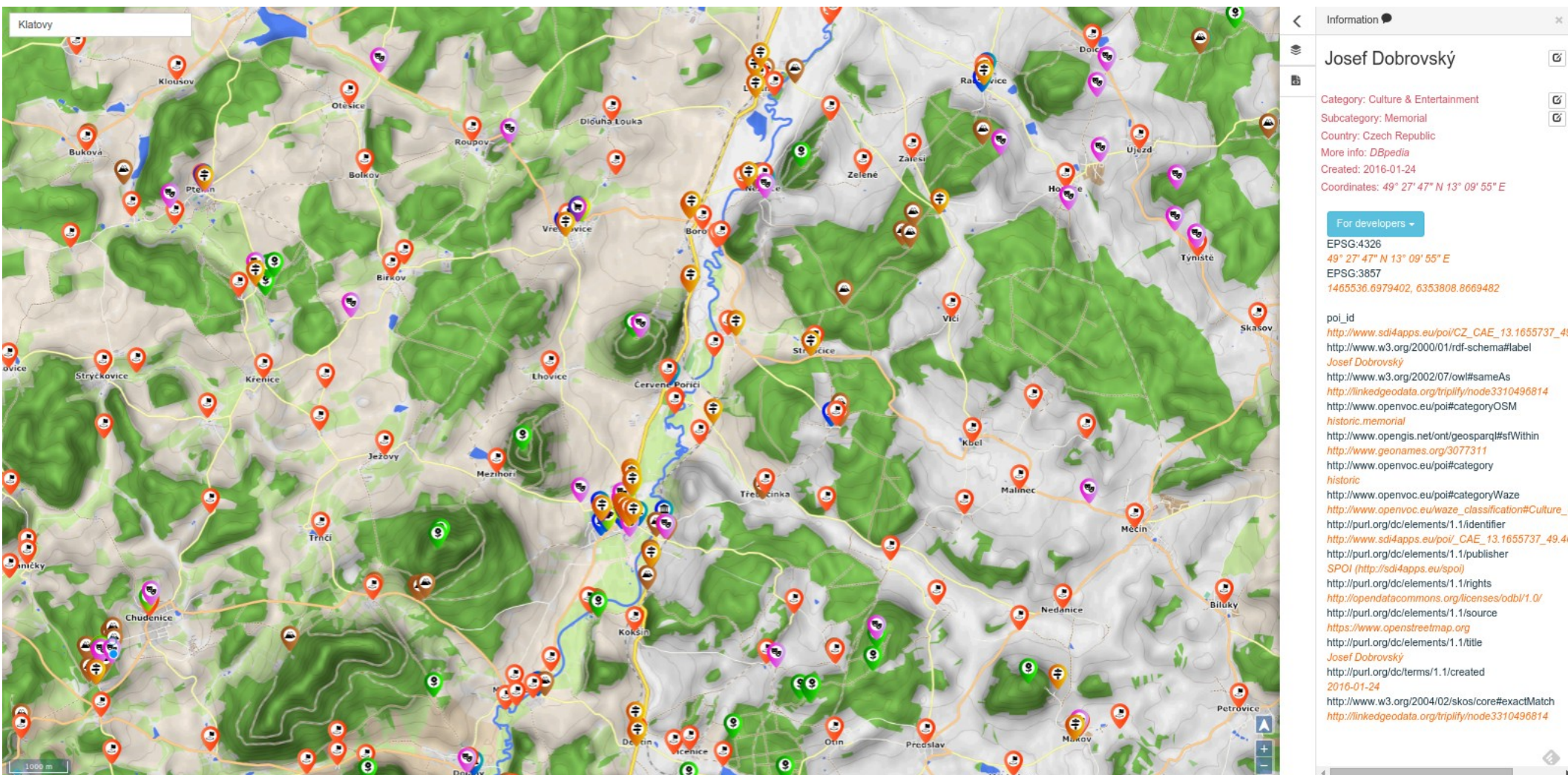
Metadata



Jak data vypadají?

```
<rdf:Description rdf:about="http://www.sdi4apps.eu/poi/SZ_NAT NAT_31.15_-27.05">
  <rdfs:label>Vondo Kop</rdfs:label>
  <geos:asWKT>POINT(31.15 -27.05)</geos:asWKT>
  <poi:categoryWaze
rdf:resource="http://www.openvoc.eu/waze_classification#Natural_features"/>
  <owl:sameAs rdf:resource="http://www.geonames.org/934823/about.rdf"/>
  <skos:exactMatch rdf:resource="http://www.geonames.org/934823/about.rdf"/>
  <geos:sfWithin rdf:resource="http://dbpedia.org/resource/Swaziland"/>
  <geos:sfWithin rdf:resource="http://www.geonames.org/934841/" />
  <dc:identifier rdf:resource="http://www.sdi4apps.eu/poi/SZ_NAT NAT_31.15_-
27.05"/>
  <dc:publisher>SP0I (http://sdi4apps.eu/spoi)</dc:publisher>
  <dc:title>Vondo Kop</dc:title>
  <dc:rights rdf:resource="http://opendatacommons.org/licenses/odbl/1.0/" />
  <dc:source rdf:resource="https://www.geonames.org"/>
  <dcterms:created
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2015-11-
12</dcterms:created>
