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Metadata-Registries

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Metadata

- Metadata are (structured) data about data
- They describe the content, quality, conditions (like rights, access), and other characteristics of (digital) objects
- For discovery, description, archiving, etc.
- Each metadata element has a detailed definition (semantic, syntax)
- Set of metadata elements = metadata element set (or schema)
Metadata is a language

- A metadata "sentence" might say:
  - "This book has **Author** Johann Wolfgang von Goethe, **Title** Faust I, and **Date Published** 1808

- Dublin Core was designed as a simple metadata language for the discovery of digital objects (Tom Baker: “pidgin language for a digital tourist”).

- In unqualified Dublin Core, the sentence above would say:
  - "This **resource** has **Author** Johann Wolfgang von Goethe, **Title** Faust I, and **Date** 1808"
Application Profile

- Dublin Core Metadata Element Set
  - Too simple for most local application
  - Need to extend this set locally

- An application profile is a schema which consists of terms (metadata elements) drawn from one or more metadata schema optimised for a particular local application

- Examples
  - Dublin Core Library Application Profile
  - Renardus Application Profile
  - ...

Application Profiles and Interoperability

Contents:

- Keep precision in the meaning (semantics) of the terms used
- Make the sources of the terms explicit
- Spell out the local restrictions of use (value range, syntax, repeatability, obligation etc.)

Goal:

- Exchange of data with other providers: Interoperability!
Interoperability

- ... enables different communities, with different types of information and technologies, to achieve a general level of information sharing ...

- ... is defined as the ability of digital library components or services to be functionally and logically interchangeable ...

- ... different services and components can communicate with each other through open interfaces ...

Eric Miller, W3C
<table>
<thead>
<tr>
<th>Level 3</th>
<th>Attribute Space</th>
<th>Value Space</th>
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<tr>
<td></td>
<td>e.g. DCMES, LOM</td>
<td>e.g. DDC, LCSH</td>
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<table>
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<th>Level 2</th>
<th>Representation &amp; Exchange</th>
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<td>e.g. METS, XML, RDF, SOAP, OAI – PMH</td>
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<th>Level 1</th>
<th>Transport</th>
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<td>e.g. Z39.50, LDAP, HTTP</td>
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© based on White Paper of the DELOS Working Group on Registries
Metadata Registry

Need of registration of Application Profiles

- Clear declaration of rights holder
- Somebody is responsible for maintenance and updates
- Guarantees interoperability between metadata implementers
- Increase cooperation (metadata exchange, metadata sharing)
- Avoid double work by re-using already defined metadata elements
- ...
Examples

MetaForm (SUB Göttingen)

- Local "manifestations" of Dublin Core for specific projects introduce variations -- like "dialects"
- "Crosscuts": how are elements used in different implementations?
- Provides "mappings" and "crosswalks" between Dublin Core and other schemas of similar scope
- Demonstrates the sort of output one would want from queries to a distributed registry

http://www2.sub.uni-goettingen.de/
### Crosswalks

Database containing Dublin Core manifestations and other metadata formats

<table>
<thead>
<tr>
<th>Format</th>
<th>Project description</th>
<th>Version</th>
<th>Mappings</th>
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</thead>
<tbody>
<tr>
<td><strong>Dublin Core and its Dialects</strong></td>
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<td></td>
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<td>AGLS</td>
<td>Australian Government Locator Service</td>
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<td>Mapping</td>
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<td>BSZ</td>
<td>Dublin Core in der Interpretation des BSZ (Bibliotheksservice-Zentrum Baden-Württemberg)</td>
<td>Draft Stand: 27.09.2000</td>
<td>Mapping</td>
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<td>Metadata for digital preservation</td>
<td>Stand 2002</td>
<td>Mapping</td>
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<tr>
<td>CIC</td>
<td>Gesellschaft Deutscher Chemiker Keine Formatbeschreibung vorhanden</td>
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<td>Mapping</td>
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<td>DSEF</td>
<td>Denmarks Elektroniske</td>
<td>Stand: 2002</td>
<td>Mapping</td>
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## CEDARS

