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Cool URIs for the DDC

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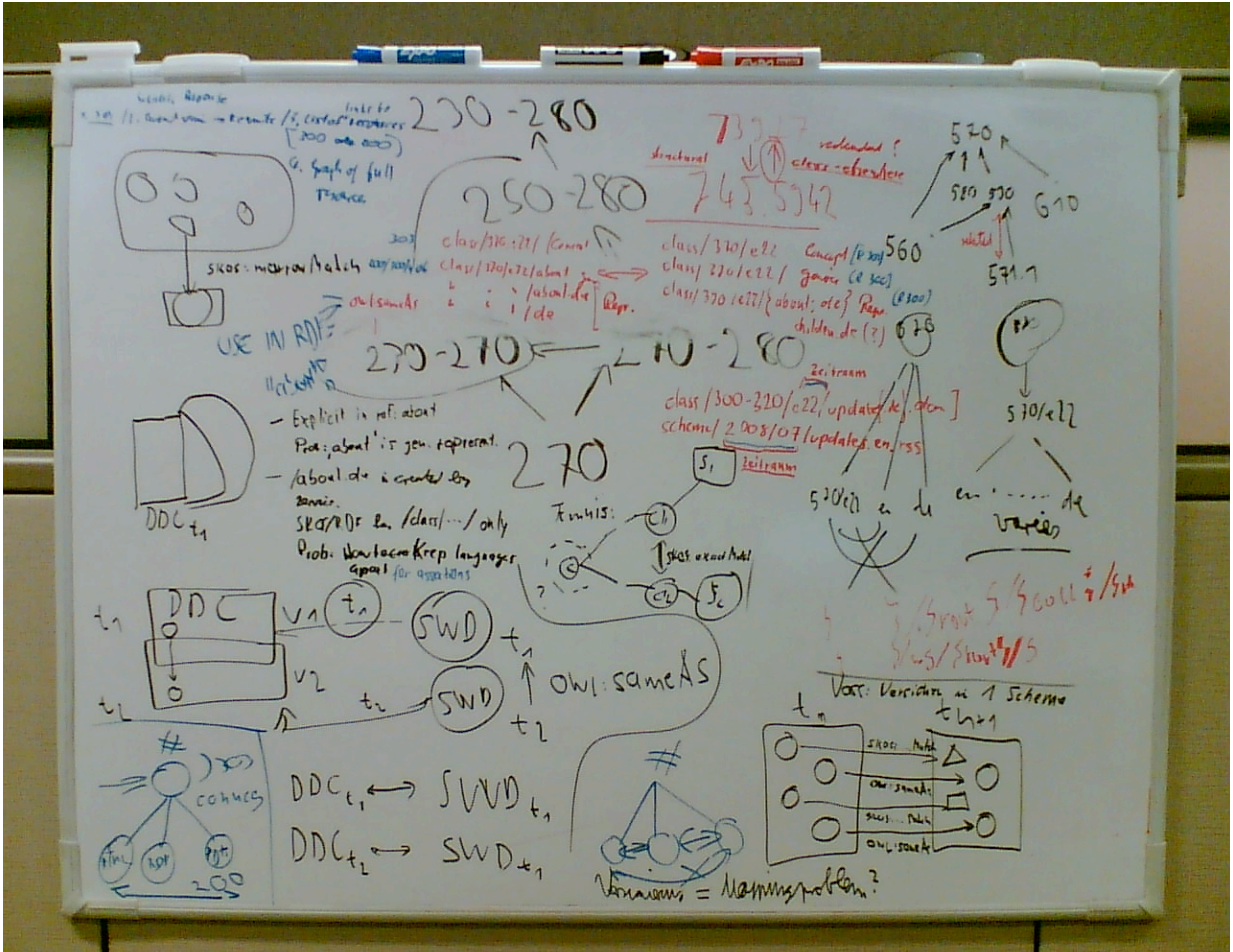
230-280
250-280
745.5942
570
580 590
610
560
571.7
class/370/e22/
class/370/e22/about
class/370/e22/{about; de}
children.de (?)
skos:narrowMatch
owl:sameAs
USE IN RDF
270-270
270-280
270
- Explicit in rdf:about
- /about.de is created by
Zeitraum
class/300-320/e22/updates.de.
scheme/2008/07/updates.en.rss
570/e22
en ... de
skos:exactMatch
DDC
SWD
t1
t2
v1
v2
owl:sameAs
DDC t1 ⟷ SWD t1
DDC t2 ⟷ SWD t1
connects
HTML
RDF
200
t n
t n+1
skos: ...Match
owl:sameAs

Some Basic Questions

- What to consider when designing URIs for the DDC?
- What should those URIs look like?
- What to include in the representations behind those URIs?
- How to deliver these representations through services conformant with the architecture of the WWW?

