



SPATIAL DATA & THE SEARCH ENGINES

[GITHUB.COM/GEO4WEB-TESTBED](https://github.com/gEO4web-testbed)

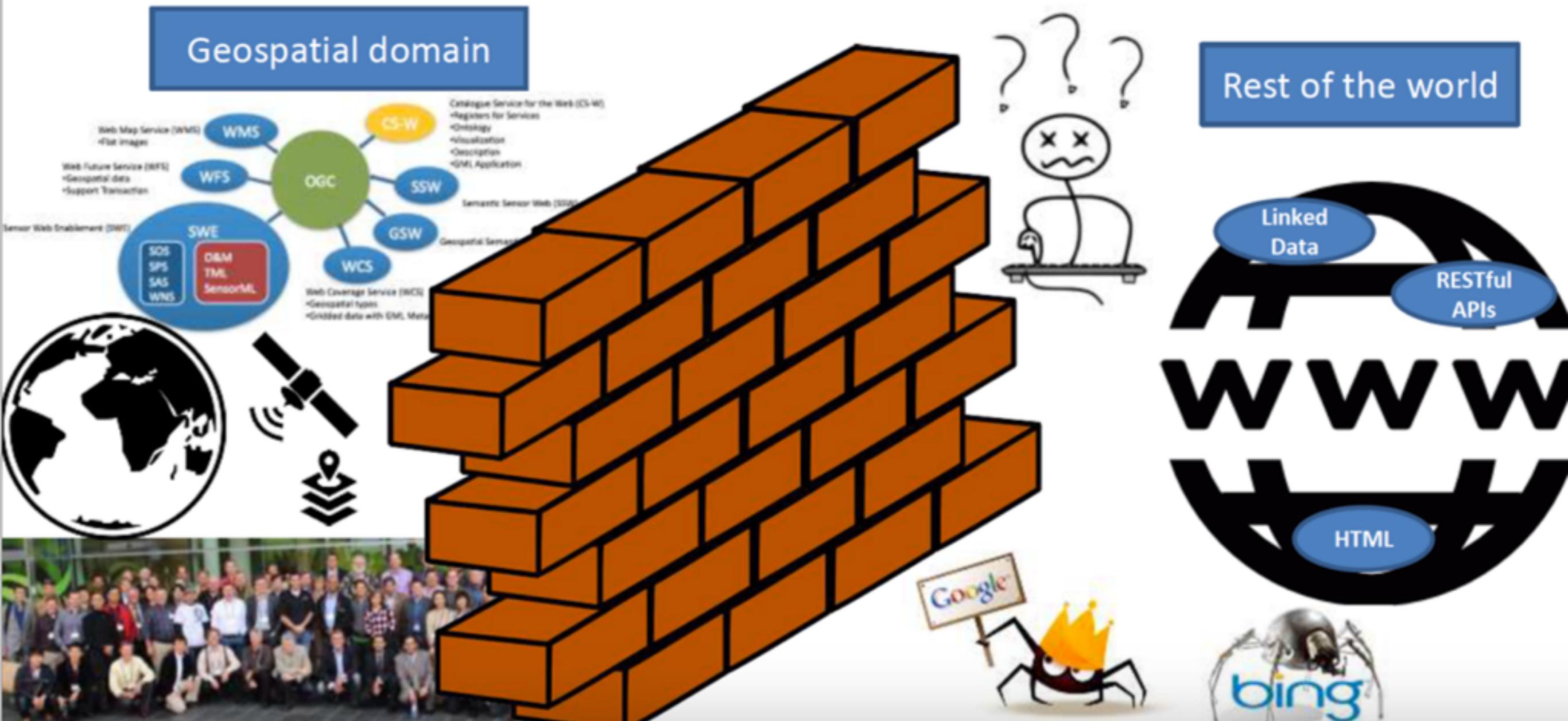


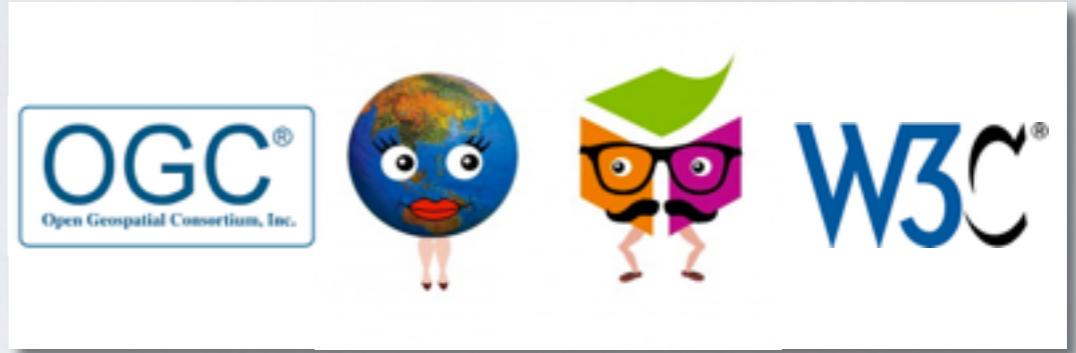
Paul van Genuchten (GeoCat)
Lieke Verhelst (Linked Data Factory)
Clemens Portele (Interactive Instruments)



GEONOVUM TESTBED

SPATIAL DATA ON THE WEB





4 TOPICS

- Modern Ways of Spatial Data Publication
- Usable spatial data publication platform
- Crawlable geospatial data using the ecosystem of the Web
- Spatial data on the web using the current SDI

TOPIC 1

Modern Ways of Spatial Data Publication

Canceled first; Currently running

TOPIC 2

usable spatial data publication platform



TOPIC 3

Crawlable geospatial data using the ecosystem of the Web





This repository

Search

Pull requests Issues Gist



geo4web-testbed / topic3

Unwatch ▾ 8

Star 2

For

Code

Issues 11

Pull requests 0

Wiki

Pulse

Graphs

Settings

No description or website provided. — Edit

89 commits

3 branches

0 releases

2 contributors

Branch: develop ▾

New pull request

Create new file

Upload files

Find file

Clone or download

joostfarla Fix triple/quad responses

Latest commit 8f003ff on Ma

app

Fix triple/quad responses

5 months

geojson2schemaorg

GeoJSON2SchemaOrg converter

8 months

import

Land cover import

6 months

presentations/kickoff

Enabled controlsx

9 months

swagger

Added Swagger spec + full text search

5 months

.gitignore

Start land cover import script

7 months

README.md

Docs

6 months

dockers/compose.yml

Made import more generic - add JSON files

6 months

Topic 3 findings

APIWise introduced “Developer Experience” & “Time to first successful service call”

