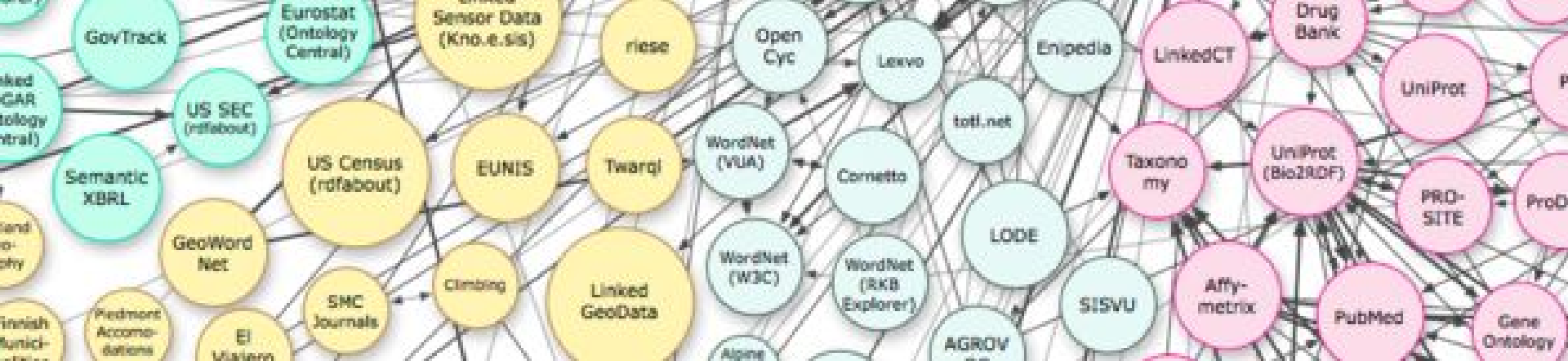


Google



Spatial Data on the Web

Making map data work for the web



Ed Parsons

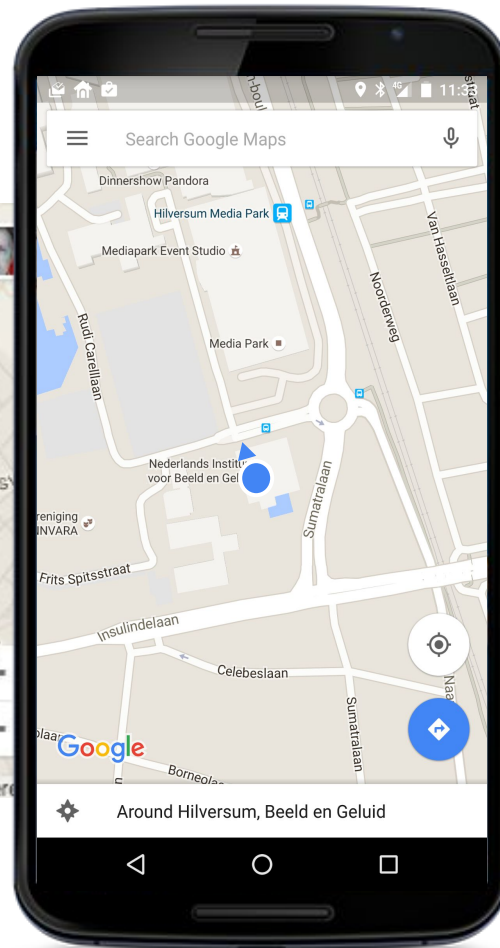
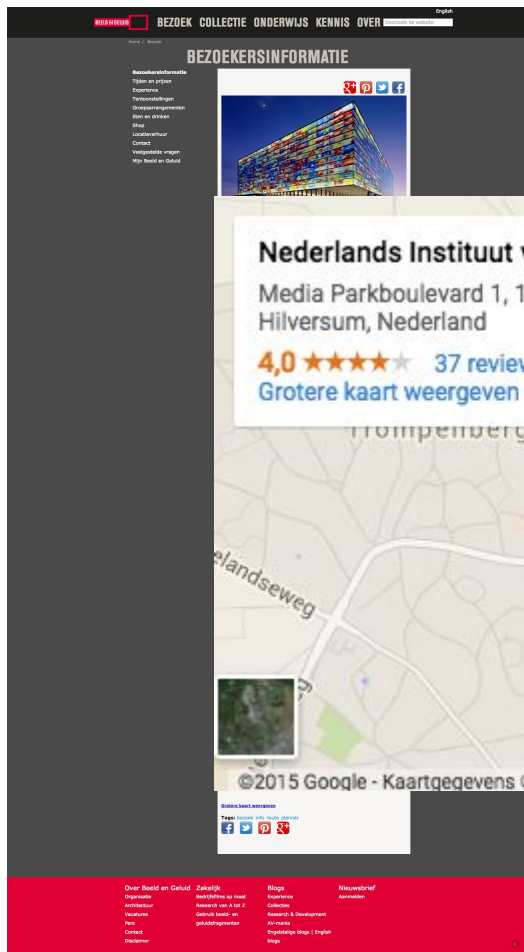
<eparsons@google.com>

