Metadata in Web Information Services and Systems

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Abstract

Metadata, specifically DCMI (Dublin Core Metadata Initiative) and its element set ISO 15836-2003, establishes one of the operational infrastructures of the Semantic Web and one of the interoperability main keys for electronic information management and retrieval. This metadata schemas, beside XML/RDF syntactic code, the content description schemes (ontologies, topic maps, thesaurus, etc.) and a set of protocols for information interchange, will be the protagonists of the Second Generation of the Web.

This landscape will be reflected by this tutorial. Its specific aims are:

- To present an introduction to the metadata concept and application.
- To define the metadata role in Web systems and services, versus its role in global information retrieval by all the web search engines.
- To present the general principles for any metadata project, mainly metadata schemas assessment and selection.
- To reflect the metadata schemas, models and standards possibilities and their syntax and coding (HTML/XML/RDF), and their heterogeneity problems and the need of planning interoperability between different web information objects.
- To explain paradigmatic cases of metadata management in subject gateways, their particularities and prospective use.

1. Content

   - What is metadata and why to apply it.
   - Metadata vision: bibliographic control school and structural school.
   - Evolution and current status of metadata theory: from metatags to metadata registries.

2. Metadata Schemas and Initiatives:
   - General purpose metadata: DCMI-ISO 15836-2003
   - Specific purpose metadata: TEI-Header, FGDC, IMS, etc.

3. Digital collections management and retrieval by metadata.
   - Metadata, the Web like a System and vertical information.
   - General steps on Web information system creation. Example: metadata in a digital library workflow.
   - Metadata Schemas: assessment and selection:
     - In subject virtual collections.
     - In digitalization and mark-up of information resources for the Web.
   - Metadata types definition for a Web information system/service:
     - System inside metadata:
     - Qualified local search.
     - Full-text local search.
     - User-service metadata.
     - Web visibility metadata.

   - Planning interoperability: metadata/protocols-RDF/OAI.

4. Projects, systems and software review for metadata management in digital libraries.