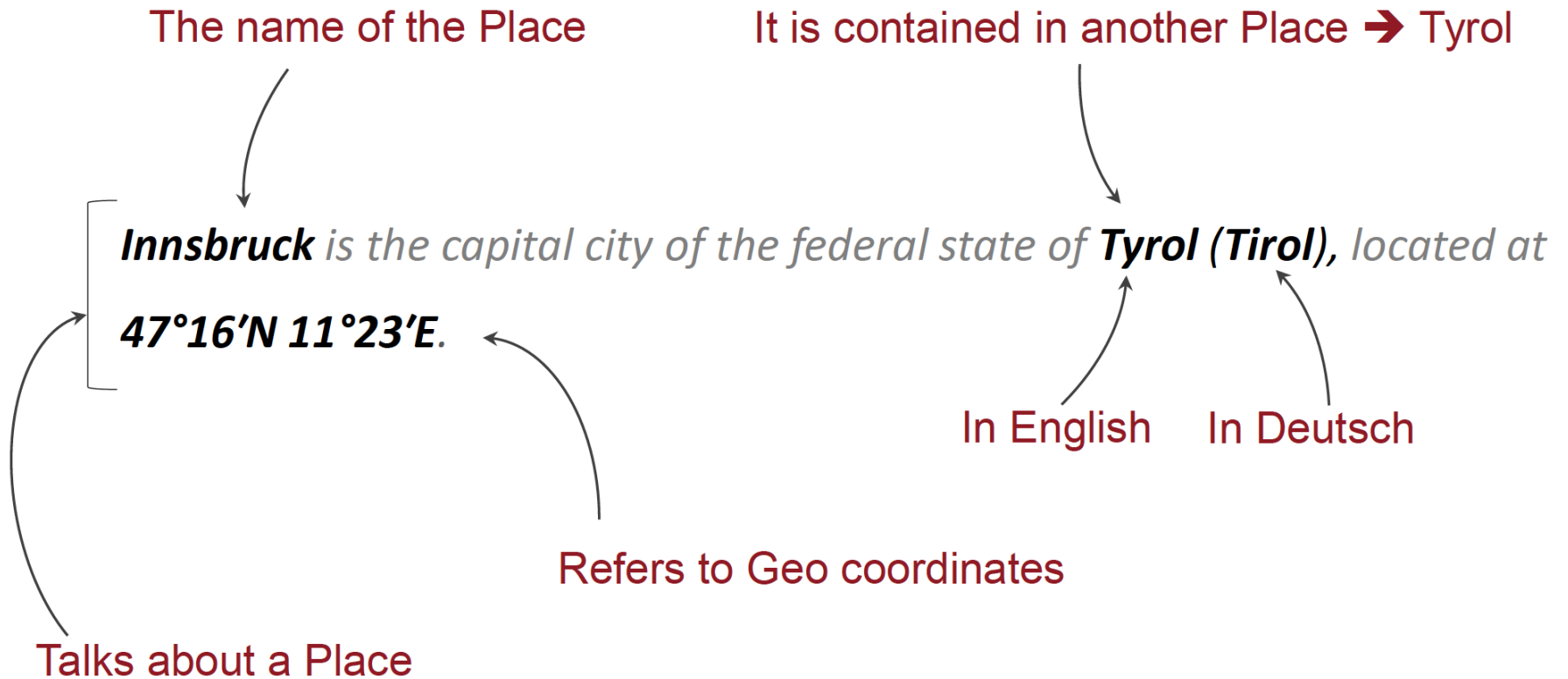


Semantic Annotations

STI Innsbruck
WS2015

What does Semantic Annotation stand for?



Explicitly defining what a piece of information represents.

Linked Open Vocabularies (LOV)

- In order to describe a piece of information, we need a vocabulary that includes the relevant terms.
- There are more than 500 vocabularies online that can be used to describe various domains (e.g. tourism, e-commerce, etc.)
- LOV (<http://lov.okfn.org/dataset/lov>) is a directory with all the existing vocabularies, where we can search for terms to use in our annotations.