@edparsons

These slides...

<https://goo.gl/WhNIgk>

what's the problem ?



Google



INSPIRE GEOPORTAL

Enhancing access to European spatial data

[Contact](#) | [Search](#) | [Legal notice](#)

[English \(en\)](#) ▼

EUROPEAN COMMISSION > INSPIRE > INSPIRE GEOPORTAL > [Discovery](#) / [Viewer](#)

[What's new](#)

Find a place in: [Powered by GeoNames](#)



Active Layers: 0

Search:

[Advanced Search](#)

☒ [railway station](#)

sorted by

displaying 1 to 10 out of 1118 results

< 1 **2** 3 ... **111** **112** >

- [\[dataset\] Usos ganaderos](#)
Capa de usos ganaderos A través de WFS se puede descarg ...[\(show more\)](#)
- [\[dataset\] Estado Ríos y Embalses GC](#)
Estado de las masas de agua continentales
- [\[dataset\] Estado Transición y Costeras GC](#)
Estado de las masas de agua de transición y costeras
- [\[dataset\] Estado Subterráneas GC](#)
Estado de las masas de agua subterráneas
- [\[dataset\] Perímetros de protección de aguas minerales y termales](#)
Resumen de la capa A través de WFS se puede descargar la geo ...[\(show more\)](#)
- [\[dataset\] Zonas húmedas](#)

amsterdam
open data

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THEMES

[Bestuur en organisatie \(9\)](#)[Bevolking \(10\)](#)[Dienstverlening \(2\)](#)[Economie & Haven \(13\)](#)[Educatie, Jeugd & Diversiteit \(10\)](#)[Energie \(7\)](#)**[Geografie \(8\)](#)**[Milieu & Water \(9\)](#)[Openbare orde & veiligheid \(9\)](#)[Openbare ruimte & groen \(15\)](#)[Sport & recreatie \(8\)](#)[Stedelijke ontwikkeling \(16\)](#)[Toerisme & cultuur \(22\)](#)[Verkeer & Infrastructuur \(31\)](#)[Verkiezingen \(4\)](#)[Werk & Inkomen \(7\)](#)[Wonen & leefomgeving \(6\)](#)[Zorg & welzijn \(22\)](#)

What data are you searching?

>> Geografie

BASISREGISTRATIE ADRESSEN EN GEBOUWEN

★★★★★

Kadaster

LET OP: Gratis voor publieke partijen, voor private partijen worden nog leveringskosten in rekening gebracht. De BAG (Basisregistraties adressen en gebouwen) is onderdeel van het overheidsstelsel van basisregistraties. Gemeenten zijn bronhouders van de BAG. Zij zijn verantwoordelijk voor het opnemen van de gegevens in de BAG en voor de kwaliteit ervan. Alle gemeenten stellen gegevens over adress...

BUURTGRENZEN AMSTERDAM

★★★★★

Gemeente Amsterdam

Buurtgrenzen in Amsterdam via [kaart.amsterdam.nl](#)

GEBIEDSINDELING AMSTERDAM

★★★★★

Google



Yay ! We are Happy clip-art people !!

