Searching SELFIE

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INSPIRE Discovery workshop

Ispra 03-04 July 2019

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Making location count.

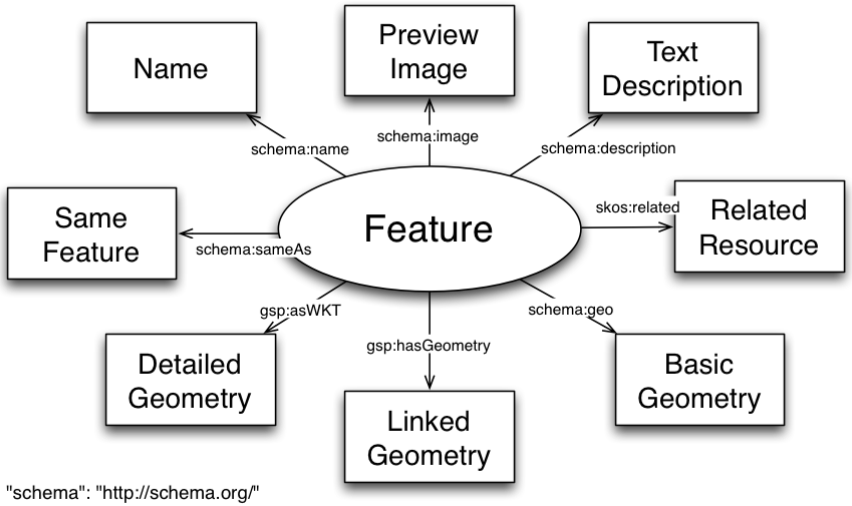
ELFIE

- Environmental Linked Feature Interoperability Experiment (https://opengeospatial.github.io/ELFIE/) a use case driven IE
- Organization: OGC, USGS, NZ Landcare Research, BRGM, NR-CAN, …
- Goals :
  - Increase interoperability while decreasing data duplication and maintenance overhead
  - Combine the power of web services with transparency of linked data
  - Encode relationships between and among environmental features
  - Utilize commonly used and easily adopted approaches
  - **Encode highly general "preview" content for any feature : facilitate discoverability**

JSON-LD Encoding

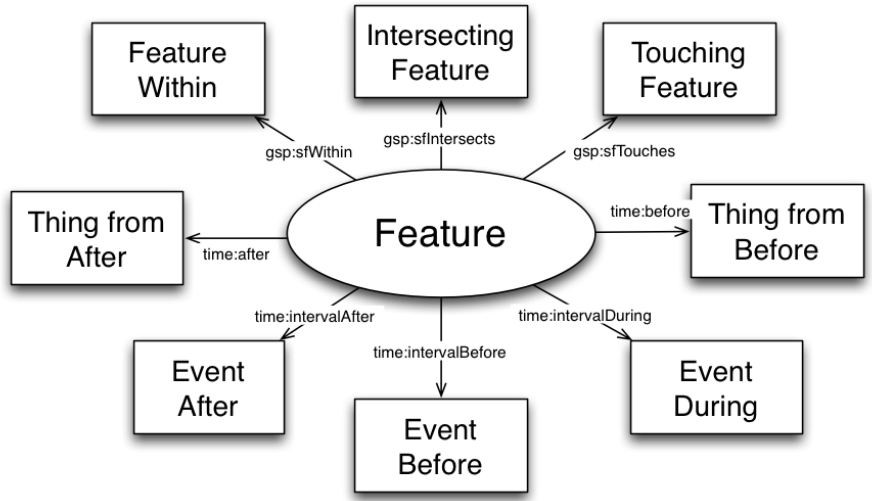
- **Different views of the same Feature**
  - **By using different JSON-LD contexts**
  - **Based on Schema.org vocab and OGC domain ontologies**

Preview



"schema": "http://schema.org/"
"skos": "https://www.w3.org/TR/skos-reference/"
"gsp": "http://www.opengeospatial.org/standards/geosparql"

Network



"gsp": "http://www.opengeospatial.org/standards/geosparql/"
"time": "https://www.w3.org/TR/owl-time/"

