Information Organization in Everyday Life

Introduction to Metadata
Definitions of metadata

- “data about data”
  - Brief, but not particularly helpful
- “any data used to aid the identification, description and location of networked electronic resources”
  - So, books can’t have metadata?
- “structured data about an object that supports functions associated with the designated object”
  - Better, but what objects? What functions?
- “structured information about an information resource”
  - Leaving the small problem of defining “information resource”
Where does metadata come from?

- Something a human produces intentionally
  - E.g., a catalog record, IMDB entry

- Something a human produces unintentionally
  - Google PageRank, LibraryThing Recommendations

- Something a machine produces
  - Text indices, histograms, signatures
Metadata Quality

- Accuracy
- Consistency
- Completeness
- Level of Detail
- Interpretability
- Interoperability
- Overall fitness to task
What is metadata describing?
How do we specify metadata?

- Attribute set (and qualifiers)
- Semantics
- Syntax
- Rules of description / Controlled vocabularies
- Encoding
A few words about metadata encoding

```
<H2>Rosencrantz and Guildenstern are Dead</H2>
<i>by Tom Stoppard</i><br />
<b>Date:</b> 1967<br />
<b>Language:</b> English<br />
<b>Publisher:</b> London : Faber and Faber, 1967
```

```
<title>Rosencrantz and Guildenstern are Dead</title>
<author>Tom Stoppard</author>
<date>1967</date>
<language>English</language>
<publisher_loc>London</publisher_loc>
<publisher>Faber and Faber</publisher>
```
<recipe name="bread" prep_time="5 mins" cook_time="3 hours">
  <title>Basic bread</title>
  <ingredient amount="3" unit="cups">Flour</ingredient>
  <ingredient amount="0.25" unit="ounce">Yeast</ingredient>
  <ingredient amount="1.5" unit="cups" state="warm">Water</ingredient>
  <ingredient amount="1" unit="teaspoon">Salt</ingredient>
  <instructions>
    <step>Mix all ingredients together.</step>
    <step>Knead thoroughly.</step>
    <step>Cover with a cloth, and leave for one hour in warm room.</step>
    <step>Knead again.</step>
    <step>Place in a bread baking tin.</step>
    <step>Cover with a cloth, and leave for one hour in warm room.</step>
    <step>Bake in the oven at 350° for 30 minutes.</step>
  </instructions>
</recipe>
Types of Metadata

- Descriptive
- Administrative
  - Technical
  - Intellectual Property Rights
  - Provenance
- Structural
Descriptive Metadata

- Library, Archives, Museum
  - MARC
  - MODS
  - Encoded Archival Description
  - Categories for the Desc. Of Works of Art
  - Visual Resource Association Core

- Other
  - Dublin Core
  - IEEE Learning Object Metadata
  - Public Broadcasting Core
Examples

• MODS
• VRA Core
Administrative Metadata

• Technical
  - Z39.87 Tech. Metadata for Dig. Still Images XML
  - Z39.87 Tech. Metadata for Dig. Still Images Public

• Intellectual Property Rights
  - California Digital Library CopyrightMD
    unpublished photo, known personal creator
  - California Digital Library Image

• Provenance
  - Preservation Metadata Impl. Strategies XML
  - Preservation Metadata Impl. Strategies Public
Examples

- CopyrightMD
- PREMIS
Structural Metadata

- Metadata Encoding & Transmission Standard
- MPEG-21 Digital Item Declaration Language
- Resource Description Framework
Examples

- METS