→ Can you GET it if you really want?

Webification Checklist

(Infra-)Structural choke points

1. Design of identifiers
2. Design of verbal designators (Ranganathan's "verbal plane")
3. Data representation
4. Vocabulary enhancement
5. User contribution
6. Versioning
7. Vocabulary registries

Goals for Taxonomies as Web Resources

1. Minimal level of accessibility
2. Improving accessibility to stimulate association with *other* resources

What!? Where?

URI Design and Web Architecture
URIs for the DDC

Approaches to URI design

Encoding resource metadata into URIs

- Axiom of URI opacity
- REST principles

> "Resources are just consistent mappings from an identifier to some set of views on server-side state. These views need not have anything to do with how the information is stored on the server, or even what kind of state it ultimately reflects. It just needs to be understandable (and actionable) by the recipient." (Roy Fielding)

- Reference vs. Access

URIs for the DDC

Genericity of resources

- Dimensions of variance: time, language, format
- Framing of concept instantiation

Role of Dewey classes for URIs

- Classes as center of identification for DDC concepts
- Ongoing issue: Information resources (‘web documents’) vs. non-information resources (‘things’) in web architecture

Crafting URI Templates

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Take one:

http://dewey.info/{aspect}/{object}/{locale}/{type}/{version}/{resource}

http://dewey.info/concept/338.4/ en/edn/22/ about

Take two:

http://dewey.info/{aspect}{-opt|/|aspect}{object}/{-list|/|edition_stamp}
{-opt|/|edition_stamp}/{-list|/|resource}

http://dewey.info/class/338.4/e22/about

URI Templates

Take one:

http://dewey.info/

concept/

338.4/

en/

edn/

22/

about

URI Templates

OCLC

Integrating time

http://dewey.info/class/338.4/2007/05/25/about

http://dewey.info/class/338.4/e22/about

http://dewey.info/class/2--74-79/2007/05/25/about

http://dewey.info/class/2--74-79/about

URI Templates

Aspects & objects

http://dewey.info/class/616.1-616.9:09/e22/about.en.rdf

Concept “06 Case histories” in add table at “616.1-616.9 Specific diseases”

http://dewey.info/table/1/a14/about.en.rdf

Table 1 in 14th edition of abridged version of DDC

http://dewey.info/scheme/about

Generic web document (information resource) describing the DDC in general

URI Templates

Possible shortcuts & expansions:

http://dewey.info/793.2

http://dewey.info/class/793.2/2008/04/10/about.en.html

URI Templates

Summary:

- Are you looking for a “number” or something else?
- Do you want to restrict by point in time?

General idea:

- These are the only two things the agent needs to know coming to the service. The less the agent knows, the more it has to postprocess the results.

What to include in the representation?

Languages and Formats

Service Responses

http://dewey.info/class/793.2/2008/04/10/about.en.html

Time-, language- and format-specific: RDF graph of single resource

http://dewey.info/class/793.2/2008/04/10/about

Time-specific, language- and format-generic: RDF graph of single resource after content negotiation OR graph of all available language/format combinations

http://dewey.info/class/793.2/about

Generic resource identifier: RDF graph of all available resources?

Service Responses

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Possibilities to consider:

1. HTTP Response `303 See other`
2. Current version of resource
3. List of links to available resources
4. Full graph of available resources

RDF Resources

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How to use these URIs in RDF serialization (`rdf:about`)?

class/793.2

vs. class/793.2/

vs. class/793.2/about

vs. class/793.2/about.en

Problem of URI aliases / URI synonymy

RDF Resources

```
<Concept rdf:about="class/624/2007/12/">
    <inScheme rdf:resource="scheme/2007/12"/>
    <dct:created rdf:datatype="http://purl.org/dc/terms/W3CDTF">1997-03-01T00:00:00.0-05:00</dct:created>
    <dct:updated rdf:datatype="http://purl.org/dc/terms/W3CDTF">2001-04-18T00:00:00.0-05:00</dct:updated>
    <notation rdf:datatype="ddc:Notation">624</notation>
    <prefLabel xml:lang="en">Civil engineering</prefLabel>
    <narrower rdf:resource="class/624.029/2007/12"/>
    <narrower rdf:resource="class/624.092/2007/12"/>
    <narrower rdf:resource="class/624.1/2007/12"/>
    <narrower rdf:resource="class/624.2/2007/12"/>
    <ddc:narrowerStructural rdf:resource="class/623/2007/12"/>
    <relatedMatch rdf:resource="http://tspilot.oclc.org/lcsh/sh%2098007328%20"/>
    <ddc:hasIndexTerm rdf:resource="index/Civil%20engineering"/>
    <ddc:hasIndexTerm rdf:resource="index/Construction"/>
</Concept>
```