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JSON-LD Encoding

- **Different views of the same Feature**
  - **By using different JSON-LD contexts**
  - **Based on Schema.org vocab and OGC domain ontologies**

Preview

```
{
    "@context": {
        "schema": "http://schema.org/",
        "skos": "https://www.w3.org/TR/skos-reference/",
        "gsp": "http://www.opengeospatial.org/standards/geosparql",
        "description": "schema:description",
        "geo": "schema:geo",
        "hasGeometry": "gsp:hasGeometry",
        "asWKT": "gsp:asWKT",
        "image": {
            "@id": "schema:image",
            "@type": "@id"
        },
        "name": "schema:name",
        "sameAs": "schema:sameAs",
        "related": "skos:related"
    }
}
```

Network

```
{
    "@context": {
        "gsp": "http://www.opengeospatial.org/standards/geosparql/",
        "time": "https://www.w3.org/TR/owl-time/",
        "intersects": "gsp:sfIntersects",
        "touches": "gsp:sfTouches",
        "within": "gsp:sfWithin",
        "after": "time:after",
        "before": "time:before",
        "intervalAfter": "time:intervalAfter",
        "intervalBefore": "time:intervalBefore",
        "intervalDuring": "time:intervalDuring"
    }
}
```

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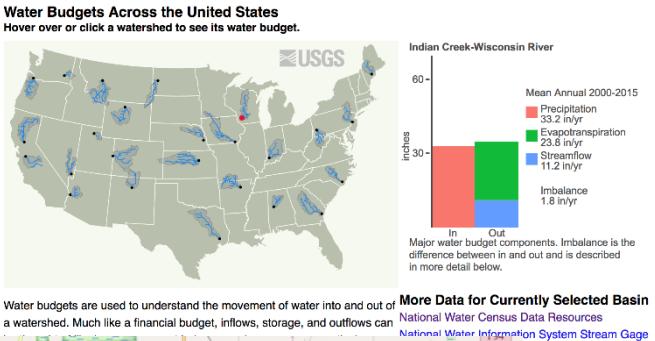
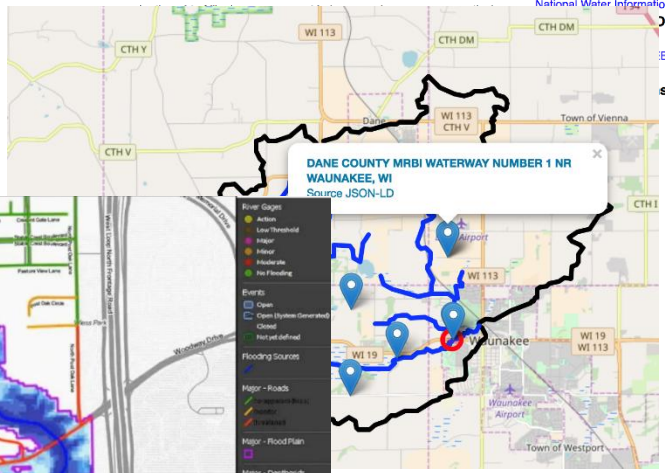
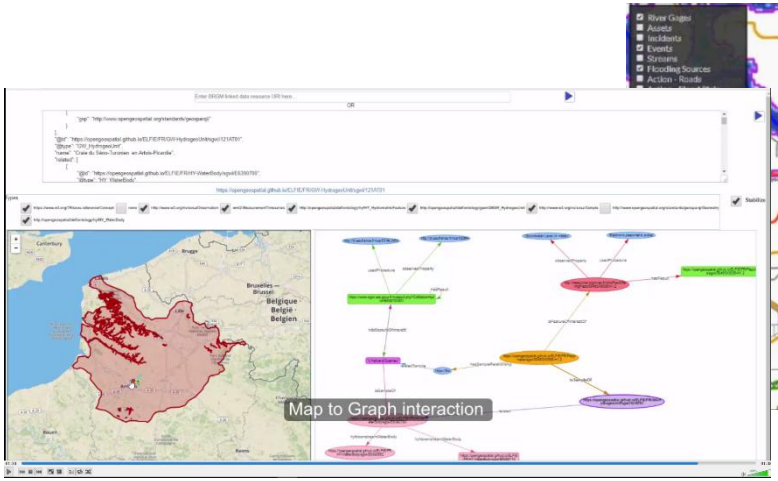
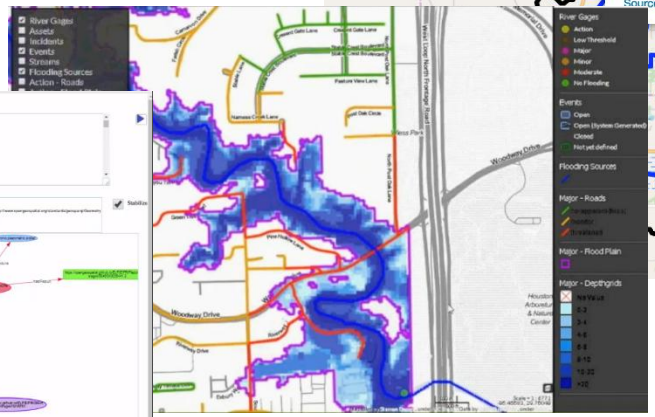
Outcomes & Use cases