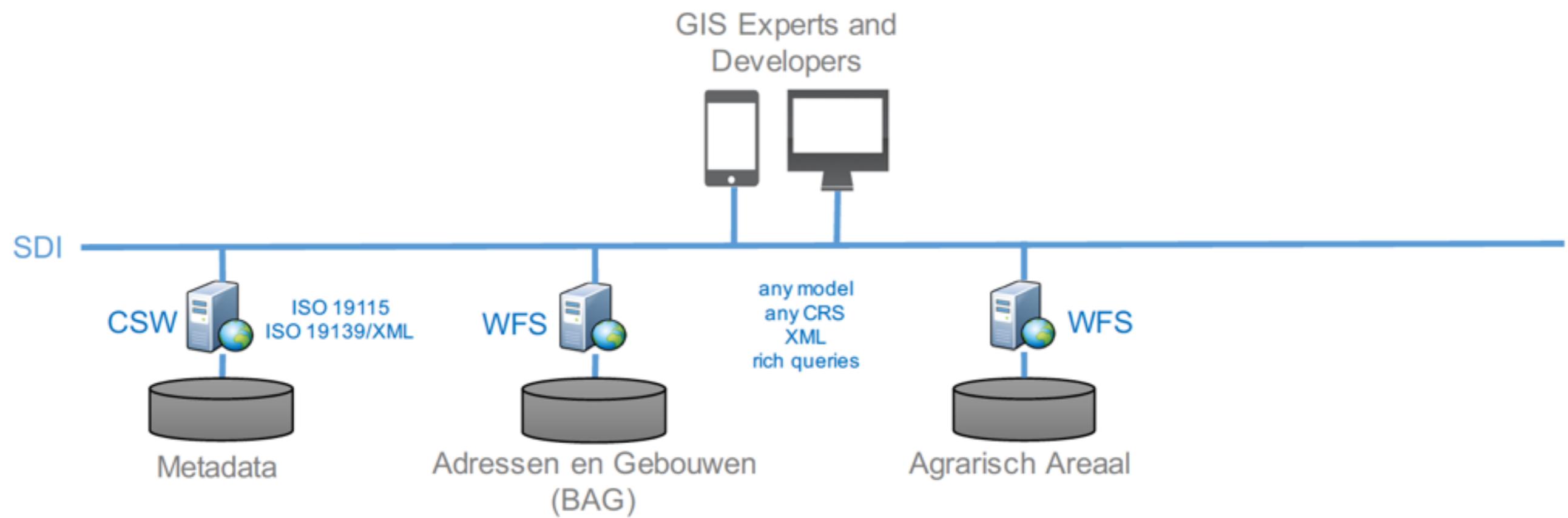
Swagger spec

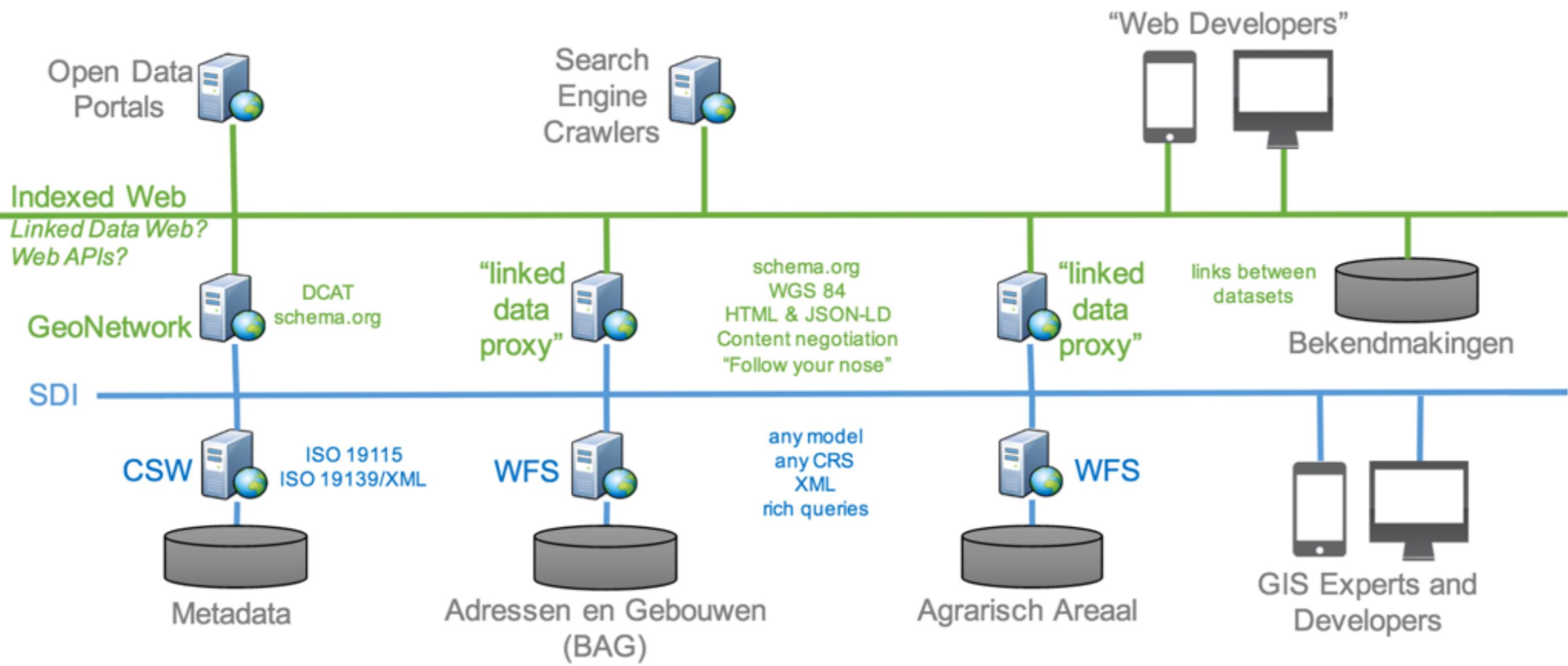
Search engines have limited Content Negotiation
Indexation by Search engines is unpredictable

Topic 4

Spatial data on the web using the current SDI









Alle

Afbeeldingen

Nieuws

Shopping

Maps

Meer ▾

Zoekhulpmiddelen

Pagina 3 van ongeveer 18.500 resultaten (0,17 seconden)

Lopik, Lopikerweg west 50 - Services

www.ldproxy.net/bag/inspireadressen/inspireadressen.2414293/ ▾

Lopik, Lopikerweg west 50. id: inspireadressen.2414293. streetAddress: Lopikerweg west 50. addressLocality: Lopik. postalCode: 3411AP.