</rdf:Description>
```


Mapový klient



Klatovy

Information

Josef Dobrovský

Category: Culture & Entertainment

Subcategory: Memorial

Country: Czech Republic

More info: DBpedia

Created: 2016-01-24

Coordinates: 49° 27' 47" N 13° 09' 55" E

For developers

EPSG:4326

49° 27' 47" N 13° 09' 55" E

EPSG:3857

1465536.6979402, 6353808.8669482

poi_id

http://www.sdi4apps.eu/poi/CZ_CAE_13.1655737_49

<http://www.w3.org/2000/01/rdf-schema#label>

Josef Dobrovský

<http://www.w3.org/2002/07/owl#sameAs>

<http://linkeddata.org/triplify/node3310496814>

<http://www.openvoc.eu/poi#categoryOSM>

historic.memorial

<http://www.openpgis.net/ont/geosparql#sWithin>

<http://www.geonames.org/3077311>

<http://www.openvoc.eu/poi#category>

historic

<http://www.openvoc.eu/poi#categoryWaze>

http://www.openvoc.eu/waze_classification#Culture_1

<http://purl.org/dc/elements/1.1/identifier>

http://www.sdi4apps.eu/poi/CZ_CAE_13.1655737_49.46

<http://purl.org/dc/elements/1.1/publisher>

SPOI (<http://sdi4apps.eu/spoi>)