JSON-LD

- One of the formats that can be used to describe semantic annotations in a web page.
- Defines a Linked Data layer in JSON syntax that helps to define the used terms “schema”.
 - @context: a context is used to map terms to IRIs.
 - @type: the data type of a node or typed value.
 - @id: uniquely identify things that are being described in the document with IRIs.
- <http://json-ld.org/learn.html>

JSON-LD example

```
<script type="application/ld+json">
{
  "@context": "http://schema.org",
  "@type": "Event",
  "location": {
    "@type": "Place",
    "address": {
      "@type": "PostalAddress",
      "postalCode": "80209",
      "streetAddress": "7 S. Broadway"
    },
    "name": "The Hi-Dive"
  },
  "name": "Typhoon with Radiation City",
  "offers": {
    "@type": "Offer",
    "price": "13.00",
    "priceCurrency": "USD",
    "url": "http://www.ticketfly.com/purchase/309433"
  },
  "startDate": "Sat Sep 14"
}
</script>
```

If we check the <http://schema.org/Event> structure, we will see that it includes the property *location*, which has type <http://schema.org/Place>.

Then *Place* includes a property of type <http://schema.org/PostalAddress>, which includes the properties *postalCode* and *streetAddress*.

JSON-LD interpreter

The image shows a web browser window at json-ld.org/playground/. The page has a navigation bar with "Examples:" and buttons for "Person", "Event", "Place", and "Profile". The main content area is titled "JSON-LD Input" and displays two JSON-LD documents. The left document is the expanded view, and the right document is the compacted view. A blue arrow points from the compacted view back to the expanded view.

Expanded View (Left):

```
{
  "@context": "http://schema.org",
  "@type": "Event",
  "location": {
    "@type": "Place",
    "address": {
      "@type": "PostalAddress",
      "postalCode": "80209",
      "streetAddress": "7 S. Broadway"
    },
    "name": "The Hi-Dive"
  },
  "name": "Typhoon with Radiation City",
  "offers": {
    "@type": "Offer",
    "price": "13.00",
    "priceCurrency": "USD",
    "url": "http://www.ticketfly.com/purchase/309433"
  },
  "startDate": "Sat Sep 14"
}
```

Compacted View (Right):

```
{
  "@type": [
    "http://schema.org/Event"
  ],
  "http://schema.org/location": [
    {
      "@type": [
        "http://schema.org/Place"
      ],
      "http://schema.org/address": [
        {
          "@type": [
            "http://schema.org/PostalAddress"
          ],
          "http://schema.org/postalCode": [
            {
              "@value": "80209"
            }
          ]
        }
      ]
    }
  ]
}
```

Question 1

How familiar are you with the topic of Semantic Annotations?

The lowest value would mean that it's your first time reading something related, while the highest, that you are an expert in the field. Range: [No idea - 0, Expert - 5].

Your expertise: _____

Question 2

If you are familiar with the Semantic Annotations, have you ever generated some?

Yes

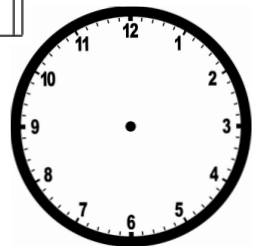
No

Question 3

Give a list of vocabulary terms that are suitable for annotating the given use case, by materialising the LOV search results. Which other candidates did you find? Why did you choose term t and not another one?

Term t URI	3-5 candidate terms	Why did you choose t ?

Measure the time that you need to complete this step



Question 4

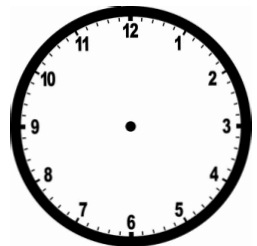
Based on Q3, construct the JSON-LD snippet that could be used together with the webpage of the examined use case.

The JSON-LD snippet should contain all the vocabulary terms of the 1st column of Q3 accompanied with the correspondent values.

Hints:

- a) Check the property range;
- b) Use a validator to be sure that the produced JSON-LD has valid syntax. (<http://json-ld.org/playground/>)

Measure the time that you need to complete this step



Question 5

Which new terms would you propose for content that you wanted to annotate, but you couldn't find the appropriate existing vocabulary terms?

Question 6

Which was the most difficult step and why?

Deliverables

Fill in your answers at the file that you have been given:

SemanticAnnotations_<yourname>.txt

!Don't forget to measure the time for steps 3, 4!

- needed for statistical reasons, not to judge you :)

Email to: ioannis.stavrakantonakis@sti2.at

Subject: Semantic Annotations - <yourname>

Attachment: SemanticAnnotations_<yourname>.txt