Groesbeek, Hommelstraat 10 - Services

www.ldproxy.net/bag/inspireadressen/inspireadressen.8795076/ ▾

Groesbeek, Hommelstraat 10. id: inspireadressen.8795076. streetAddress: Hommelstraat 10. addressLocality: Groesbeek. postalCode: 6561ZH.

Groningen, Oosterkade 1001 - Services

www.ldproxy.net/bag/inspireadressen/inspireadressen.236/ ▾

Groningen, Oosterkade 1001. id: inspireadressen.236. streetAddress: Oosterkade 1001. addressLocality: Groningen. postalCode: 9711RS.

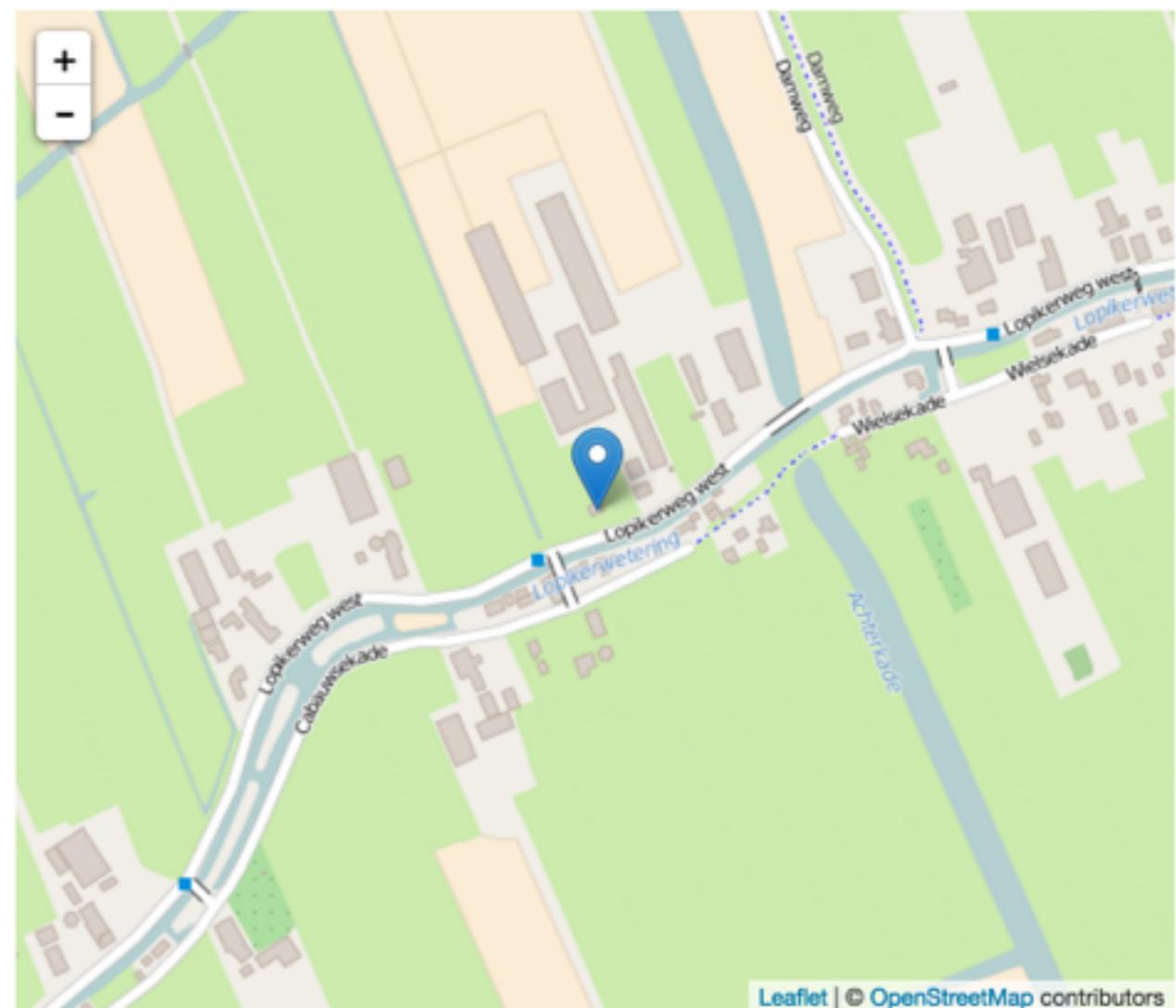
Joure, Sjoerd Wiersmahof 21 - Services

www.ldproxy.net/bag/inspireadressen/inspireadressen.8794864/ ▾

Joure, Sjoerd Wiersmahof 21. id: inspireadressen.8794864. streetAddress: Sjoerd Wiersmahof 21. addressLocality: Joure. postalCode: 8501VA.

Lopik, Lopikerweg west 50

id	inspireadressen.2414293
streetAddress	Lopikerweg west 50
addressLocality	Lopik
postalCode	3411AP
latitude	51.97321237169963
longitude	4.915126563760037





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PUBLIC REPOSITORY

iide/ldproxy 

Last pushed: 3 months ago

[Repo Info](#) [Tags](#)

Short Description

Publish WFS services as Linked Data and as Web Sites using on-the-fly transformations

Docker Pull Command



```
docker pull iide/ldproxy
```

Full Description

About

ldproxy was developed for [topic 4](#) of the testbed [Spatial Data on the Web](#) organized by Geonovum. ldproxy provides web services, backed by WFS services, that are better suited for usage by non-geospatial experts, e.g. web developers, search engine crawlers and Linked Data experts.

Owner



iide

[Alle](#)[Maps](#)[Afbeeldingen](#)[Nieuws](#)[Video's](#)[Meer ▾](#)[Zoekhulpmiddelen](#)

8 resultaten (0,49 seconden)

[AMK en IKAW | Archeologie in Nederland](#)

archeologieinnederland.nl/bronnen-en-kaarten/amk-en-ikaw ▾

De Archeologische MonumentenKaart (AMK) toont alle bekende behoudenswaardige archeologische terreinen in Nederland. De Indicatieve kaart ...