Not so fast !

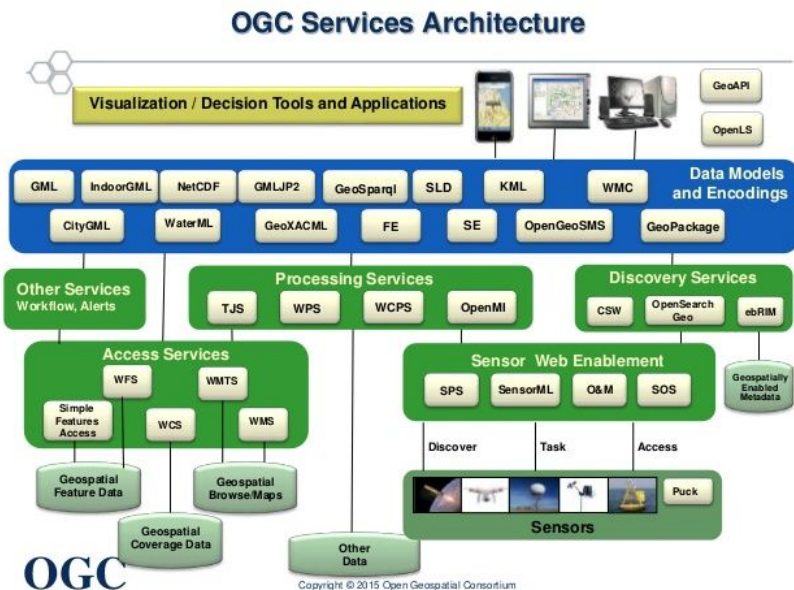


Implicit and unstructured..

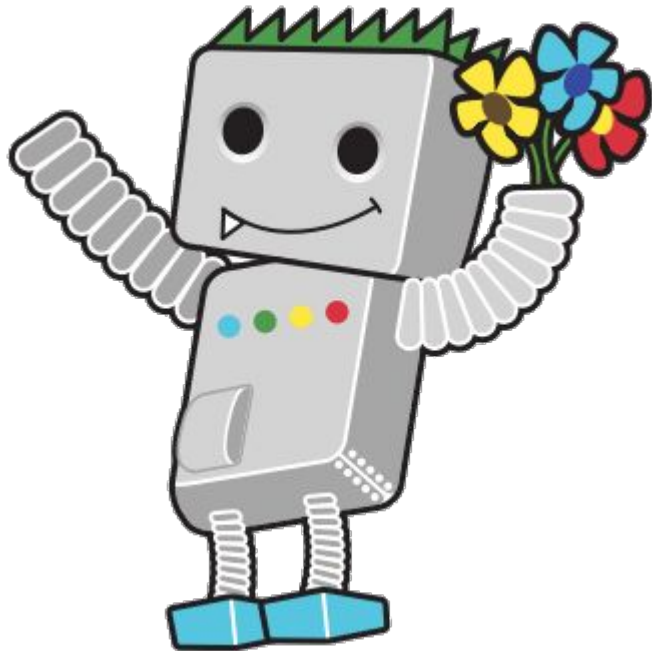
- Most web content about places unstructured
- Harvesting requires sophisticated NLP and inference
- Does not scale !

```
<h3>Visiting Address</h3>
<p>Netherland Institute for Sound and Vision<br />Media
Parkboulevard 1<br />1217 WE Hilversum</p>
<p>If your navigation system does not recognize our (new)
address, you can find us on Sumatrалаan 45, 1217 GP
Hilversum.</p>
<h2>Postal Address</h2>
<p>Nederlands Instituut voor Beeld en Geluid Media Park,
<br />Postbus 1060<br />1200 BB Hilversum</p>
<h2>Opening hours</h2>
<ul><li>The experience is open Tuesday - Sunday, 10.00 -
17.30h</li>
<li>Closed on monday</li>
</ul><h2>Entrance prices</h2>
<ul><li>Adults: € 16,00</li>
<li>Children between the ages of 4 and 12: € 9,00</li>
<li>Children up to age 3: Free</li>
</ul>
```

The Geospatial problem...