<http://purl.org/dc/elements/1.1/rights>

<http://opendatacommons.org/licenses/odbl/1.0/>

<http://purl.org/dc/elements/1.1/source>

<https://www.openstreetmap.org>

<http://purl.org/dc/elements/1.1/title>

Josef Dobrovský

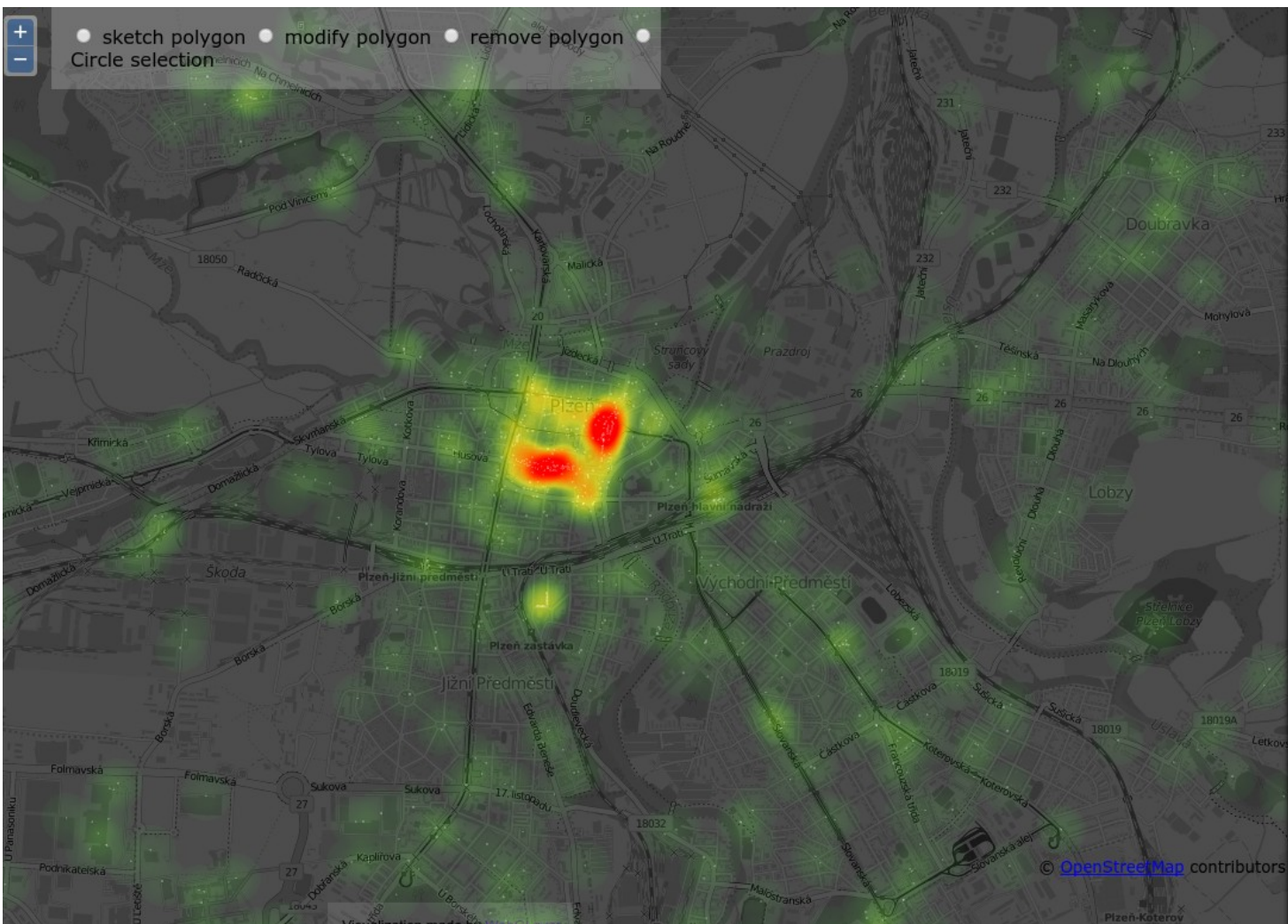
<http://purl.org/dc/terms/1.1/created>

2016-01-24

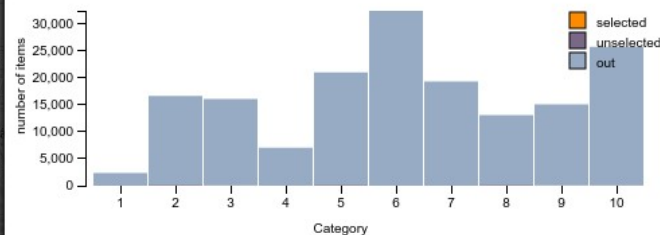
<http://www.w3.org/2004/02/skos/core#exactMatch>

<http://linkeddata.org/triplify/node3310496814>

Interaktivní vizualizace

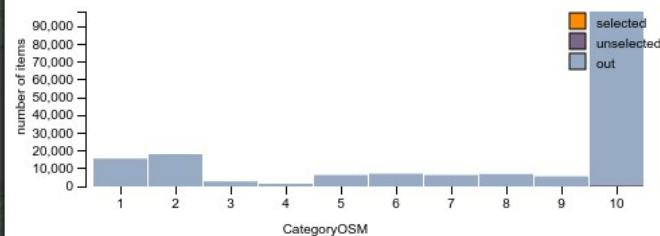


Waze Classification



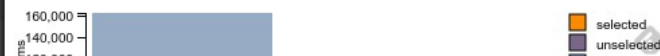
- 1 - Car Services
- 2 - Culture & Entertainment
- 3 - Food and Drink
- 4 - Lodging
- 5 - Natural Features
- 6 - Other
- 7 - Outdoors
- 8 - Professional and Public
- 9 - Shopping and Services
- 10 - Transportation