<table>
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<tr>
<th>CEDARS</th>
<th>Definition CEDARS</th>
<th>DC-Element</th>
<th>DC Definition</th>
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<tbody>
<tr>
<td>Preservation Description Information. Provenance Information. Rights Management. Rights Information. Copyright Statement. Name of Publisher</td>
<td>This sub-element contains the name of the publisher of the digital object.</td>
<td>DC.Publisher</td>
<td>An entity responsible for making the resource available</td>
</tr>
<tr>
<td>Preservation Description Information. Provenance Information. Rights Management. Rights Information. Copyright Statement. Publication-Place</td>
<td>This sub-element contains the place of publication of this version of this digital object.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preservation Description Information. Provenance Information. Rights Management. Rights Information. Copyright Statement. Date of Publication</td>
<td>This sub-element contains the date of publication of this version of this digital object.</td>
<td>DC.Date.Created</td>
<td>Date of creation of the resource</td>
</tr>
<tr>
<td>Preservation Description Information. Context Information. Related Information Objects</td>
<td>This element specifies any other information objects which were judged, at the time of ingest, to be significantly related to the ingested digital object.</td>
<td>DC.Relation</td>
<td>A reference to a related resource</td>
</tr>
<tr>
<td>Preservation Description Information. Provenance Information. Rights Management</td>
<td>This metadata section contains information relating to the intellectual property rights relevant to the digital object.</td>
<td>DC.Rights</td>
<td>Information about rights held in and over the resource</td>
</tr>
</tbody>
</table>
Examples

Schemas/CORES

- Registry of “all” Application Profiles and Metadata Element Sets
- “Rights holder”, maintainer
- Updates
- Search for Aps, single metadata elements etc.
- ... 

http://www.cores-eu.net/registry/
CORES Registry

Download schema creation tool
Help on using the registry

you are not logged in

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© 2002 MEG Registry Project, ILRT and UKOLN
© 2002, CORES Project, MTA SZTAKI DSD

If you have any problems please contact the administrator: cores@dsd.sztaki.hu
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<th>Name</th>
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<td>The Simple Dublin Core Application Profile</td>
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<td>CR presentation</td>
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<td>The Chinese-U.S. Digital Library Application Profile</td>
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<td>The IEEE LOM Metadata Application Profile</td>
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<td>Dublin Core Initiative</td>
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</tbody>
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If you have any problems, please contact the administrator: cores@csd.suiku
Examples

Dublin Core Registry

- Defines Dublin Core schemata (terms, controlled vocabularies etc.)
- And relation between them
- Translations of elements, refinements and their definitions in different languages

http://dublincore.org/dcregistry/index.html
The Dublin Core Metadata Initiative’s (DCMI) Metadata Registry is designed to promote the discovery and reuse of exiting metadata definitions. It provides users, and applications, with an authoritative source of information about the Dublin Core element set and related vocabularies. This simplifies the discovery of terms and related definitions, and illustrates the relationship between terms.

The reuse of existing metadata terms is essential to standardization, and promotes greater interoperability between metadata element sets. The discovery of existing terms is an essential, and prerequisite, step in this process. This application promotes the wider adoption, standardization and interoperability of metadata by facilitating its discovery, and reuse, across diverse disciplines and communities of practice.

This application was developed by the OCLC Office of Research, in cooperation with the Dublin Core Metadata Initiative Registry Working Group. It was developed, and is distributed, as an open-source project, built entirely upon open-source/open-standards software.

Please select from one of the following supported languages or click on the Preferences link above for additional options.

Information about the application interface can be found here.

Having trouble displaying the international fonts? Click here for help.

* Language support for those languages marked with an '*' are limited to terms only and do not currently include user-interface support.
The Dublin Core Metadata Registry

Search / Browse

Display: Controlled Vocabulary Terms

Summary of DCMI Controlled Vocabulary Terms

Collection
Dataset
Event
Image
InteractiveResource
MovingImage
PhysicalObject
Service
Software
Sound
StillImage
Text

Items Found: 12
... a roadmap

DCMI Roadmap for Development of Vocabulary Management and Registry Systems
(H. Wagner, R. Heery, S. Weibel)
Metadata Registries: Services

Advanced Registries will provide services for metadata exchange and enhancements:

- Map from one data element to another
- Adjust value range (e.g. notation -> caption)
- Normalize data (e.g. date format)
- Support standardization (e.g. by the use of authority files)
Semantic Web

A vision

"The Semantic Web is an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation."

Metadata Registries & Semantic Web

- Metadata provides well-defined meanings to information
- Registries help to maintain this well-defined meanings
- Increase interoperability, also in (semi-) automatically ways (metadata exchange, metadata sharing, metadata re-use)

- **But:** all registries so far are very complicated, maintenance is very time-consuming (depending on metadata developers)

- **Vision:** more simple, concentrating on core set
Thank you very much for your attention

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