[Friese Archeologische Monumentenkaart Extra \(FAMKE\) - Advies ...](#)

opendatacat.net/geonetwork-geo4web/.../0b046e32-404e-4892-9ace-0a86a99af112 ▾

De Friese Archeologische Monumentenkaart Extra (FAMKE) geeft informatie over de archeologische waarden mbt de ijzertijd-middeleeuwen.

[Cultuurhistorische Hoofdstructuur: Archeologie, monumenten](#)

opendatacat.net/geonetwork-geo4web/.../75ae6972-9c65-47d3-bf8f-8ab68b4de160 ▾

Deze terreinen van zeer hoge (rood) en hoge archeologische waarde ... Opendatacat ... In de eerste plaats zijn aangegeven de bekende terreinen van zeer hoge en hoge archeologische waarde die op de Archeologische Monumentenkaart ...

[Archeologische Monumenten Kaart](#)

opendatacat.net/geonetwork-geo4web/doc/.../dfe5b146-354f-4bc7-99b1-6713817afac9

1 jan. 2016 - Samenvatting: De Archeologische Monumenten Kaart (AMK) is in samenwerking met de verschillende provincies en gemeentelijk archeologen ...

Spatial	Open Data	Linked Data	Search Engines
iso19115	DCAT	VOID	<u>schema.org/Dataset</u>
ISO codelists	Eurovoc	DBpedia	Google knowledge graph

geo

[Thing](#) > [Property](#) > [geo](#)

The geo coordinates of the place.

Usage: Between 100,000 and 250,000 domains

[more...]

Values expected to be one of these types

[GeoCoordinates](#)

[GeoShape](#)

Used on these types

[Place](#)

Examples

Example 1

[Without Markup](#)

[Microdata](#)

[RDFa](#)

[JSON-LD](#)

This example is in microdata only.



[Home](#) / Schema.org Community Group

SCHEMA.ORG COMMUNITY GROUP

The Schema.org Community Group provides a forum for discussing all changes, additions and extensions to [schema.org](#). In addition to providing a public setting for the day to day operation of the project, it serves as the mechanism for reviewing [extensions](#) and as a liaison point for all parties developing independent extensions to the schema.org core.

