Where is everywhere: bringing location to the Web

Spatial data on the Web Best Practices (OGC 15-107)
What’s the problem?
What we expect
What we expect
What we expect
What we get: spatial data infrastructures
Two step search; unfamiliar protocols
Is data really “on the web” if you can’t find it via a search engine?
The other end of the spatial data spectrum: implicit and unstructured

- Most web content about places and location is unstructured
- Harvesting requires sophisticated NLP and inference
- Does not scale
60 second summary: key questions

- how should we encode geometry?
- how and where should we implement topological relations?
- additional metadata is required for spatial datasets – how do we do that?
- where is the software support for spatial datatypes and functions?
- geometries expressed as WKT literals are large objects — the Linked data world is used to handling simple literals
- how do we help developers handle (or avoid) the steep learning curve to work with Linked Data?

https://www.w3.org/2014/03/lgd/report
Spatial Data on the Web working group

http://www.w3.org/2015/spatial
SDW working group charter

- to determine how spatial information can best be integrated with other data on the Web;
- 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;
- to identify and assess existing methods and tools and then create a set of best practices for their use;
- to complete the standardization of informal technologies already in widespread use.

https://www.w3.org/2014/05/geo-charter
Best Practices deliverable

https://www.w3.org/TR/sdw-bp/
Overview

- best practice not theory
- focus mainly geospatial data (not broader spatial data)
- building on:
  - 5-star data with a spatial rosette?
Audience

- Everyone - because spatial data is really useful! ...

- But we really need to focus on the gatekeepers:
  - Web developers
  - Spatial data custodians & publishers
Introductory material

6. Spatial Things, Features and Geometry
7. Coverages: describing properties that vary with location (and time)
8. Spatial relations
10. Linked Data
11. Why are traditional Spatial Data Infrastructures not enough?
Best practices

Best Practice 1: Use globally unique persistent HTTP URIs for Spatial Things
Best Practice 2: Make your spatial data indexable by search engines
Best Practice 3: Link resources together to create the Web of data
Best Practice 4: Use spatial data encodings that match your target audience
Best Practice 5: Provide geometries on the Web in a usable way
Best Practice 6: Provide geometries at the right level of accuracy, precision, and size
Best Practice 7: Choose coordinate reference systems to suit your user's applications

Best Practice 8: State how coordinate values are encoded
Best Practice 9: Describe relative positioning
Best Practice 10: Use appropriate relation types to link Spatial Things
Best Practice 11: Provide information on the changing nature of spatial things
Best Practice 12: Expose spatial data through 'convenience APIs'
Best Practice 13: Include spatial metadata in dataset metadata
Best Practice 14: Describe the positional accuracy of spatial data
Gaps

13. Gaps in current practice
13.1 Requesting different representations of geometries
13.2 Spatial data vocabulary
13.3 Describing dataset structure and service behaviors
13.4 Publishing dynamic and large datasets on the Web
13.5 Helping software understand units of measure
13.6 Defining that two places are the same
13.7 Discovering what refers to a Spatial Thing
Questions please ...

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