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?
(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

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

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
Possible shortcuts & expansions:

http://dewey.info/793.2

http://dewey.info/class/793.2/2008/04/10/about.en.html
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
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?
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
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
<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"/>
  <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>
<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"/>
  <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>
<Concept rdf:about="class/624/2007/12/about">
  <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>
  <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"/>
  <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

http://dewey.info/class/338.4

Thing

303 See Other

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

[300 Multiple Choices]

Generic Document

application/rdf+xml wins text/html wins

content negotiation

RDF HTML

Content-Location:
http://dewey.info/class/338.4/about.de.rdf
http://dewey.info/class/338.4/about.de.html
Service Semantics: Blunt Instruments

Resource describes IR specifies IR
specifies IR
isVariationOf IR
IR
IR_1
IR_2

(Could be made explicit with RDF statements)