Note: Community Groups are proposed and run by the community. Although W3C hosts these conversations, the groups do not necessarily represent the views of the W3C Membership or staff.

[Alle](#) [News](#) [Maps](#) [Bilder](#) [Videos](#) [Mehr ▾](#) [Suchoptionen](#)

Ungefähr 31.400 Ergebnisse (0,28 Sekunden)

World Conference Center Bonn: Kongresse, Tagungen und Events

[www.worldccbonn.com/ ▾](http://www.worldccbonn.com/)

Das WorldCCBonn ist ein modernes Kongresszentrum und bietet Säle und Räumlichkeiten für Veranstaltungen jeglicher Art mit bis zu 5.000 Personen.

[Kontakt · Bonn & Region · Impressum](#)

World Conference Center Bonn – Wikipedia

[https://de.wikipedia.org/wiki/World_Conference_Center_Bonn ▾](https://de.wikipedia.org/wiki/World_Conference_Center_Bonn)

Das World Conference Center Bonn (WCCB) befindet sich im Bundesviertel von Bonn, in unmittelbarer Nähe des Rheins. Es umfasst Teile des Bundeshauses ...

[Neuer Plenarsaal · Wasserwerk · Kongresszentrum und Hotel](#)

World Conference Center Bonn | General-Anzeiger Bonn

[www.general-anzeiger-bonn.de/bonn/World-Conference-Center-Bonn-article315131... ▾](http://www.general-anzeiger-bonn.de/bonn/World-Conference-Center-Bonn-article315131...)

Das Millionendesaster um das World Conference Center Bonn (WCCB) wird die Bonner noch weiter beschäftigen. Hier finden Sie alle Neuigkeiten.

Bilder zu wccb bonn

[Unangemessene Bilder melden](#)

World Conference Center Bonn

[Website](#)[Routenplaner](#)

4,6 ★★★★☆ 14 Google-Rezensionen

Kongresszentrum

Das World Conference Center Bonn befindet sich im Bundesviertel von Bonn, in unmittelbarer Nähe des Rheins. [Wikipedia](#)

Adresse: Platz der Vereinten Nationen 2, 53113 Bonn

Telefon: 0228 92670

Kommende Veranstaltungen

So., 13. Nov. [Freitagkonzerte](#)

⑤ http://www.ldproxy.net/bgt/Wegdeel/_A2F312CBFBE534A60E0532B0B5B0A2B0A/

```

57 </nav>
58 <div class="container">
59 <div class="row">
60 <div class="col-md-6">
61     <div itemscope itemtype="http://schema.org/Place">
62         <h1 itemprop="name">Wegdeel</h1>
63         <link href="./" itemprop="url"/>
64         <link href=".?f=html" itemprop="hasMap"/>
65         <link href="http://services.interactive-instruments.de/xsprojects/bgt/services/ro/wfs?
REQUEST=GetFeature&OUTPUTFORMAT=application%2Fgml%2Bxml%2Bversion%3D3.2&VERSION=2.0.0&NAMESPACES=xmlns%28img
eo-s%2Chttp%3A%2Fwww.geostandaarden.nl%2Fimgeo%2F2.1%2Fsimple%2Fgml31%29&TYPENAMES=imgeo-
st%3AWegdeel&SERVICE=WFS&COUNT=1&RESOURCEID=_A2F312CBFBE534A60E0532B0B5B0A2B0A" itemprop="sameAs"/>
66             <dl class="dl-horizontal dl-horizontal-no-space">
67                 <dt>id</dt>
68                 <dd>_A2F312CBFBE534A60E0532B0B5B0A2B0A</dd>
69             </dl>
70             <dl class="dl-horizontal dl-horizontal-no-space">
71                 <dt>objectBeginTijd</dt>
72                 <dd>2014-01-14</dd>
73             </dl>
74             <dl class="dl-horizontal dl-horizontal-no-space">
75                 <dt>identificatie.namespace</dt>
76                 <dd>NL.IMGEO</dd>
77             </dl>
78             <dl class="dl-horizontal dl-horizontal-no-space">
79                 <dt>identificatie.lokaalID</dt>
80                 <dd>G0858.f69be4713e434d56a7e600092bc52459</dd>
81             </dl>
82             <dl class="dl-horizontal dl-horizontal-no-space">
83                 <dt>tijdstipRegistratie</dt>
84                 <dd>2014-01-14T07:50:22</dd>
85             </dl>
86             <dl class="dl-horizontal dl-horizontal-no-space">
87                 <dt>LV-publicatiedatum</dt>
88                 <dd>2014-08-10T18:27:21</dd>
89             </dl>
90             <dl class="dl-horizontal dl-horizontal-no-space">
91                 <dt>bronhouder</dt>
92                 <dd>G0858</dd>
93             </dl>
94             <dl class="dl-horizontal dl-horizontal-no-space">
95                 <dt>relatieveHoogteligging</dt>
96                 <dd>0</dd>
97             </dl>
98             <dl class="dl-horizontal dl-horizontal-no-space">
99                 <dt>bgt-status</dt>
100                <dd>bestaand</dd>