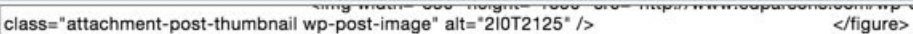
- Geospatial industry has developed its own web services to publish Location information
- Dominated by large Government data publishers and Enterprise customers
- “Fit for purpose” for a niche industry ?



What the GoogleBot sees..

Googlebot Simulator Results

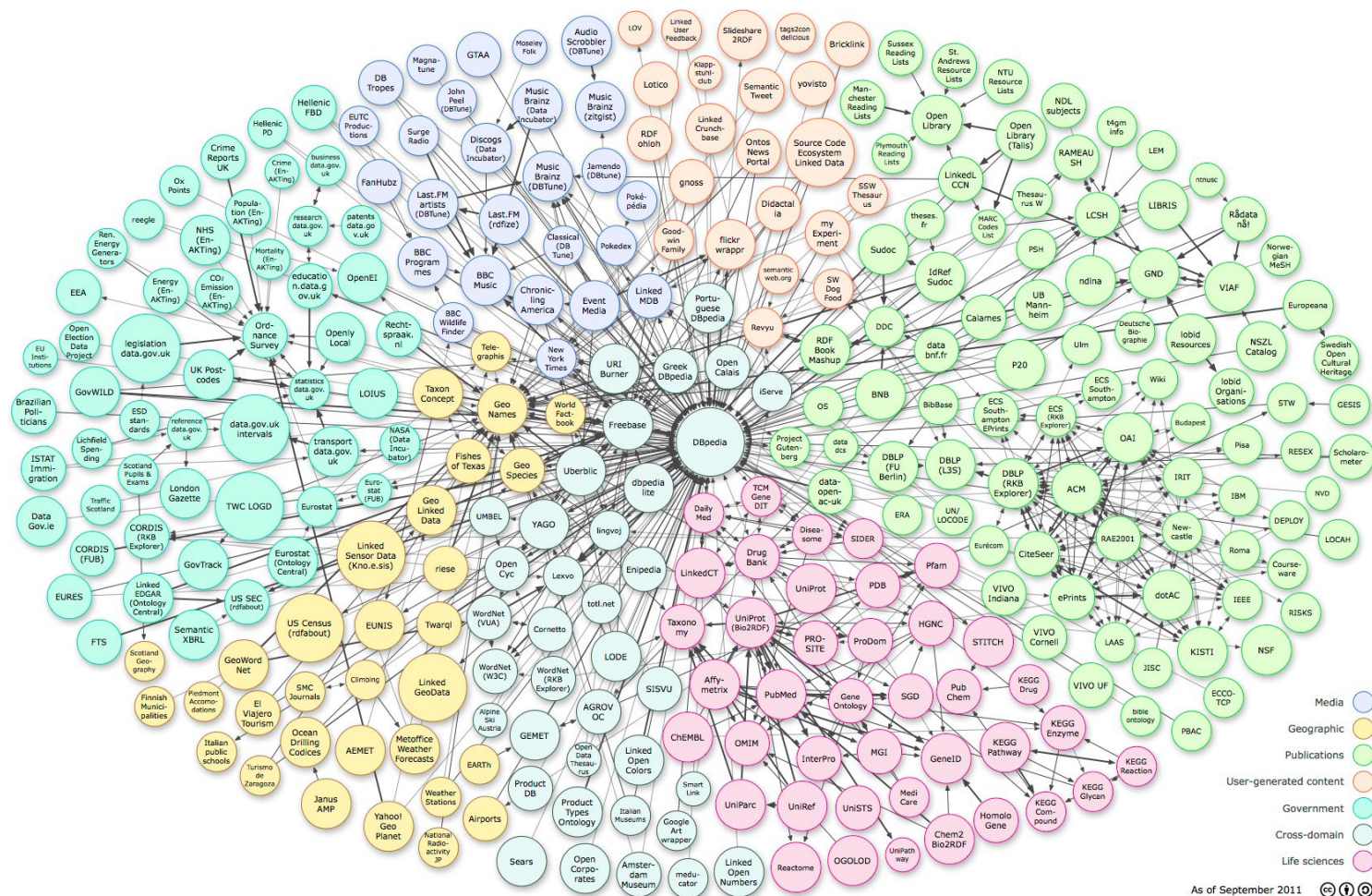


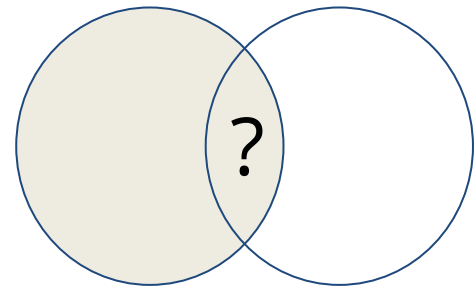
Field	Value
HTTP CODE	= HTTP/1.1 200 OK
Date	= Thu, 24 Sep 2015 12:52:30 GMT
Server	= Apache
X-Pingback	= http://www.edparsons.com/xmlrpc.php
Link	= ; rel=shortlink
Keep-Alive	= timeout=1, max=100
Connection	= Keep-Alive
Transfer-Encoding	= chunked
Content-Type	= text/html; charset=UTF-8
Data	<div><div></div><div><h1>Ed Parsons</h1></div></div> <div><p>Ed Parsons is the Geospatial Technologist of Google, with responsibility for evangelising Google's mission to organise the world's information using geography. In this role he maintains links with Universities, Research and Standards Organisations which are involved in the development of Geospatial Technology. He is currently co-chair of the W3C/OGC Spatial Data on the Web Working Group.