RDF Resources

```
<Concept rdf:about="class/624/2007/12/about.en">
    <inScheme rdf:resource="scheme/2007/12"/>
    <dct:created rdf:datatype="http://purl.org/dc/terms/W3CDTF">1997-03-01T00:00:00.0-05:00</dct:created>
    <dct:updated rdf:datatype="http://purl.org/dc/terms/W3CDTF">2001-04-18T00:00:00.0-05:00</dct:updated>
    <notation rdf:datatype="ddc:Notation">624</notation>
    <prefLabel xml:lang="en">Civil engineering</prefLabel>
    <narrower rdf:resource="class/624.029/2007/12"/>
    <narrower rdf:resource="class/624.092/2007/12"/>
    <narrower rdf:resource="class/624.1/2007/12"/>
    <narrower rdf:resource="class/624.2/2007/12"/>
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    <dct:updated rdf:datatype="http://purl.org/dc/terms/W3CDTF">2001-04-18T00:00:00.0-05:00</dct:updated>
    <notation rdf:datatype="ddc:Notation">624</notation>
    <prefLabel xml:lang="en">Civil engineering</prefLabel>
    <prefLabel xml:lang="de">Ingenieurbau</prefLabel>
    <narrower rdf:resource="class/624.029/2007/12"/>
    <narrower rdf:resource="class/624.092/2007/12"/>
    <narrower rdf:resource="class/624.1/2007/12"/>
    <narrower rdf:resource="class/624.2/2007/12"/>
    <ddc:narrowerStructural rdf:resource="class/623/2007/12"/>
    <relatedMatch rdf:resource="http://tspilot.oclc.org/lcsh/sh%2098007328%20"/>
    <ddc:hasIndexTerm rdf:resource="index/Civil%20engineering"/>
    <ddc:hasIndexTerm rdf:resource="index/Construction"/>
</Concept>
```

How to deliver representations?

RESTful Services

Services as Resources

http://dewey.info/class/338.4/e22/ancestors

http://dewey.info/class/338.4/ancestors.en.skos

http://dewey.info/class/338.4/e22/children

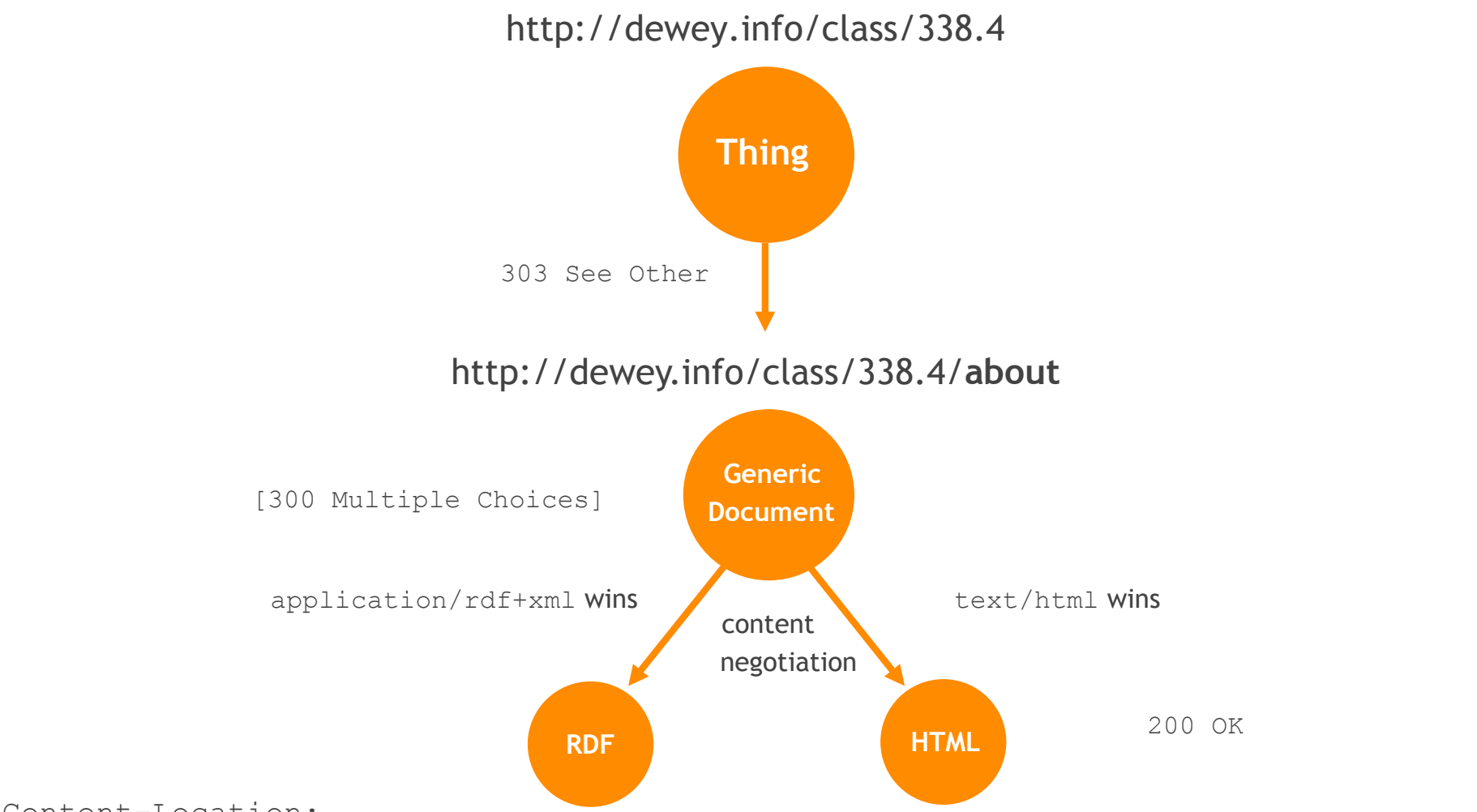
http://dewey.info/class/338.4/e22/related?degree="x"