```

Place

Place

@type	Place
name	Wegdeel
url	http://www.ldproxy.net/bgt/Wegdeel/_A2F312CBFBE534A60E0532B0B5B0A2B0A/
hasMap	http://www.ldproxy.net/bgt/Wegdeel/_A2F312CBFBE534A60E0532B0B5B0A2B0A/?f=html
sameAs	http://services.interactive-instruments.de/xsprojects/bgt/services/ro/wfs?REQUEST=GetFeature&OUTPUTFORMAT=application%2Fgml%2Bxml%2Bversion%3D3.2&VERSION=2.0.0&NAMESPACES=xmlns%28imgeo-s%2Chttp%3A%2Fwww.geostandaarden.nl%2Fimgeo%2F2.1%2Fsimple%2Fgml31%29&TYPENAMES=imgeo-st%3AWegdeel&SERVICE=WFS&COUNT=1&RESOURCEID=_A2F312CBFBE534A60E0532B0B5B0A2B0A
geo	
@type	GeoShape
polygon	5.442375949762936,51.35037749809315 5.442293097559214,51.35037884078326 5.442303813361258,51.35034935268919 5.442361274584278,51.35034971193164 5.442375949762936,51.35037749809315



[This repository](#)[Search](#)[Pull requests](#) [Issues](#) [Gist](#)

geo4web-testbed / core-geonetwork

forked from [geonetwork/core-geonetwork](#)

[Unwatch](#) ▾

3

[Code](#)[Pull requests 0](#)[Wiki](#)[Pulse](#)[Graphs](#)[Settings](#)Branch: [schema_org](#) ▾[Create new file](#)

Up

[core-geonetwork](#) / [schemas](#) / [iso19139](#) / [src](#) / [main](#) / [plugin](#) / [iso19139](#) / [formatter](#) / [schema-org](#) /

This branch is 35 commits ahead, 1176 commits behind geonetwork:develop.



pvgenuchten normalise the abstract string inside meta tag content

Lat

..

- | | |
|-----------------------------------|---|
| config.properties | add schema-org microdata to html view |
| view.xsl | normalise the abstract string inside meta tag content |

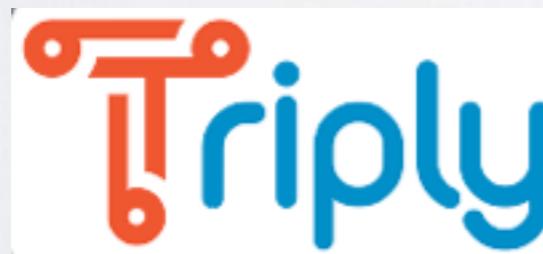
Challenges



Search engines are unpredictable
Persistent identifiers for WFS records
Bugs/dead links in current SDI implementations
Content negotiation
Keep/create links

Topic 1 Continued

Modern Ways of Spatial Data Publishing



38.606.408.854 triples and counting!



LOD Laundromat

The LOD Laundromat provides access to all Linked Open Data (LOD) in the world. It does this by crawling the LOD cloud, and converting all its contents in a standards-compliant way (gzipped N-Triples), removing all data stains such as syntax errors, duplicates, and blank nodes.

Wrap up



being found on search engines vs linked data
use the search engine to evaluate how data is used
not all dataset records are useful as search result

Resources

<http://schema.org>

ldproxy.net

<https://www.w3.org/TR/dwbp>

<https://www.w3.org/2015/spatial>

<https://joinup.ec.europa.eu/node/139283>

<http://geo4web-testbed.github.io/topic4>

<http://lodlaundromat.org/>