</p><p>Ed is based in Google's London office, and anywhere else he can plug in his laptop.</p><p>Ed was the first Chief Technology Officer in the 200-year-old history of Ordnance Survey, and was instrumental in moving the focus of the organisation from mapping to Geographical Information. He came to the Ordnance Survey from Autodesk, where he was EMEA Applications Manager for the Geographical Information Systems (GIS) Division.</p><p>He earned a Masters degree in Applied Remote Sensing from Cranfield Institute of Technology and holds a Honorary Doctorate in Science from Kingston University, London and is a fellow of the Royal Geographical Society.</p><p>Ed is married with two children and lives in South West London.</p></div>

mm... better fix it then, but how ?



Open Government Zeitgeist



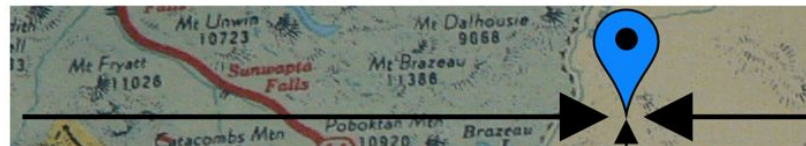


Linked Data

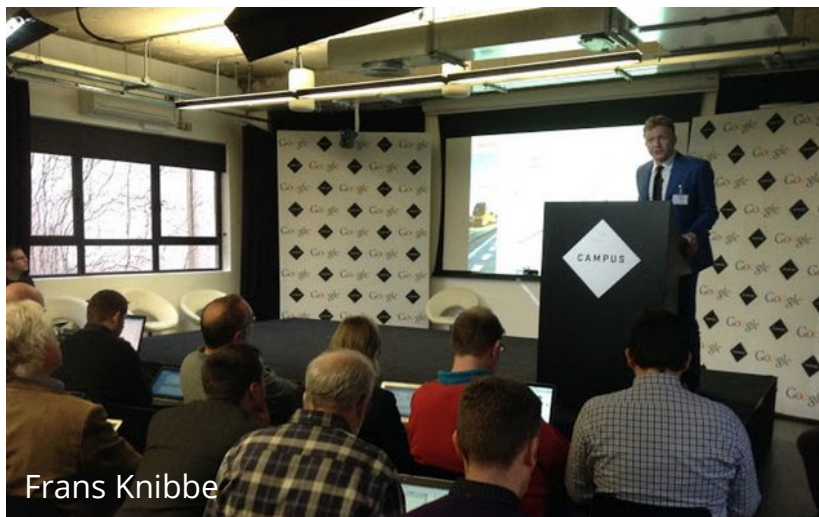
Geospatial Data

Linking Geospatial Data

5th - 6th March 2014, Campus London, Shoreditch



Miss Globe and Mr Cube



The thing or the geometry ?