http://dewey.info/scheme/e22/sparql?query="..."

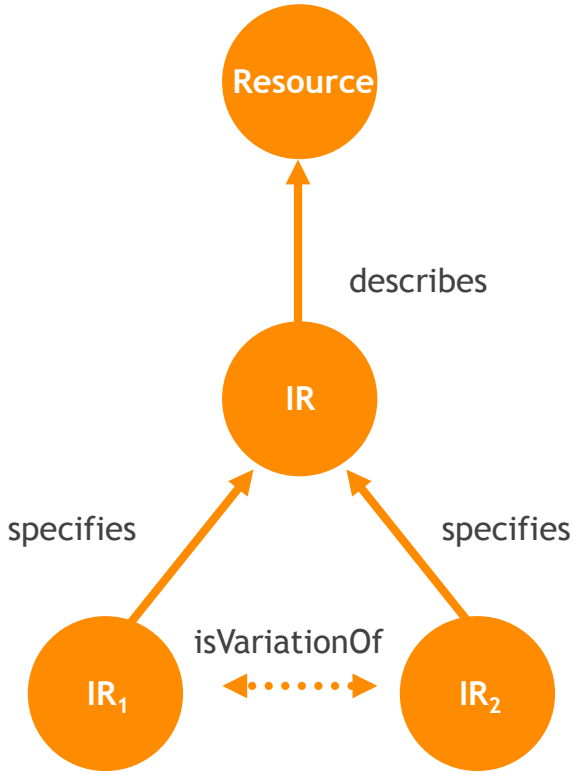
http://dewey.info/class/300-320/e22/updates.de.atom

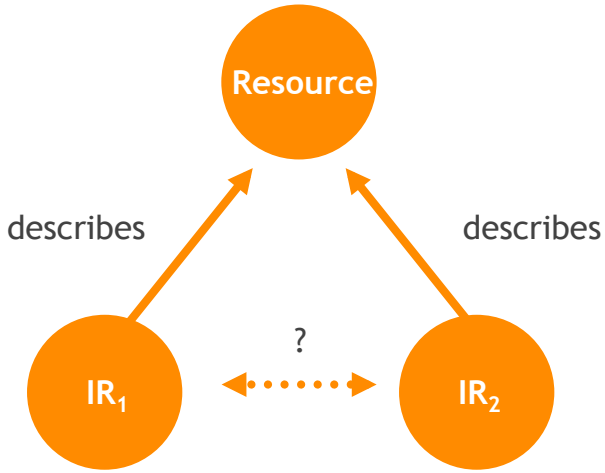
http://dewey.info/scheme/2008/07/updates.en.rss

Service Semantics: Generic Resources



Service Semantics: Blunt Instruments





(Could be made explicit with RDF statements)