- Engineering Report Presented to OGC
- JSON-LD contexts
- Example JSON-LD (static) files
- Web summary of use cases available now.
- Schema.org feedback. e.g. geometry encoding
- No Web Search demo









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SELFIE

- Second Environmental Linked Feature Interoperability Experiment (https://opengeospatial.github.io/SELFIE/)
  Organization: OGC, USGS, NZ Landcare Research, BRGM, NR-CAN, CSIRO, UK CEH, NASA, …
- Objectives :
  - Evaluate a proposed resource model for multi-provider environmental feature and observation registries
  - Evaluate proposed HTTP behavior for non information resources and their representations
  - Design and evaluate linked data feature information index resources with media-type, language, and profile content negotiation as an extension of the building blocks provided by WFS3.

SELFIE : Methodology

- Refine of use cases developed for ELFIE
- Collate existing practices for the implementation of non-information, information index and data resources
- Define a simple ontology of linked feature resources (resource model)
- Define JSON-LD encoding practices for efficient and effective link crawling (ELFIE-1 based)
- Executing experiments that evaluate the 3 and 4 using publishable implementations (e.g. shared Jupyter Notebooks)
- Evaluate WFS 3.0 compliant services as an ‘engine’ facilitating the creation of the index and data information resources.

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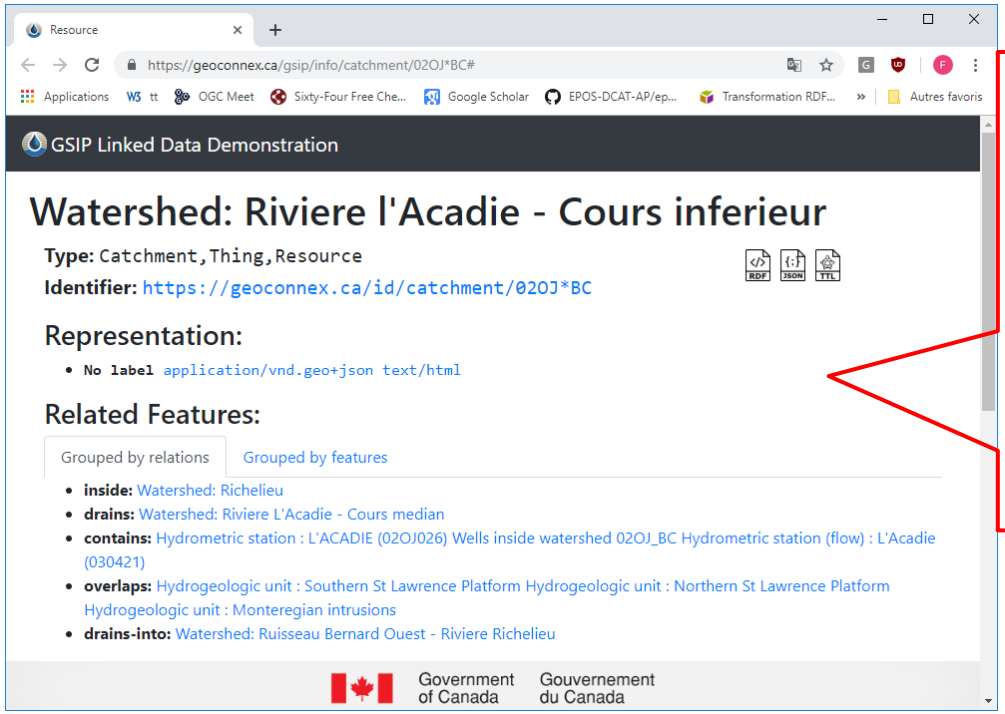
SELFIE : Discoverability