become better web citizens..



http://www.w3.org/2015/spatial/wiki/Main_Page



W3C and OGC to Collaborate to Integrate Spatial Data on the Web

[Translations](#) | [W3C Press Release Archive](#)

6 January 2015 — The W3C and the [Open Geospatial Consortium \(OGC\)](#) announced today a new collaboration to improve interoperability and integration of spatial data on the Web. Spatial data —describing geographic locations on the earth and natural and constructed features— enriches location-based consumer services, online maps, journalism, scientific research, government administration, the Internet of Things, and many other applications. In the United States alone, geospatial data and services are [estimated](#) to generate \$1.6 trillion annually.

"Location, as well as providing context to much of today's online information, is vital to the emerging field of connected devices," said Ed Parsons, Geospatial Technologist

<http://www.w3.org/2014/05/geo-charter> - The Mission !

1. to determine how spatial information can best be integrated with other data on the Web;
2. to determine how machines and people can discover that different facts in different datasets relate to the same place, especially when 'place' is expressed in different ways and at different levels of granularity;
3. to identify and assess existing methods and tools and then create a set of best practices for their use;
4. to complete the standardization of informal technologies already in widespread use.

“Where relevant, it will promote Linked Data using the 5 Stars of Linked Data paradigm, but this will not be to the exclusion of other technologies”

Deliverables..

1. Use Cases and Requirements ✓
2. Spatial Data on the Web Best Practices
3. Time Ontology in OWL
4. Semantic Sensor Network Vocabulary
5. Coverage in Linked Data



Spatial Data on the Web Use Cases & Requirements

W3C Editor's Draft 04 June 2015

This version:

@@@TBD@@@

Latest published version:

<http://www.w3.org/TR/sdw-ucr/> (subject to confirmation)

Latest editor's draft:

<http://w3c.github.io/sdw/UseCases/SDWUseCasesAndRequirements.html>

OGC Document Number:

OGC 15-074

Editors:

Frans Knibbe , [Geodan](#)

Alejandro Llaves , [OEG, Universidad Politécnica de Madrid](#)

<http://www.w3.org/tr/sdw-ucr>

5.5 Crawlability

Spatial data on the Web should be crawlable, allowing data to be found and indexed by external agents.

Related deliverables: [2.2 Spatial Data on the Web Best Practices](#)

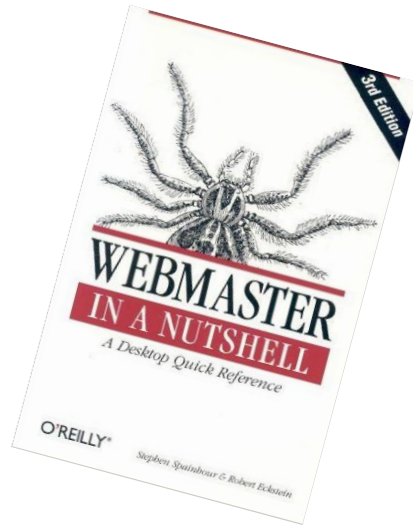
Related use cases: [4.1 Meteorological Data Rescue](#), [4.5 Harvesting of Local Search Content](#), [4.8 Consuming geographical data in a web application](#), [4.39 Crowdsourced earthquake observation information](#), [4.42 Geospatial extensions to domain-independent metadata schemas](#), [4.43 Improving discovery of spatial data on the Web](#)

what is best practice ?

For who ?



webmasters ?



Take part, tell us !

a final thought..



Motivation..



Thank you!



Ed Parsons

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