OSM Classification



- 1 - highway.bus_stop
- 2 - tourism.information
- 3 - amenity.parking
- 4 - tourism.hotel
- 5 - natural.peak
- 6 - amenity.restaurant
- 7 - waterway.weir
- 8 - place.locality
- 9 - None
- 10 - Other

Data Source



SPARQL endpoint

Virtuoso SPARQL Query Editor

Default Data Set Name (Graph IRI)

Query Text

```
PREFIX geos: <http://www.opengis.net/ont/geosparql#>
PREFIX poi: <http://www.openvoc.eu/poi#>

select *

where {
  ?uri geos:sfWithin <http://www.geonames.org/2782113>.
  ?uri poi:categoryOSM "natural.peak".|
  ?uri rdfs:label ?name.
  ?uri geos:asWKT ?coord.
}
```

Sponging:

Use only local data (including data retrieved before),

Results Format:

HTML ▼

Execution timeout:

0 milliseconds (values less than

Options:

☒ Strict checking of void variables ☐ Log debug

(The result can only be sent back to browser, not saved on the server, see [details](#))

Run Query

Reset

SPARQL endpoint

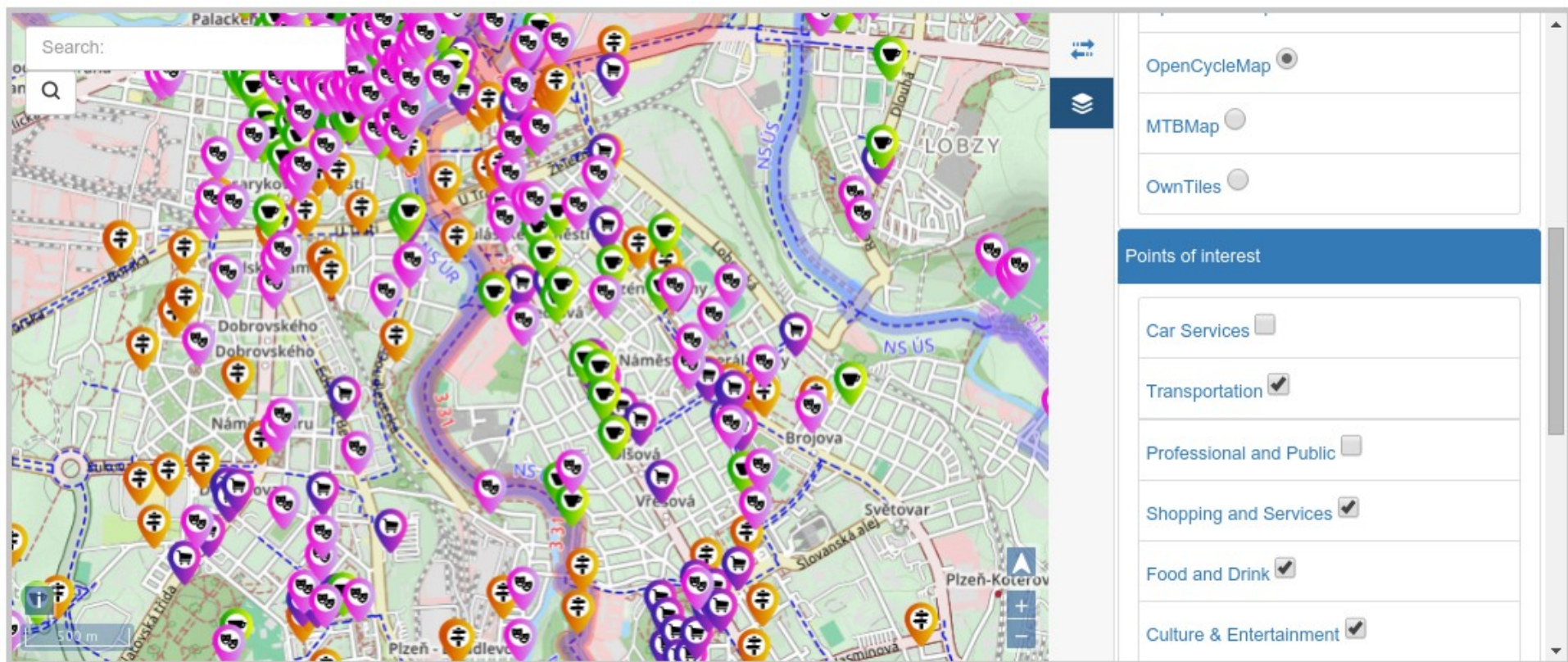
uri	name	coord
http://www.sdi4apps.eu/poi/#OSM_2126939932	"Wienerberg"	"POINT(16.3640291 48.1651039)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2126939933	"Laaer Berg"	"POINT(16.3968992 48.1573526)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2129582282	"Kamplbrunnspitze"	"POINT(13.5063289 47.487956)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2129582286	"Loosegg"	"POINT(13.4814874 47.4898836)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2129751337	"Köglerspitze"	"POINT(14.688762 47.4269959)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2131082823	"Sonnenspitze"	"POINT(11.5250432 47.2100078)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2131173873	"Omeshorn"	"POINT(10.1280421 47.1858341)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2133625424	"Pfeiferkogel"	"POINT(15.2890949 47.5186071)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2133625458	"Kasereck"	"POINT(15.2461884 47.5035766)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2133635950	"Einödriegel"	"POINT(15.2508591 47.4900289)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2134161606	"peak"	"POINT(12.1899153 47.5929565)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2134537578	"Kastenwendenkopf"	"POINT(12.0457611 47.2728967)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2134680305	"Bruderkogel"	"POINT(14.4216371 47.3876435)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2134721583	"Schafgupf"	"POINT(14.4261432 47.3957202)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2134721584	"Kohlmeisriedel"	"POINT(14.4042778 47.4008329)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2136694252	