- Based on the ELFIE-1 preview JSON-LD context.
- Embedding JSON-LD description of features in index (informational) pages. e.g. GSIP (Groundwater Surface-Water Initial LOD Pilot) info pages



SELFIE : Discoverability

- Based on the ELFIE-1 preview JSON-LD context.
- Environment domain vocabularies : how to reuse them for indexing?
  - Should RE crawlers integrate OGC ontologies in their process?
  - Should OGC ontologies be integrated into schema.org ?→ schema.org domain specific vocabulary extensions
    - E.g. science-on-schema https://github.com/ESIPFed/science-on-schema.org , Bioschemas Types https://bioschemas.org/types/
  - How and when such extensions are handled by SE?

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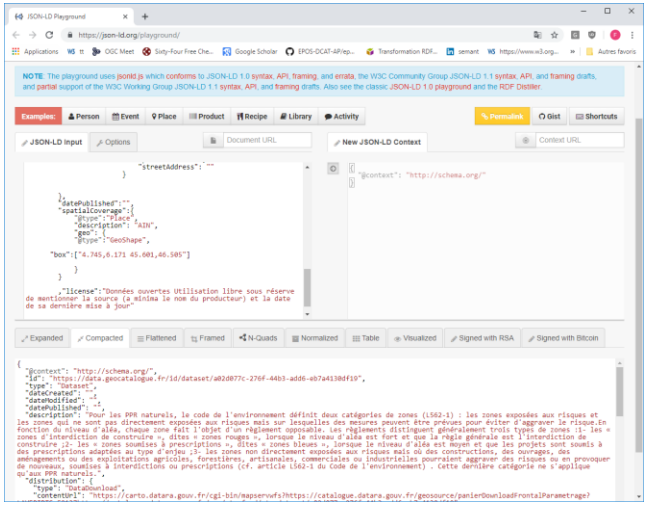
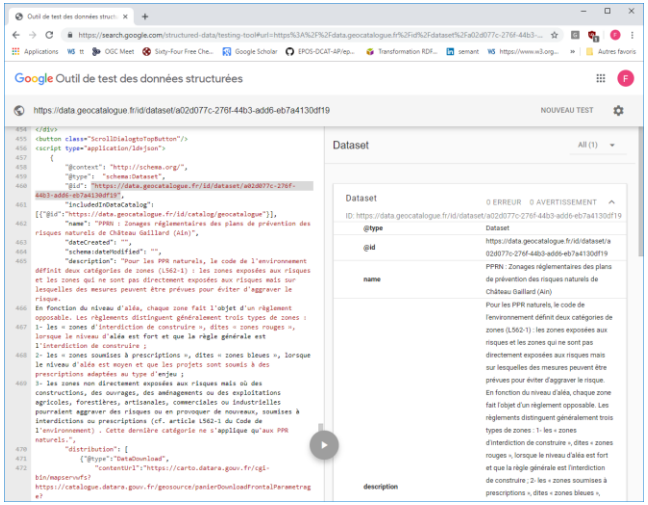
SELFIE : Discoverability

- Who's in the other end of the tunnel?
  - No team to discuss with, only local test and validation of JSON-LD through JSON-LD playground and Google structured data testing tool





  - Enlarge the questioning to other SE: Bing, Qwant (first contact)

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To Be Continued…

- **Join the Second Environmental Linked Features Interoperability Experiment**

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