"Alblittköpfe"	"POINT(10.3374295 47.0854825)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2136855997	"Damberg"	"POINT(14.4599396 48.003426)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2136855998	"Knollerberg"	"POINT(14.5058466 47.9741548)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2138930613	"Plattenkogel"	"POINT(13.7734144 47.6324936)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139287723	"peak"	"POINT(16.278108 48.063878)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317587	"Brochener Kogel"	"POINT(13.7281089 47.6521595)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317588	"Dietrichkogel"	"POINT(13.7389357 47.6427832)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317589	"Dimmelberg"	"POINT(13.737618 47.6346569)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317590	"Griebhoferkogel"	"POINT(13.7476109 47.6408354)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317593	"Klammeck-Kogel"	"POINT(13.7214611 47.6341851)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139317597	"Törlstein"	"POINT(13.7482657 47.6491526)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2139541338	"Ahornkogel"	"POINT(13.8154196 47.6394947)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2140123189	"Brunnkogel"	"POINT(13.7410893 47.6805833)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>
http://www.sdi4apps.eu/poi/#OSM_2140123190	"Knerzen Kögerl"	"POINT(13.7290886 47.6759411)"^^<http://www.openlinksw.com/schemas/virtrdf#Geometry>

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Over 23,000,000 Points of Interest in the data set

Open and seamless SPOI data set, which is based on Linked data principles, contains over 23 million Points of Interest important for tourism.

Visualization



Search:

OpenCycleMap ☒

MTBMap ☐

OwnTiles ☐

Points of interest

Car Services ☐

Transportation ☒

Professional and Public ☐

Shopping and Services ☒

Food and Drink ☒

Culture & Entertainment ☒

Přes 23 000 000 turistických zájmových bodů

Otevřená a bezesová datová sada, založená na principech Linked Data. Obsahuje přes 23 000 000 zájmových bodů využitelných zejména pro turistiku.

sdi4apps.eu/spoi
gis.zcu.cz/spoi

Vizualizace



Výhody SPOI

- Jednotný datový model
- Využívání existujících standardů
- Linked data
- SPARQL endpoint



Proč SPOI představujeme?

- Můžete SPOI převzít
- Můžete SPOI zkombinovat s vašimi daty
- Můžete SPOI zintegrovat do vaší webové stránky, aplikace nebo služby
- Můžete pomocí SPOI propagovat vaše služby, města, regiony
- Můžete nám poskytnout zpětnou vazbu

Děkujeme za pozornost

